Clinical Practice Guideline Development Handbook for Stroke Care

Developed by the
World Stroke Organization
Stroke Guideline Sub-Committee
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Table of Contents

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Disclaimer

The information presented in this Handbook and the lists of guidelines included in the appendices were gathered through a WSO member survey, environmental scans, and research literature searches.

The guidelines listed in Appendix Two have not been systematically evaluated for accuracy, comprehensiveness, or the process applied by individual groups for guideline development. The inclusion of any guideline in this Handbook does not imply endorsement or approval by the World Stroke Organization.

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Clinical Practice Guideline Development Across the Stroke Continuum of Care

Purpose of this Handbook

This handbook has been developed to provide a basic guide for healthcare professionals who wish to develop or adapt clinical guidelines for stroke care across any point in the continuum of care. This handbook is particularly intended for healthcare professionals who manage stroke patients in developing countries or where healthcare resources are scarce. It aims to promote the use of evidence-informed care through locally developed or adapted guidelines without compromising the quality of the resource.

Background

The mission of the World Stroke Organization (WSO) is to provide access to stroke care and to promote research and teaching in this area that will improve the care of stroke patients throughout the world by:

1. Promoting prevention of and care of persons with stroke and vascular dementia;
2. Fostering the best standards of practice
3. Educating, in collaboration with other international, public, and private organizations
4. Facilitating clinical research

To accomplish some of the objectives of the WSO, a guideline sub-committee was established in 2008 to create and implement a framework and action plan for collaboration in the development and dissemination of stroke guidelines across the continuum of care and across organizations and jurisdictions.

The WSO guideline sub-committee conducted a survey that produced an extensive list of existing stroke guidelines internationally, primarily in industrialized countries (Appendix Two). This sub-committee is committed to promoting evidence-informed stroke care in all jurisdictions where stroke patients are managed across the globe. They also recognize that not all jurisdictions have access to the same human and capital resources and medical services to meet the most comprehensive levels of stroke service delivery prescribed in many existing guidelines. This handbook has therefore been developed to assist all healthcare professionals, regardless of available resources, to understand the steps to adopt, adapt or develop evidence-informed stroke care guidelines for their clinical environment and available services and resources.

Clinical practice guidelines are systematically developed statements that assist clinicians, consumers and policy makers to make appropriate health care decisions and to improve the quality of care. Developing a new guideline requires a rigorous process to be followed and often takes 1-2 years to accomplish. This consumes considerable effort by developers and those experts who volunteer to be involved in

relevant working groups. Limited resources for guideline development, and for delivery of evidence based care, can present challenges.

In an effort to reduce the work associated with developing guidelines, processes for adapting existing guidelines have been suggested and published.[1],[2] The process of adaptation — defined as "the systematic approach for considering the use and/or modifying guideline(s) produced in one cultural and organizational setting for application in a different context" has been outlined by groups such as the ADAPTE group.[1] The adapt process can be useful to healthcare groups, and requires a systematic process to be followed and significant effort to coordinate. This handbook provides a clear and concise summary of the steps involved in guideline adaptation.

Given the time and effort needed to develop a guideline, it is important to consider if a guideline is actually needed. Groups considering guidelines should determine whether it is more appropriate to develop evidence based protocol/s or pathway which are practical tools that apply the evidence in a local setting on a specific process of care, or whether a more in-depth guideline is required.

A guideline may be needed when:

- there is uncertainty or a difference of opinion about what care should be provided, as evidenced by wide variation in practice or outcome;
- there is proven treatment for a condition and mortality or morbidity can be reduced;
- there is a need to bring together scientific knowledge and expertise on a subject.[3]

How to use this Handbook

Each of the steps to be undertaken in developing a guideline is presented in a flow diagram on the next page followed by more detailed descriptions and information on subsequent pages. Practical considerations are provided where possible for each step. This guide also provides links to useful resources should more detailed information be required.

In areas where resources are limited, some steps may be modified or skipped altogether. It is important to weigh the benefits and risks of doing this. For example, in establishing the working group, a decision may be made to keep it small; however, it should still ideally include representation from multiple disciplines. And modification of this step may not carry the same risk as choosing not to grade the evidence for each recommendation, for example.

[1] ADAPTE: manual for guideline adaptation. ADAPTE Group; 2007. www.adapte.org
[2] Graham I, etc Clinical Guideline evaluation and adaptation cycle
[3] Davis, Goldman and Palda. Handbook on Clinical Practice Guidelines. Canadian Medical Association 2007. http://www.cma.ca//multimedia/CMA/Content_Images/CMAInfobase/EN/handbook.pdf

Steps to Stroke Guideline Development or Adaptation

1. Set up working group	Ensure key stakeholders represented. Seek experts from other jurisdictions.
2. Define topic(s)	Choose the main topics carefully (See Appendix One for guidance)
3. Find best evidence	Use existing guidelines (See Appendix 2) Follow systematic process
4. Appraise and collate evidence	Use existing guidelines or resources. Follow systematic process.
5. Draft recommendations	Be as clear and concise as possible. Include critical content to cover scope (Appendix One) Link evidence to the recommendations
6. Consultation	Consult existing guideline group when modifying guideline.
7. Finalize recommendations and submit for approval and endorsement	Consult existing guideline group when modifying guideline.
8. Implement guideline	Think about clear plan early
9. Update guideline	Time with existing guideline update cycle

1.0 Set up the working group

Guidelines should be developed by a group of people with a broad range of expertise relevant to the guideline topic being developed. Lists of people to be considered are found in the various guideline developer handbooks (refer to links at the end of this document). The way the group works together can have a significant effect on the outcome of the process.

For stroke care, healthcare professionals from the following disciplines should be considered for participation in guideline development: medicine (neurology, internal medicine, emergency, primary care, Physiatry), nursing, rehabilitation (physiotherapy, occupational therapy, speech-language pathologists, rehab assistants), social work, psychology, and pharmacy. Other disciplines and system leaders may be relevant as well, depending on the phase(s) of the continuum being included in the guideline. It is important to include stroke survivors and carers in the group as well.

Practical notes:

- Keep a list of people involved in the process
- Contact any professional organization and ask for recommendations for a representative from that profession with expertise in stroke
- Make sure you think about all the stakeholders involved in stroke care e.g. Primary care doctor, hospital administrator etc.
- Development groups should be kept to a manageable size (6 – 10 people) where possible.
- Expertise in stroke guideline development is available in other jurisdictions. You may consider contacting the World Stroke Guidelines Committee Chair for referrals to stroke guideline experts in your country or region if additional expertise is required by your group.

2.0 Define topics

The group will normally have a good idea what topics they want included in the guideline. It is important for the group to agree on exactly which questions/topics to be addressed as this decision will direct the searching and appraisal steps.

Stroke care encompasses the full continuum of care from primary prevention to long term recovery and reintegration into the community. The scope of any guideline could cover a few distinct segments of the continuum or they can be more comprehensive and incorporate much more of the continuum. The WSO has identified critical content areas that should be considered for inclusion at each stage of the continuum. These content areas should be reviewed to ensure adequate coverage of a topic once the topics have been confirmed (Appendix One).

Practical note:

- The more topics are included the more work it takes to develop a guideline.
- Make sure the group understands the resources and timeframes and agrees only on the KEY topics to include.

- Look to existing guidelines to see what topics are commonly included to be able to draw on the evidence summaries (Refer to Appendix One for a list of the critical topics to address at each segment of the continuum).
- Decide on the breadth and depth of content to be included for each topic (level of granularity and amount of detail for each recommendation)
- References, and links where available, are provided in Appendix Two for existing stroke guidelines.

3.0 Find the best evidence

Like most research, the quality and trustworthiness of a guideline is based on the methods used to reduce any bias. Finding and appraising the best and most current evidence is possibly the most important part of guideline development and requires a systematic approach.

When searching for evidence, it is strongly recommended that this process be done with the help of an expert in the area of literature searching. To complete this step the working group should carefully develop questions they want answered and articulate the topics they plan to address in the guideline. Questions generally focus on the effects of a specific intervention and are developed in three parts: the intervention, the population and the outcomes. An example is "What is the effect of anticonvulsant therapy on reducing seizures in people with post-stroke seizures?" In this example, anticonvulsant therapy is the intervention, reduction of post-stroke seizures is the outcome, and the population is people with post-stroke seizures.

The more specific the questions and phrases the easier it will be for the information specialist to identify relevant studies. Searching for studies should include:

a) Electronic databases (e.g. Cochrane, MEDLINE, CINAHL and EMBASE) –see links in Canadian Medical Association Handbook p14.
b) Contact with international experts in the field and specific topic areas of interest
c) Manual search in key journals and reference lists in articles and other stroke-related guidelines.

Search efforts could produce an extremely large number of research papers, especially for topics such as hypertension. Additional criteria should be identified to assist in narrowing down the articles that would undergo detailed appraisal.

Using Existing Searches as a Starting Point:
<u>An alternate and simpler way of finding the best evidence, especially when resources are scarce, is to use the searches done by an existing guideline.</u> Evidence summaries are normally produced by guideline development groups. Your guideline development group may choose to contact another guideline development group and ask for their search or evidence tables if not publically available. Alternatively, it may be decided to use such summaries but update the list by searching for subsequent studies since the last search date included in the previous effort. This approach considerably reduces time, effort and resource use without compromising quality.

When deciding to update and use searches done for previous guidelines, it is important that the searches you are drawing from have been carried out in a robust way. The AGREE tool is a measure that allows you to identify the quality of the process used to develop an existing guideline.[4] If you have multiple existing guidelines to draw upon, you can use the AGREE tool to choose which guidelines have followed the most systematic development process on which to base your own guideline (See Appendix Two for a list of existing stroke guidelines). This process may also help you to identify other guidelines that more closely resemble your population or resource availability, making them more appropriate for adaptation or adoption.

Practical notes:

- If undertaking searches, employ an information specialist experienced in this area.
- Use existing good quality guidelines where possible to identify the key evidence for a particular topic. Contact previous developers for additional information and sharing of resources when possible.
- If a recent guideline exists a decision can be made to search for studies published subsequently or just use existing information and save time searching for other information.
- Regardless of approach, some effort should be made to ensure that emerging research which may significantly affect the content and direction of a recommendation is identified. This will reduce the risk of guidelines becoming outdated before they ever get finalized and implemented.
- Always aim to find and use the highest level of evidence (systematic reviews). Where these exist there is normally no need to search for further evidence.
- Have a preset list of inclusion criteria to keep the results of the search on target and manageable.

4.0 Appraise and collate evidence

Once the key literature has been identified, the working group must review the evidence from the primary literature search and summarize the findings for each topic. As with identifying the evidence, it is strongly recommended that a systematic approach be followed to appraise the evidence. The working group should agree at the start which approach to use to guide grading the evidence and forming recommendations. Members of the group should be familiar with and have some training in the grading system chosen. Most of the stroke guideline developers use a similar process as that outlined by the Scottish Intercollegiate Guidelines Network (SIGN) –see link to SIGN guideline handbook in the resource section.

Several databases also have evidence summaries available on selected topics. Some examples include:

www.effectivestrokecare.org
www.strokengine.org
www.ebrsr.com

[4] AGREE Tool reference to be added

Practical notes:

- Evidence summaries from existing guideline/s can be used to allow for easy collation of the evidence for specific topics.
- Use existing evidence appraisal and summary resources where possible.
- Levels of evidence may be assigned differently by different guideline development groups. Choose your preferred method and be consistent in the approach to evidence grading for all research your group reviews or chooses to include.

5.0 Draft recommendations

Once the evidence has been found and summarised the working group must carefully draft the recommendations for each topic. It is important that recommendations are as clear as possible and that it is easy to see the link between the recommendation and the evidence. Grading the strength of the recommendations is also useful and various systems are used around the world (see various handbooks for more details).

Research suggests that a formal process of forming conclusions/recommendations is better than an informal consensus processes (i.e. it minimises potential bias for strong opinions from one or two members of the group). Two common formal consensus approaches are the nominal group technique and the Delphi approach. More information on these approaches can be found in the guideline development resources.

Where existing guidelines have been used to identify and summarise the evidence, the ADAPTE approach [5] suggests you can:

- accept an entire guideline and recommendations;
- accept the evidence summaries only and write your own recommendations;
- accept specific recommendations but not others;
- modify specific recommendations.

It is important to make sure you reference the sources and process used. When adapting an existing guideline it is important and helpful to contact the original guideline development group in order to obtain permission to use the guideline, to discuss any modifications to the actual recommendations (to make sure it still accurately reflects the evidence as applied to the local setting), and to gain helpful suggestions and lessons learned form professionals who have experience with the guideline development process.

The guideline document should include a report outlining the steps followed in developing the guideline including working group members, systematic reviews or adaption process, drafting processes and consensus approach. In addition, the strength of the evidence that supports each recommendation statement included in a stroke guideline should be clearly stated as a part of the documentation and

[5] ADAPTE: manual for guideline adaptation. ADAPTE Group; 2007. www.adapte.org

presentation of the recommendations.

Practical notes:

- Each recommendation statement should be clear, concise and only address one topic, action or intervention. Avoid ambiguity and negative recommendations.
- It is good to include a brief summary of the evidence for each topic as well as the recommendation/s.
- Specifically link the recommendations to the evidence (where possible note the type or level of evidence and the recommendations strength).
- Where possible and appropriate, align wording of recommendations with those included in stroke-related recommendations produced by other disease groups in your jurisdiction (such as diabetes group, hypertension group, and local guidelines related to primary prevention)
- Including suggested performance indicators can also encourage sites to monitor their adherence to the guidelines.
- Clearly reporting what was done increases transparency and trust in the guideline.
- Present each recommendation with supporting documentation including: rationale, system implications, performance measures and summary of the evidence.

6.0 Consultation

It is important to seek feedback from all those expected to use the guidelines (clinicians, administrators, professional bodies etc) prior to final public release of a guideline. This process can improve the wording of recommendations, allow wide buy-in and improve uptake once finalized. It also provides face and content validity and provides an opportunity to identify potential areas of controversy prior to release so that the guideline development group can be prepared to respond to these potential issues. It is important that all feedback is reviewed systematically and a summary of final changes recorded in the process report.

Practical note:

- Consult as widely as possible. This alerts people to the fact that the guideline is being developed and will soon be available. It also ensures that key professional groups do not get inadvertently excluded from the process.
- Transparency in the external review process also increases the credibility of the guideline development process.
- Seek consultation from individuals who were not directly involved in the development process, even if other members of their peer group or professional body were formally engaged in eth process.

7.0 Finalize recommendations and submit for approval / endorsement

Once all consultation and updates are completed the final document can be submitted to relevant health authorities and professional bodies for endorsement. Endorsement has been shown to improve acceptance and uptake of guidelines.

Practical note:

- It is useful to contact the relevant authorities and professional bodies as early as possible in the whole process. The authorities may have requirements that must be considered during the development process.
- Publicly acknowledging such endorsements and including them within the guideline documentation may increase acceptance and uptake of guidelines.

8.0 Implement guideline

Once complete, the guideline must be made as widely available as possible. A dissemination strategy should be developed and launched as soon as the guideline is available for public release. A master list of all relevant stakeholders should be created as well as a mechanism for dissemination of the guideline to these stakeholders

Often organizations will produce a dissemination package that may include a summary document along with summary slides to supplement the full document but provide an overview of the guideline. Electronic copies of any resource should be circulated to all relevant organizations and health professional networks. You may choose to publish a summary of the guidelines in a relevant journal.

Development of a quality guideline does not automatically equate to greater use and most strategies to implement guidelines produce only modest effects at best. An implementation plan should be developed simultaneously to developing the content of the guideline, and executed as soon as possible. Guidelines should be implemented along with other strategies to encourage their uptake, such as professional education, audit and feedback, and where possible, accreditation. The challenge is to use a systems approach that links guidelines to quality data collection, effective multi-pronged implementation, and a mechanism for evaluation. There are many opportunities to learn from other countries that routinely develop and use guidelines.

Strategies to promote uptake of guidelines are discussed in many existing guideline handbooks, including examples provided in the reference section of this handbook.

Practical note:

- Use the links and networks of your working group to disseminate and promote the guidelines.
- Considering implementation early in the process as this will help you focus on how you write the recommendations and improve their uptake.
- Work in tandem with data analysts and evaluation specialists to develop appropriate audit and feedback processes. These can be very basic or more complex. See reference list for existing stroke evaluation models and

performance measures (such as the Canadian Stroke Strategy Performance Measurement Manual)

9.0 Update guideline

Due to constant publication of new research and the rapidly changing nature of health care delivery it is important that the guideline remain up to date. It is recommended that any guideline be reviewed at least every 3 years if possible.

Where resources prohibit a complete update with this frequency, special interim bulletins can be produced that address specific topics where significant new research has emerged that changes the nature or direction of the current recommendations. These bulletins can be released at anytime between major updates and should be disseminated as widely and inclusively as the initial guideline release to ensure all users are aware of new recommended changes to stroke practice.

References and Links

Recommended guideline development handbooks

Davis, Goldman and Palda. Handbook on Clinical Practice Guidelines. Canadian Medical Association 2007.

NHMRC. A guide to the development, implementation and evaluation of clinical practice guidelines. Canberra: National Health and Medical Research Council (NHMRC); 1998.

NICE. National Institute for Health and Clinical Excellence (January 2009) The guidelines manual. London: National Institute for Health and Clinical Excellence.

NZGG. Handbook for the preparation of explicit evidence-based clinical practice guidelines. The Terrace: New Zealand Guidelines Group (NZGG); 2003.

SIGN. SIGN 50 - A guidelines developers' handbook. Edinburgh: Scottish Intercollegiate Guidelines Network (SIGN); 2008.

Guideline appraisal resources:
www.agreecollaboration.org

Adaption of existing guidelines:
www.adapte.org

Graham ID, Harrison MB, Lorimer K, et al. Adapting national and international leg ulcer practice guidelines for local use: the Ontario Leg Ulcer Community Care Protocol. *Adv Skin Wound Care* 2005;18:307-18.

International guidelines network:
www.G-I-N.org
www.wso.org

Stroke guidelines literature:

Hill K, Lalor E. Clinical guidelines for stroke care: why the fuss and is there opportunity for collaboration? Int J Stroke. 2008 Aug;3(3):173-4. Link

Hurdowar A GI, Bayley M, Harrison M, Wood-Dauphinee S, Bhogal S. Quality of stroke rehabilitation clinical practice guidelines. J Eval Clin Pract. 2007;13(4):657-64. Link to abstract

Navarro Puerto MA, Ibarluzea IG, Ruiz OG, Alvarez FM, Herreros RG, Pintiado RE, Dominguez AR, León IM. Analysis of the quality of clinical practice guidelines on established ischemic stroke. Int J Technol Assess Health Care. 2008 Summer;24(3):333-41. Link to abstract

Bo Norrving, Per Wester, Katharina Stibrant Sunnerhagen, Andreas Terént, Anna Sohlberg, Fredrik Berggren, Per-Olov Wester, Kjell Asplund, for the Stroke Guidelines Working Group, and National Board of Health and Welfare, Stockholm. Beyond conventional stroke guidelines: Setting priorities. *Stroke* 2007;38;2185-2190

Online stroke evidence summary resources:

Guidelines International Network: www.G-I-N.org

National Guidelines Clearinghouse: www.guideline.gov

Effective Stroke Care: www.effectivestrokecare.org

StrokEngine: www.strokengine.org

Evidence-Based Review of Stroke Rehabilitation: www.ebrsr.org

Canadian Stroke Performance Measurement Manual: www.canadianstrokestrategy.ca

National Quality Measures Clearing House: http://www.qualitymeasures.ahrq.gov/

Appendix One: Content Areas for Stroke Guidelines

The following table provides a list of the recommended core content to be addressed in any guidelines covering specific components of the continuum of stroke care. Additional content can also be included to address local goals and priorities. These content areas were identified by consensus and based on a content review and analysis of current stroke research literature and existing stroke guidelines.

Ischemic Stroke and Transient Ischemic Attack:

Component of Stroke Continuum	Core Content Areas to be Considered in Related Stroke Guidelines
Stroke System Organization	➢ Systems of stroke care ➢ EMS bypass protocols ➢ Services for TIA and minor stroke ➢ Interprofessional stroke teams ➢ Transition management
Primary Prevention & Health Promotion	➢ Community education about stroke ➢ Public awareness of the signs and symptoms of stroke ➢ Healthy lifestyle: diet, exercise, weight, sodium ➢ Blood pressure ➢ Smoking cessation
Patient and Family Care and Education	➢ Patient and family education ➢ Caregiver burden and strain
Hyperacute Stroke Care – Out-of-hospital and Emergency Department	➢ Emergency medical services assessment and management out-of-hospital ➢ Neurovascular imaging ➢ Blood glucose ➢ Acute thrombolysis ➢ Acute aspirin therapy
Acute Stroke Management	➢ Stroke units ➢ Dysphagia ➢ Early mobilization ➢ Venous thrombosis prophylaxis ➢ Temperature/fever management ➢ Continence
Rehabilitation	➢ Early rehabilitation assessment ➢ Access to rehabilitation ➢ Stroke rehabilitation units ➢ Components of inpatient and outpatient stroke rehabilitation ➢ Depression post stroke ➢ Vascular cognitive impairment ➢ Shoulder pain ➢ Therapy for hemiplegic upper/lower limb

Secondary Stroke Prevention	➢ Management of minor stroke and transient ischemic attack ➢ Lifestyle management ➢ Blood pressure ➢ Lipid management ➢ Diabetes ➢ Antithrombotic therapy ➢ Anticoagulation for atrial fibrillation ➢ Carotid intervention
Community Reintegration and Long Term Recovery	➢ Transition planning ➢ Primary care follow-up and coordination of ongoing medical services ➢ Outpatient rehabilitation and exercise programs ➢ Social reengagement, resuming activities of daily living, vocations ➢ Support services in the community (peer support, home support, psychosocial support) ➢ Safety and home modifications ➢ Support for ongoing communicative impairments ➢ Ongoing information and education, especially related to adapting to new roles

Hemorrhagic Stroke:

Component of Stroke Continuum	Core Content Areas to be Considered in Related Stroke Guidelines
Stroke System Organization	➢ Systems of stroke care ➢ EMS bypass protocols ➢ Services for TIA and minor stroke ➢ Interprofessional stroke teams ➢ Transition management
Primary Prevention & Health Promotion	➢ Public awareness of the signs and symptoms of stroke ➢ Healthy lifestyle: diet, exercise, weight, sodium ➢ Blood pressure ➢ Smoking cessation
Patient and Family Care and Education	➢ Patient and family education ➢ Caregiver burden and strain
Hyperacute Stroke Care – Out-of-hospital and Emergency Department	➢ Emergency medical services management out-of-hospital ➢ Neurovascular imaging ➢ Surgical assessment ➢ Blood pressure management ➢ Glucose management
Acute Stroke Management	➢ Medical therapy ➢ Stroke unit/intensive care monitoring

	➢ Post-surgical care
Rehabilitation	➢ Early rehabilitation assessment ➢ Access to rehabilitation ➢ Stroke rehabilitation units ➢ Components of inpatient and outpatient stroke rehabilitation ➢ Depression post stroke ➢ Vascular cognitive impairment
Secondary Stroke Prevention	➢ Blood pressure management ➢ Diabetes management ➢ Smoking cessation ➢ Alcohol Management
Community Reintegration and Long Term Recovery	➢ Transition planning ➢ Primary care follow-up and coordination of ongoing medical services ➢ Outpatient rehabilitation and exercise programs ➢ Social reengagement, resuming activities of daily living, vocations ➢ Support services in the community (peer support, home support, psychosocial support) ➢ Safety and home modifications ➢ Support for ongoing communicative impairments ➢ Ongoing information and education, especially related to adapting to new roles

Appendix Two: International Stroke Guideline Initiatives *

**** Notes:***

This table includes a list of currently existing stroke guidelines identified through members of the World Stroke Organization, environmental scans, and through extensive searches of published research literature and the internet. It is not an exhaustive list. If additional stroke guidelines are known to exist, please send the relevant information to the Chair of the WSO stroke guidelines sub-committee and they will ne added to future updates of this handbook.

The guidelines listed in Appendix Two have not been systematically evaluated by the WSO for accuracy, comprehensiveness, or the process applied by individual groups for guideline development. The inclusion of any guideline in this Handbook does not imply endorsement or approval by the World Stroke Organization. Similarly, the omission of any existing guideline does not reflect the quality of the guideline, but rather a lack of awareness of its existence.

Name of Guideline (Publication reference if available)	Organization/ Group Who Developed Guideline	Country	Date of Most recent update
Stroke Care across the Continuum (Pre-hospital, Acute care, Rehabilitation, Prevention)			
Canadian Best Practice Recommendations for Stroke Care (2008 Update). Available: CMAJ 2008; 179: E1- E93 http://www.cmaj.ca/cgi/data/179/12/S1/DC1/1	Canadian Stroke Strategy	Canada	December 2008
Chilean Stroke Guidelines	Cerebrovascular Diseases Group	Chile	2008
Stroke Guideline	Chinese Neurological Society	China	2007
Guideline of cerebrovascular diseases treatment	Institute of Medicine in Shanghai	China	2008-11
Guideline for Stroke Management	Chinese Stroke Association	China	2008
China Guideline for Cerebrovascular Disease Prevention and Treatment	Neurology Commission Branch of CMA	China	February 2008

Name of Guideline (Publication reference if available)	Organization/ Group Who Developed Guideline	Country	Date of Most recent update
Demarin V, Lovren I, Huzjan A, et al. Recommendations for stroke management (2006 update). Available: Acta Clin Croat 2006; 45:219- 285	Croatian Society for Neurovascular Disorders	Croatia	2006
Guidelines for Management of Ischaemic Stroke and Transient Ischaemic Attack http://www.eso-stroke.org/recommendations.php?cid=9	European Stroke Organization	Europe	2008
Aivoinfarkti (Stroke)	Task Force nominated by the Finnish Neurological Association together with the Finnish Medical Society Duodecim	Finland	December 2006
Kaypa hoito (Current Care)	National Stroke Group	Finland	2006
Guidelines Stroke 2007	Pokja Stroke Perdossi (Stroke Task Force Indonesian Neurological Association)	Yogyakarta Indonesia	2007
Spread Stroke Prevention Italian Guidelines www.spread.it	SPREAD Italy	Italy	2007
Nacionaini vodi za lije enjeakutnog mo danog udara	Neurological Sosiety of Serbia & Montenegro	Montenegro	2004
Life after stroke: New Zealand guideline for managment of stroke www.nzgg.org.nz/guidelines/0037/ACF291F.pdf	Stroke Foundation of New Zealand	New Zealand	2003
New Zealand TIA Guideline	New Zealand Guideline Group	New Zealand	2008
Guidelines for Stroke Management	Stroke Society of the Philippines	Philippines	2006
Guideline about stroke and TIA Management in 2008	Romanian Association of Stroke	Romania	2008
Nationella riktlinjer for strokevard http://www.socialstyrelsen.se/AZ/sakomraden/nationella_riktlinjer/specnavigation/lasbestall/Stroke/index.htm	National Board of Health & Welfare	Sweden	2005
National Stroke Guidelines	National Board of Health & Welfare	Sweden	2006

Name of Guideline (Publication reference if available)	Organization/ Group Who Developed Guideline	Country	Date of Most recent update
Inselspital, University of Bern (H. Mattle)	ZAS	Switzerland	2007
Guidelines for stroke prevention	Neurological Society of Thailand	Thailand	2007
National Stroke Guidelines 3rd Edition	Royal College of Physicians	United Kingdom	2008
Stroke Guidelines http://www.nice.org.uk/guidance/index.jsp?action=download&o=41363	National Institute for Health and Clinical Excellence (NICE)	United Kingdom	2008
SIGN 64: Management of patients with stroke: Rehabilitation, prevention, and Management of complications, and discharge planning www.sign.ac.uk/pdf/sign64.pdf	Scottish Intercollegiate Guidelines Network (SIGN)	United Kingdom	2006
Prehospital (Emergency Medical Services) Stroke Care			
(doi: 10.1590/S0004282X2002000400032)	Academia Brasileira de Neurologica	Brazil	2002
The recognition and emergency Management of suspected stroke and TIA guidelines supplement	Royal College of Physicians (RCP) National Pre-Hospital Guidelines Group	United Kingdom	2006
Guideline for the Management of acute ishemic stroke	American Heart Association	United States	2007
Guidelines for the Management of Spontaneous Hemorrhage in Adults	American Heart Association	United States	2007
Guidelines for the Management of Transient Ischemic Attack	American Heart Association	United States	1994

Acute & Rehabilitation Components			
Clinical Guidelines for Stroke Rehabilitation & Recovery www.rnao.org/Storage/12/652_BPG_Stroke_Assessment.pdf	National Stroke Foundation	Australia	2005
Best Practice Guideline for Stroke Care http://profed.heartandstroke.ca/Page.asp?PageID=397&CategoryID=77	Heart & Stroke Foundation of Canada	Canada	2003
Nursing best practice guideline: Stroke assessment across the continuum of care http://profed.heartandstroke.ca/Page.asp?PageID=397&CategoryID=77	Registered Nurses Association of Ontario (RNAO)	Canada	2005
Nova Scotia Guidelines for Stroke Care	Cardiovascular Health Nova Scotia	Canada	2008
Acute stroke care pocket guide	Stroke Group of Helsinki University Hospital	Finland	2008
Japanese Guidelines for the Management of Stroke Available: Int J Stroke; 2008: 3: 55-62	The Joint Committee (Japan Stroke Society, and other four stroke-related Japanese societies)	Japan	2004
Up-to-date principles of diagnostics and Management of patients with acute disorders of cerebral perfusion	Ukrainian Anti-Stroke Association	Ukraine	2007

Acute Stroke Care			
Clinical Guidelines for Acute Stroke Management www.strokefoundation.com.au/acute-clinical-guidelines-for-Acute-stroke-management	National Stroke Foundation	Australia	2007
Guias de Practica Clinica para la prevencion del accidente cerebrovascular isquemico y el ataque isquemico transitorio Available: Revista Neurologica Argentina 2006; 31: 74-9	Sociedad Neurologica Argentina	Argentina	2006

Primeiro Consenso Brasileira	Sociedade Brasileira de Doencas Cerebrovasculares	Brazil	
Clinical Practice Guidelines for hemorrhagic stroke	Neurological Society of Thailand	Thailand	2004
Guideline Stroke	Pokja Stroke Perdossi (Stroke Task Force Indonesian Neurological Association)	Indonesia	2008
SIGN 108 Management of patients with stroke or TIA http://www.sign.ac.uk/pdf/sign108.pdf	Scottish Intercollegiate Guidelines Network (SIGN)	United Kingdom	2008
Stroke assessment: booklet for patients Available: http://www.sign.ac.uk/pdf/pat108.pdf	Scottish Intercollegiate Guidelines Network (SIGN)	United Kingdom	2008
SIGN 78: Management of patients with stroke: Identification and Management of dysphagia www.sign.ac.uk/pdf/sign78.pdf	Scottish Intercollegiate Guidelines Network (SIGN)	United Kingdom	2004
Stroke in Childhood: Clinical guidelines for diagnosis, Management and rehabilitation www.rcplondon.ac.uk/pubs/books/childstroke/childstroke_guidelines.pdf	Royal College of Physicians (RCP) Paediatric Stroke Working Group	United Kingdom	2004
Stroke Guidelines	Society Against Stroke in Ukraine (SASU)	Ukraine	2007
Guidelines for the Early Management of Adults with Ischemic Stroke. Available: *Stroke* 2007; 38: 1655- 1711.	American Heart Association	United States	2007
Guidelines for the Management of Aneurysmal Subarachnoid Hemorrhage (SAH)	American Heart Association	United States	2009
Guidelines for the management of spontaneous intracerebral hemorrhage in adults: 2007 update Available: *Stroke* 2007; 38: 2001- 2023	American Heart Association	United States	2007

Management of stroke in infants and children: a scientific statement for healthcare professionals from a special writing group of the stroke council. Available: *Stroke* 2008; 39: 2644-91	American Heart Association	United States	2008
Stroke Rehabilitation			
Clinical Guidelines for Stroke Rehabilitation and Recovery http://www.strokefoundation.com.au/post-acute-health-professional	National Stroke Foundation	Australia	2005
Stroke Care Optimization of Rehabiltiation through Evidence (SCORE) Available: http://www.trilliumhealthcentre.org/west_GTA_stroke_network/professional/SCORE.pdf	SCORE Research Group	Canada	2007
Ottawa Panel Evidence-based Clinical Practice Guidelines for Post-stroke Rehabilitation Available: *Top Stroke Rehabil* 2006; 13(2): 1-269	Ottawa Panel Research Group	Canada	2006
EBRSR: evidence-based review of stroke rehabilitation. 11th ed. London (ON): EBRSR; 2008. Available: www.EBRSR.com/	EBRSR Research Group	Canada	2008
Clinical Practice Guidelines for hemorrhagic stroke	Neurological Society of Thailand	Thailand	2004
Management of Adult Stroke Rehabilitation Care: A Clinical Practice Guideline. Available: *Stroke* 2005; 36: e100- e143	American Heart Association	United States	2005
Clinical practice guidelines for the management of stroke rehabilitation. www.oqp.med.va.gov/cpg/STR/str_cpg/frameset.htm	Veterans Affairs/Department of Defense	United States	2003
Stroke Prevention (Secondary)			
Neuroprotective agents in stroke: nacional opinión. Arq Neuropsiquiatr 2005; 63: 889- 91	Doencas Cerebrovasculares	Brazil	2005

Management of carotid disease in acute phase of stroke: nacional opinión. Arq Neuropsiquiatr 2005; 63(3A): 709- 12	Sociedade Brasileira de Doencas Cerebrovasculares	Brazil	2005
Guidelines for the prevention of stroke in patients with ischemic stroke or TIA. Available: *Stroke* 2006; 37: 577- 617	American Heart Association	United States	2006
Stroke Prevention (Primary)			
Primary prevention of ischemic stroke. A guideline from the American Heart Association/ American Stroke Association Stroke Council. Stroke 2006; 37: 1583- 1633	American Heart Association	United States	2006

Appendix Three: Glossary of Guideline-Related Terms

Best practices are recommendations for practice or policy decisions that are informed by sufficient good quality evidence. They describe the *most effective* health care practices, interventions, and processes determined by research evidence. Best practices can take the form of clinical practice/best practice guidelines or policy guidelines.

Clinical practice guidelines and best practice guidelines are synonymous terms. They are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances that are informed by research evidence.

Policy guidelines are systematically developed statements to assist health care policy maker, administrator and manager decisions about appropriate health services that are informed by research evidence.

A **consensus statement** offers recommendations about *reasonable* approaches to appropriate health care. They are produced when there is an absence of evidence or in cases where the evidence is limited, of poor quality, or equivocal and are therefore based largely on expert opinion. Consensus statements may offer recommendations to facilitate clinical or policy decisions.

A **Standard** is the basis of comparison in measuring or judging the capacity, quality, content, or extent of a particular object of activity. Standards specify the minimum acceptable characteristics of what constitutes quality care. In the absence of evidence, standards may be informed by expert opinion. Types of standards include, but are not limited to:

Practice standards… standards regarding the practice experiences and/or educational preparation of clinicians, and their patient care activity.

Professional practice standards… standards for clinicians established and maintained by Ontario health professions Colleges under the Regulated Health Professions Act, 1991

Organizational standards… statements that define the performance expectations, structures, or processes that must be substantially in place in a health care organization to enhance the quality of care (JCAHO, 2004)