World Stroke Organization

Global Stroke Guidelines and Action Plan: **A Road Map for Quality Stroke Care**

COMMUNITY REINTEGRATION AND LONG TERM RECOVERY

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PURPOSE:

The WSO Roadmap to Delivering Quality Stroke Care is an implementation resource to accompany the *WSO Global Stroke Services Guideline and Action Plan*. This roadmap provides the framework for the implementation, monitoring and evaluation of stroke services globally.

It provides **standardization and consistency** for the selection of **evidence-based** recommendations, **approaches to implementations** in clinical practice, and the **calculation of performance measures** to create an environment of continuous quality improvement.

TARGET AUDIENCE:

The roadmap is intended to guide local healthcare officials and stroke care clinical groups in establishing stroke systems of care and implementing as many of the defined components as possible throughout the stroke continuum of care. The focus of the roadmap is on the processes of care and impacts on patient outcomes. It is recognized that not all regions will be able to provide all elements of quality stroke care; therefore the recommendations and performance indicators take into account what should be possible within three levels of service access.

It can be used by **local, regional, or country-level health authorities and service** providers as a foundation for their own evaluation frameworks for stroke.

Governments and funders should use these guidelines and action plan to review existing services, and identify service gaps. These groups could then prioritize gaps and look for solutions to improve access to services.
Clinicians and other healthcare workers should use these guidelines and roadmap to scrutinize local care delivery, access to care and ongoing support to achieve recovery goals.

This roadmap will also provide valuable guidance to stroke **programs under development**, to help ensure that all key elements defined here are considered from the beginning of development.

FORMAT:

The roadmap is **organized along the continuum of care** starting at the onset of a stroke event through the acute phase (emergency department and inpatient care), stroke rehabilitation, prevention of recurrent stroke and concludes with community reintegration and long term recovery.

Each section represents a part of the continuum and enables users to **review and assess the structural elements and services available** for stroke care; **core evidence-based best practice** recommendations related to processes of care that should be operational; and, a list of **key quality indicators to monitor levels** of care provided and impact on patient and economic outcomes.

HOW TO USE:

Users of this Roadmap should:
1. **Review** the sections relevant to their phase of stroke services;
2. **Complete an assessment** of current services and resources, current recommendations in place, and current data collection methods and access; then
3. **Develop an implementation plan** to ensure that these core elements are optimized and additional elements added to improve the stroke services they provide.

IMPLEMENTATION:

1. Hands-on hardcopy resource
2. **Electronic interactive app/resource** where users can enter what elements they have available from a master check list and the program identifies current level, recommendations and performance measures.

COMMUNITY REINTEGRATION AND LONG TERM RECOVERY

This section focuses on stroke survivors in the subacute phase of care as they leave inpatient care (acute and/or rehabilitation) and return to the community, either back to their place of residence before their stroke, or to a different location to meet increased care and support needs resulting from their stroke. The goals of community reintegration are to promote the person's return to an acceptable lifestyle, participating in both social and domestic activities, and regain as much independence in functioning and a increase quality of life. Successful reintegration could significantly improve outcomes for stroke survivors, and should be goal-oriented.

Community reintegration and stroke management services and activities start during discharge planning from acute care, and is an ongoing set of care activities lasting years following a stroke. Community reintegration ideally involves healthcare providers with expertise in stroke recovery, social and family support, rehabilitation, leisure activities, quality of life. It takes place across many settings including community-based rehabilitation programs, day programs, leisure programs, educational environments, work places, and in the home, based on resource and facility availability.

Health Service Capacity for Stroke Care Checklists^

Please complete the following information to clearly identify the stroke services you are developing or assessing.

REGION:	ORGANIZATION COMPLETING CHECKLIST:	PRIMARY CONTACT PERSON:

SERVICE SCOPE:	GOALS OF THIS ASSESSMENT/COMMENTS: To be completed by local group
○ Provincial/State/National Assessment ○ Regional/Local assessment ○ Large urban hospital with advanced stroke services (comprehensive stroke services) ○ Community hospitals with access to some stroke services ○ Community with health clinic as only health services available ○ Rural community with a visiting health worker	

A. Stroke Services and Resource Availability

Please review each of these lists and tick all services and resources that you currently have in place and available for providing stroke care. Once completed, review your responses to determine which category of stroke services you most closely fit into.

Minimum Healthcare Services

- Care provided in local communities without coordination across defined geographic regions
- Very limited access to physicians
  - Provide assessment skill development
  - Provide training in basic stroke risk factor assessment: blood pressure, atrial fibrillation (pulse check), exercise, alcohol, diet (with respect to circumstances)
  - Basic skills in risk factor management, medications, lifestyle management
  - Training in basic rehabilitation techniques, mobility and positioning that can be passed on to family
  - Basic training in swallow screens and dysphagia management; and in temperature management
- Variable access to healthcare workers (nurses or lay workers)
  - Training in basic stroke risk factor assessment: blood pressure, atrial fibrillation (pulse check), exercise, alcohol, diet (with respect to circumstances)
  - Training in basic rehabilitation techniques, mobility and positioning that can be passed on to family
  - Basic training in swallow screens and dysphagia management; and in temperature management
- No access to diagnostic services or hospital care
- Limited access to the most basic lifestyle preventative advice
- Access to internet
  - Access to mobile stroke education (such as WSA)
  - Access to mobile tools such as Stroke Riskometer

Essential Stroke Services (In addition to services listed under Minimal stroke services)

- Access to nurses and nursing assessment with stroke training
  - Primary care settings
  - Advanced practice nurses
  - Nurse practitioner
- Ability to reaccess to physicians with stroke expertise (although may not be stroke specialists)
  - General/Family/Primary care physicians
  - Neurologist
  - Neurosurgeon
  - Internists
  - Cardiologist
  - Geriatrician
  - Emergency Medicine
  - Physical and Rehabilitation Medicine
  - Access to stroke specialists through telestroke modalities, and teleradiology
  - Protocols to guide post-acute community stroke care based on best practice guidelines
    - *Medical and nursing assessments:*
    - *Past history*
    - *Swallow screen*
    - *Nutrition, hydration*
    - *Functional status, mobility, DVT risk*
    - *Level of dependency*
    - *Skin Integrity*
    - *Bladder and bowel continence*
  - Patient and family education, skills training, and involvement in care planning
  - Discharge planning
- Access to stroke prevention therapies such as aspirin, lifestyle change recommendations, blood pressure management
- Limited coordinated stroke care provided across geographically discrete regions
- Stroke training programs for all levels of healthcare providers

Advanced Stroke Services (In addition to services listed under Minimal and essential stroke services)

- Access to community programs for recovery after stroke
  - Inpatient stroke rehabilitation beds
  - Early supported discharge programs
  - Home care services for stroke patients
  - Organized outpatient stroke rehabilitation services
  - Local/private community stroke rehabilitation programs
  - Patient and family support groups
  - Stroke prevention clinics
  - Vocational rehabilitation
- Fully coordinated stroke care provided across geographically discrete regions
  - Advanced stroke services rationalized to a smaller number of centres
  - Stroke pathways that define movement of stroke patients across region to higher and lower levels of services as required
  - Coordinated referral system
  - Provide telestroke consultations to smaller and more rural; centres
  - Ambulance bypass agreements in place
  - Repatriation agreements in place to transfer patients back to home communities
  - Printed stroke patient educational materials
- Stroke training programs for all levels of healthcare providers
- Data collection strategy and mechanisms
  - Acute inpatient stroke registry
  - Acute inpatient stroke database (local or regional)
  - Stroke prevention registry
  - Stroke prevention database
  - STroek rehabilitation registry
  - Stroke rehabilitation database (local or regional)

B. Core Stroke Care Recommendations

For each best practice recommendation, indicate with a tick whether the described practice is in place as a routine part of care; in development for implementation; not implemented, meaning the service/resource may be available but it is not currently part of stroke care within your services; or, the service/resource/equipment is not available within your facilities, therefore not possible to implement.

Health System and Stroke Recognition Core Evidence-Based Recommendations	Applicable Level of Health Services Capacity for Stroke Care			Supporting Evidence	Self Assessment
	Minimum	Essential	Advanced		
1. All patients with stroke should be screened for depressive symptoms (ideally using a validated tool).		✓	✓	Evidence level: B	☐ In place ☐ In development ☐ Not implemented ☐ Not available
2. Patients diagnosed with a depressive disorder following formal assessment should be considered for therapeutic interventions – medication, counseling or combination.		✓	✓	Evidence level: A	☐ In place ☐ In development ☐ Not implemented ☐ Not available
3.a Stroke patients should be screened for changes in cognitive status.		✓	✓	Evidence level: C	☐ In place ☐ In development ☐ Not implemented ☐ Not available
3.b Patients with cognitive dysfunction should receive cognitive rehabilitation individualized to their deficits.		✓	✓	Evidence level: B	☐ In place ☐ In development ☐ Not implemented ☐ Not available
4. Patients surviving a stroke, as well as their families and informal caregivers, should be approached by the stroke healthcare team to participate in advance care planning.	✓	✓	✓	Evidence level: C	☐ In place ☐ In development ☐ Not implemented ☐ Not available
5. Patients, families, and informal caregivers should be provided with information, education, training, emotional support, and community services specific to the transition they are undergoing.	✓	✓	✓	Evidence level: A	☐ In place ☐ In development ☐ Not implemented ☐ Not available
6. Patients, families and informal caregivers should participate in goal setting.	✓	✓	✓	Evidence level: C	☐ In place ☐ In development ☐ Not implemented ☐ Not available
7. People with stroke living in the community should have regular and ongoing monitoring and follow-up with healthcare providers to assess recovery, prevent deterioration, maximize functional and psychosocial outcomes, and improve quality of life.	✓	✓	✓	Evidence level: B	☐ In place ☐ In development ☐ Not implemented ☐ Not available

Health System and Stroke Recognition Core Evidence-Based Recommendations	Applicable Level of Health Services Capacity for Stroke Care			Supporting Evidence	Self Assessment
	Minimum	Essential	Advanced		
8. Post-acute stroke patients who experience a change/decline in functional status should be re-assessed, even if months after stroke.		✓	✓	Evidence level: B	☐ In place ☐ In development ☐ Not implemented ☐ Not available
9. Stroke patients should be routinely monitored for post-stroke fatigue during healthcare visits (e.g., primary care, home care, and outpatient) following return to the community and at transition points.	✓	✓	✓	Evidence level: C	☐ In place ☐ In development ☐ Not implemented ☐ Not available
10. Patients, who experience post-stroke fatigue, their families and informal caregivers, should be taught energy conservation strategies and fatigue management.	✓	✓	✓	Evidence level: B	☐ In place ☐ In development ☐ Not implemented ☐ Not available

Which recommendations are your highest priorities to implement?

What are your next steps to start development and implementation of these best practices?

C. Key Stroke Quality Indicators

For each quality indicator, please note whether data is being actively and routinely collected; or, data collection processes are in development for the indicator; or, data may be available but it is not currently being collected; or, data for this indicator is not available at all so not able to collect or report it. Please tick the most appropriate box for each indicator.

Performance Measures	Numerator	Denominator	Self Assessment
B. Longer Term Stroke Recovery			
1. Proportion of patients with documentation of a follow up with a comprehensive check (e.g., Post Stroke Checklist)	Number of patients with documentation of follow-up assessment by a healthcare professional.	All stroke and TIA patients discharged alive back to the community.	☐ Data collected ☐ In development ☐ Data not collected ☐ Data not available
2. Percentage of stroke patients diagnosed with a depressive disorder at 6 months and 1 year post stroke.	Number of patients with a diagnosis of depression documented at 6 months or one year from time of index stroke onset.	All stroke and TIA patients discharged alive back to the community.	☐ Data collected ☐ In development ☐ Data not collected ☐ Data not available
3. Percentage of stroke patients diagnosed with a new cognitive impairment at 6 months and 1 year post stroke.	Number of patients with a cognitive assessment done and documented at 6 months or one year from time of index stroke onset.	All stroke and TIA patients discharged alive back to the community.	☐ Data collected ☐ In development ☐ Data not collected ☐ Data not available
4. Percentage of stroke patients and families with failure to cope at 6 months and one year post stroke.	Number of patients with a diagnosis of failure to cope documented at 6 months or one year from time of index stroke onset.	All stroke and TIA patients discharged alive back to the community.	☐ Data collected ☐ In development ☐ Data not collected ☐ Data not available
5. Documented evidence of follow-up appointment with member of stroke team at approximately 6 weeks post discharge.	Number of patients with a follow up visit for stroke or TIA done and documented within 6 weeks of discharge from acute care hospital.	All stroke and TIA patients discharged alive back to the community.	☐ Data collected ☐ In development ☐ Data not collected ☐ Data not available
6. Percentage of stroke patients who are returned to the community after their stroke and then within 6 month s or 1 year require admission to a long term care facility. (Note: may also measure days of community dwelling before admission).	Number of patients who are admitted to a long term care facility within 6 months or one year following an index stroke or TIA.	All stroke and TIA patients discharged alive back to the community.	☐ In place ☐ In development ☐ Not implemented ☐ Not available

What indicators are priority for us?
Who will collect the data?
How will the data be collected (electronically, on paper, etc)?
How will the data be analyzed? When? How often?
Who will receive the results?

The Roadmap to implementation of the WSO Global Stroke Guidelines and Action Plan includes several modules that together address the full continuum of stroke care. The following modules are available for you to use as part of stroke service planning, self-assessment and implementation. Each Roadmap module includes the relevant service and resource checklist, applicable stroke best practice recommendations and important key quality indicators. Some modules in the Roadmap include additional elements and expanded information to those in the published WSO Global Stroke Care Guidelines and Action Plan to be of further practical use for all sites.

Users of these tools are encouraged to review all modules of the Roadmap.

The following modules are available as part of the WSO Roadmap for Quality Stroke Care:

Introduction and Overview
1. Stroke System Development
2. Prehospital and Emergency Care
3. Acute Inpatient Stroke Care
4. Secondary Stroke Prevention
5. Stroke Rehabilitation
6. Community Reintegration and Long Term Recovery

World Stroke Organization - Clinical Practice Guideline

http://www.world-stroke.org

Clinical Practice Guideline Guidelines recommended by the WSO Guidelines and Quality subcommittee.
WSO International Stroke Guildelines 2012; American Academy of Neurology guideline publication.
Evidence-based Guideline: Prevention of stroke in nonvalvular atrial fibrillation. Summary of Evidence-based Guideline for CLINICIANS. Summary of Evidence-based Guideline for PATIENTS and their FAMILIES
More information: https://www.aan.com/Guidelines/Home/ByTopic?topicId=20
Heart and Stroke Foundation resource for healthcare providers. Taking Action for Optimal Community and Long-Term Stroke Care (TACLS). French version: Agir en vue de soins optimaux communautaires et de longue durée de l'AVC.

About the World Stroke Organization

OUR VISION: A LIFE FREE OF STROKE.

OUR MISSION:

The World Stroke Organization's mission is to reduce the global impact of stroke through prevention, treatment and long-term care. We work to reduce the impact of stroke on individuals, their families, and their communities. Our members campaign together to increase awareness of stroke risk and to improve treatment and care. We believe that reducing the global burden of stroke makes the world a healthier place for everyone.

Corporate partners

The World Stroke Campaign has been made possible through the generous financial contribution of its corporate partners.

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