World PT Day 2026

Cardiovascular disease and stroke

Advocacy toolkit

The value of physiotherapy in the prevention and rehabilitation of cardiovascular disease and stroke

World Physiotherapy

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PURPOSE OF THIS TOOLKIT

This toolkit supports advocacy efforts to:

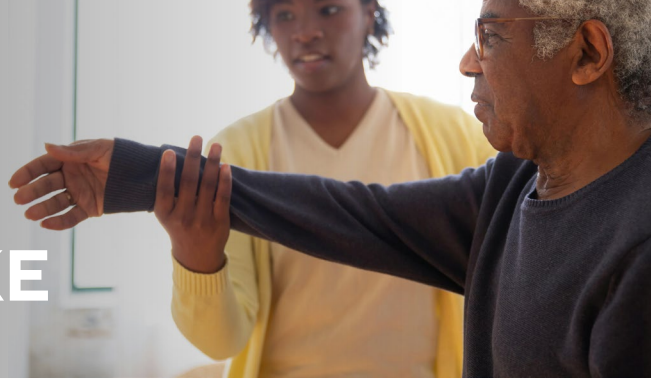
1. position **physiotherapy as an essential, evidence-based component** of cardiovascular disease (CVD) and stroke
2. advocate for **policy inclusion, investment, and workforce planning** for physiotherapists
3. demonstrate the **health, equity, and economic benefits** of physiotherapy-led interventions

Cardiovascular disease and stroke remain leading causes of death and disability worldwide.[5]

Physiotherapy plays a critical role across the full continuum of care, from primary prevention to long term rehabilitation and secondary prevention.

"Investing in rehabilitation is investing in people's ability to live healthy, productive lives." [1] **— WHO**

THE BURDEN OF CARDIOVASCULAR DISEASE AND STROKE



Cardiovascular diseases (CVDs) are the leading cause of death globally [5]

20.5 million
lives are claimed by cardiovascular disease (CVD) each year [12]

30%+
of all global deaths are due to CVD [5]

85%
of these are due to heart attack and stroke [5]

75%
of CVD deaths take place in low and middle income countries (LMICs) [5]

Stroke is the **2nd** leading cause of death globally [2, 3]

Stroke is the **3rd** leading cause of death and disability combined [2, 3]

1 in 4
of us will have a stroke in our lifetime, and up to almost one in two in low income countries. But almost all strokes can be prevented [4]

High blood pressure is the leading risk factor for CVD globally. [5, 12]

CVD and stroke are among the leading causes of long-term disability - functional decline, recurrent events, and unmet rehabilitation needs remain substantial, particularly in LMICs.[5]

Many people survive acute events but live with long term functional limitations, reduced quality of life, and high risk of recurrence.[3, 5]

High quality rehabilitation and prevention services, including physiotherapy, reduce disability, improve participation, and deliver substantial societal savings. [5, 6, 7, 8]

PREVENTION

Physiotherapy in the prevention of CVD and stroke

Physiotherapists are uniquely positioned to deliver evidence-based cardiovascular prevention through:

- exercise prescription and physical activity promotion to improve overall fitness and lower heart disease risk
- identifying people at higher risk of CVD, such as those with hypertension, diabetes, obesity, and lipid risk
- behaviour change counselling and self-management education
- early identification of functional decline and sedentary behaviour, and early action to help prevent serious health problems developing
- spot warning signs and refer patients to further medical care when needed [9, 10, 11, 12, 13]

Physiotherapy-led health promotion and prescribed exercise interventions demonstrate improvements in physical activity levels, cardiovascular risk factors, and adherence to healthy behaviours across populations with or at risk of CVD. [14, 15]

Physiotherapy in cardiac rehabilitation

Cardiac rehabilitation (CR), with physiotherapy-led exercise at its core, is among the most effective secondary prevention strategies in cardiovascular care.[7, 8]

Contemporary meta analyses show that exercise-based CR can:

reduce cardiovascular mortality by up to [24] **26%**	reduce hospitalisation by up to [24] **23%**	reduce recurrent myocardial infarction [24]	improve physical functioning, general health, vitality, social functioning, and mental health [7]

"Rehabilitation is an essential part of universal health coverage along with promotion of good health, prevention of disease, treatment and palliative care." [16] — WHO

PHYSIOTHERAPY REHABILITATION

Physiotherapy is central to stroke recovery and long-term independence

After a stroke, many people experience problems with movement, balance, walking, using their arms, strength, fitness, fatigue, and independence. [17, 18]

Exercise-based physiotherapy has been shown to improve physical function, mobility, balance, and quality of life at all stages of recovery, from hospital care to long term community rehabilitation. Physiotherapy has a key role in high quality stroke rehabilitation. [19, 20]

For stroke, physiotherapy can:

1. improve mobility and functional independence
2. improve balance to reduce fall risk [21] - 73% of stroke survivors fall in the first year post stroke [22]
3. reduce complications, institutionalisation, and long-term care needs
4. reduce the risk of a secondary stroke
5. support reintegration into community and work
6. improve upper limb function
7. improve physical activity and fitness to promote return to recreation and leisure

[25, 26, 27, 28, 29, 30, 31, 32, 33, 34]

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- reduce cardiovascular mortality by up to 26%
- reduce hospitalisation by up to 23%
- reduce recurrent myocardial infarction
- improve physical functioning, general health, vitality, social functioning, and mental health [23, 24]

National and international guidelines recommend regular, sufficiently intense physiotherapy as part of stroke care, tailored to the person's goals and abilities. [35, 36, 37, 38]

COST-EFFECTIVE PREVENTION AND REHABILITATION

Cost effectiveness of physiotherapy delivered prevention and rehabilitation

Exercise-based cardiac rehabilitation is consistently shown to be cost effective across health systems. [39, 40]

Key messages:

1. Embed physiotherapy across CVD and stroke prevention, and rehabilitation pathways
2. Fund and scale cardiac and stroke rehabilitation programmes with physiotherapists as core providers
3. Physiotherapy is not optional — it is fundamental to evidence-based CVD and stroke care
4. Investment in physiotherapy delivers measurable health and economic returns
5. Integrating physiotherapy across care pathways improves outcomes and reduces system burden
6. Strengthen referral, access, and uptake of physiotherapy services
7. Workforce planning must ensure adequate physiotherapy capacity across prevention and rehabilitation

Early and ongoing physiotherapy after stroke yields substantial societal savings through reduced care dependency and improved participation. [41]

LMIC SETTINGS

Physiotherapy for cardiovascular disease and stroke in LMIC settings

Over 75% of global cardiovascular disease and stroke deaths occur in low and middle income countries [42], (LMICs) where health systems face chronic shortages of specialist physicians, limited access to hospital-based services, and rising prevalence of hypertension, diabetes, and inactivity.[43] Cardiac rehabilitation services are available in 80% of European countries, but only 17% of African countries.[44, 45]

Why physiotherapy is particularly high value in LMICs

Physiotherapy aligns strongly with LMIC health system priorities because it is:

- non pharmacological and scalable
- adaptable to low technology and community-based delivery
- requires minimal equipment
- effective across multiple noncommunicable diseases (NCDs)
- deliverable by a trained workforce that can function outside tertiary hospitals. For example, it can be delivered in community halls, primary care clinics, faith-based facilities, or homes

Physiotherapy-led interventions address the dominant modifiable CVD risk factors in LMICs — physical inactivity, hypertension, obesity, and post event deconditioning — using locally adaptable approaches.[46, 47]

Prevention and risk reduction in LMICs

Physiotherapists in LMIC settings can lead primary and secondary prevention through:

- community-based physical activity programmes
- hypertension and cardiometabolic risk screening, providing early detection and intervention
- lifestyle counselling to support healthy lifestyle changes
- education on safe physical activity for people with chronic disease

Evidence from physiotherapy-led health promotion studies, including in resource constrained contexts, shows improvements in physical activity levels, functional capacity, and self management among people with or at risk of CVD. [48, 49, 50]

"Investing in rehabilitation is investing in people's ability to live healthy, productive lives." [51] — WHO

REHABILITATION IN LMICS

Cardiac rehabilitation in LMICs

Access to formal cardiac rehabilitation remains extremely low in LMICs, despite strong global evidence of benefit. [52] [53]

However, the core therapeutic component, structured exercise and physical activity counselling, can be effectively delivered by physiotherapists using simplified models, including:

- low cost group exercise
- home-based or community-based programmes to provide individualised exercise programmes
- task sharing within multidisciplinary primary care teams
- advice and support on how to self-manage the condition
- educating people on the best ways to help prevent further heart problems

Global cardiac rehabilitation guidelines emphasise that delivery models may vary, but the therapeutic foundations, exercise training, education, and risk factor management, must be preserved.[54] [55]

Physiotherapist-led programmes offer a feasible pathway to scale secondary prevention in LMICs without dependency on specialist cardiac infrastructure.

Stroke rehabilitation in LMICs

The burden of stroke has grown rapidly in LMICs, where epidemiological, socioeconomic and demographic shifts have increased the incidence of stroke and other noncommunicable diseases.[56]

Stroke is a leading cause of adult disability in LMICs, with many survivors receiving little or no formal rehabilitation after hospital discharge. Rehabilitation in the first 6 months after stroke maximises the extent of recovery. [57]

Physiotherapy is key to stroke recovery, particularly when other specialist services are scarce.

Physiotherapy management may include:

- mobility, balance, gait, and upper limb retraining
- prevention of complications and secondary disability
- functional independence in self care and community participation

International stroke rehabilitation guidance highlights that rehabilitation intensity and task specific practice, rather than high cost technology, drive recovery principles well suited to LMIC contexts. [58, 59, 60, 61]

Community-based rehabilitation and early supported discharge models, where physiotherapists deliver therapy in homes and communities, are strongly aligned with LMIC service delivery realities. [62] WHO estimates that skilled stroke rehabilitation practitioners in LMICs number fewer than ten per one million of population. [63]

Physiotherapist-led programmes offer a feasible pathway to scale secondary prevention in LMICs without dependency on specialist cardiac infrastructure.

Key messages:

LMIC experience shows that physiotherapy is not only effective, it is essential for equitable cardiovascular and stroke care.

Physiotherapists play a key role in:

- expanding access through community-based and digital models
- delivering culturally responsive care
- reaching underserved populations with low CR participation rates

Innovative delivery models, including home-based and telerehabilitation, maintain clinical effectiveness while improving reach and equity. [64, 65, 66]

"With ageing populations and an increase in the number of people living with chronic disease, rehabilitation is a priority health strategy for the 21st century that uniquely contributes to optimizing population functioning." — WHO

WORLD HEALTH ORGANIZATION

Alignment with World Health Organization messaging and global initiatives

- As leading contributors to mortality and disability globally, the prevention of cardiovascular disease and stroke is a priority [67]
- Physiotherapy is a core health workforce component for delivering WHO recommended interventions for physical inactivity, hypertension, functional recovery, and secondary prevention [68, 69, 70, 71]
- Rehabilitation, including physiotherapy, is an essential health service and a prerequisite for achieving universal health coverage (UHC) and Sustainable Development Goal 3 [72, 73, 74]
- The Rehabilitation 2030 initiative identifies rehabilitation as an essential health service across the lifespan, and as critical for addressing the rising burden of chronic diseases and ageing populations [75]
- Scaling physiotherapy-led models supports equitable, cost effective NCD care, particularly in LMICs [76]
- Rehabilitation must be integrated across the continuum of care, from prevention to long term management [77, 78, 79]
- NCD strategies should include promotive, preventive, curative, rehabilitative, and palliative services, delivered without discrimination [80, 81]
- Health systems must invest in a multidisciplinary rehabilitation workforce, including physiotherapists, to meet rising population needs [82, 83]
- The Global Action Plan for the Prevention and Control of NCDs (2013–2030) and the Rehabilitation 2030: A Call for Action jointly position rehabilitation as a priority health strategy for the 21st century. [84, 85, 86]

"1 in 3 people globally could benefit from rehabilitation, yet services remain underdeveloped and underfunded." [87] — WHO

The WHO Package of Interventions for Rehabilitation (PIR):

Cardiopulmonary conditions identifies rehabilitation interventions for cardiopulmonary and neurological conditions, including stroke, and specifies physiotherapists as a core workforce for delivery. [88]

Physiotherapy forms a key role in cardiac rehabilitation and aims to:

- prevent additional cardiac events
- improve exercise capacity
- improve mobility and functional independence
- increase participation in daily life and work
- provide education on healthy lifestyle
- teach self-management skills
- improve long term outcomes and quality of life

WHO explicitly recognises cardiovascular disease and stroke as priority NCDs and identifies rehabilitation, including exercise, physical activity counselling, and functional recovery, as central to both prevention and long term management. [89, 90]

Key messages:

Physiotherapy is not an adjunct service — it is a WHO endorsed, essential health strategy for addressing the cardiovascular disease and stroke burden. Aligning national action with WHO NCD and rehabilitation guidance by strengthening physiotherapy services is a practical, evidence-based pathway to improving population health, reducing disability, and achieving universal health coverage.[91, 92]

Physiotherapy is not an adjunct service — it is a WHO endorsed, essential health strategy for addressing the cardiovascular disease and stroke burden.[89]

GUIDELINES AND POLICY

Guidelines, papers, and policy endorsement for CVD and stroke

The following support physiotherapy intervention for the rehabilitation and prevention of cardiovascular diseases and stroke.

American Heart Association (AHA)/ American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR): Brown, Todd M; Pack, Quinn R; Aberegg, Ellen; Brewer, LaPrincess C; Ford, Yvonne R; Forman, Daniel E; Gathright, Emily C; Khadanga, Sherrie; Ozemek, Cemal; Thomas, Randal J on behalf of the American Heart Association Exercise, Cardiac Rehabilitation and Secondary Prevention Committee of the Council on Clinical Cardiology; Council on Cardiovascular and Stroke Nursing; Council on Lifestyle and Cardiometabolic Health; and Council on Quality of Care and Outcomes Research. Correction to: Core Components of Cardiac Rehabilitation Programs: 2024 Update: A Scientific Statement From the American Heart Association and the American Association of Cardiovascular and Pulmonary Rehabilitation. Circulation. Volume 151, Number 17. https://doi.org/10.1161/CIR.0000000000001338

AHA/American Stroke Association (ASA): Carolee J. Winstein, PhD, PT, Chair; Joel Stein, MD, Vice Chair; Ross Arena, PhD, PT, FAHA; Barbara Bates, MD, MBA; Leora R. Cherney, PhD; Steven C. Cramer, MD; Frank Deruyter, PhD; Janice J. Eng, PhD, BSc; Beth Fisher, PhD, PT; Richard L. Harvey, MD; Catherine E. Lang, PhD, PT; Marilyn MacKay-Lyons, BSc, MScPT, PhD; Kenneth J. Ottenbacher, PhD, OTR; Sue Pugh, MSN, RN, CNS-BC, CRRN, CNRN, FAHA; Mathew J. Reeves, PhD, DVM, FAHA; Lorie G. Richards, PhD, OTR/L; William Stiers, PhD, ABPP (RP); Richard D. Zorowitz, MD; on behalf of the American Heart Association Stroke Council, Council on Cardiovascular and Stroke Nursing, Council on Clinical Cardiology, and Council on Quality of Care and Outcomes Research. Guidelines for Adult Stroke Rehabilitation and Recovery: A Guideline for Healthcare Professionals from the American Heart Association/American Stroke Association. Stroke. 2016;47:e98-e169. DOI: 10.1161/STR.0000000000000098

American Stroke Association: Life after stroke – Preventing another stroke

Australian Physiotherapy Association (APA): Five facts about physiotherapy and stroke. 1 August 2025

APA: Choose physio for Stroke recovery. 2026

Canadian Stroke Best Practices: Delivery of Stroke Rehabilitation to Optimize Functional Recovery. 7th edition 2025

Canadian Stroke Best Practices: Secondary Prevention of Stroke. 7th Edition – 2020 updated

Chartered Society of Physiotherapy (CSP), UK: Stroke

European Society of Cardiology (ESC)/European Association of Preventive Cardiology (EACPC): Scientific Statements on Cardiovascular Health, Primary and Secondary Prevention

National Institute for Health and Care Excellence (NICE), UK: Stroke rehabilitation in adults. NICE guideline. Reference number:NG236. Published: 18 October 2023

Stroke Foundation: Living Clinical Guidelines for Stroke Management

Stroke Foundation: Prevent stroke

World Health Organization (WHO): Package of interventions for rehabilitation: module 4: cardiopulmonary conditions. Pub 5 July 2023

WHO: Cardiovascular diseases (CVDs). Pub 31 July 2025

WHO: Promoting walking and cycling: a toolkit of policy options. Pub 8 May 2025

World Heart Federation: What we do - Prevention

Rutter H, Wabnitz K, Nambiar D et al. The Lancet Commission on improving population health post-COVID-19. The Lancet. 2025; 407, 267-308. doi: 10.1016/S0140-6736(25)02061-6

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