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LATVIA
Predictors of age adjusted mortality rate

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<td>National income</td>
<td>&lt;0.0001</td>
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<tr>
<td>Mean systolic BP</td>
<td>0.028</td>
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<tr>
<td>Tobacco use</td>
<td>0.041</td>
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<td>Weight</td>
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Predictors of age adjusted DALY

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<tr>
<td>National income</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Tobacco smoking</td>
<td>0.034</td>
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*Links to strengths of health systems and primary care*


Poverty leads to stroke
And
Stroke leads to poverty
13.7M new strokes (44% increase compared to 1990); 58% strokes in <70 years old 203/100,000 person/years (8% decrease compared to 1990)

Feigin et al. *Lancet Neurology* 2018
80.1M stroke survivors (46% increase vs 1990); **61% survivors are <70 years old** 1,180/100,000 people (non-significant 1% decrease compared to 1990)
Age-adjusted stroke DALY rates per 100,000 person-years (map) and number of DALYs in 2016

116.4M DALYs (18% increase vs 1990); 63% of DALYs in <70 years old; 1,711/100,000 person-years (34% decrease compared to 1990); 4.9% of total DALYs (second leading cause after IHD)
• 9.4-fold geographical differences (highest risk in East Asia and Eastern Europe)
• Globally, the lifetime risk of stroke is about 1 in 4 (25%)
• From 1990 to 2016, the lifetime risk of stroke increased by 9%
• Exact estimates and trends are now available for 195 countries!

Feigin et al. *NEJM* 2019
The stroke care chain

Acute measures

Life style changes and prophylaxis

Rehab

Long term support and follow up

16% of all ADL independent at 3 months are dependent at 12 months
Common features of stroke units
Stroke unit concept

Assessment - monitoring

Acute care
- Physiological control
- Early mobilisation
- Prevent complications
- Skilled nursing

Multidisciplinary rehabilitation

Planned discharge
How do stroke units improve patient outcomes?

- Reduction in case fatality occurred between 1 and 4 weeks

- Most marked reduction for deaths considered secondary to immobility


Govan L et al. Stroke 2007;38:2536-2540
Who performs rehabilitation?
Person with stroke

Physician and care staff
- Diagnostics, prognostics, assessment
- Symptomatic treatment, secondary prevention

Occupational therapist
- ADL, housing, work, leisure, assistive devices

Physiotherapist
- Strength, endurance, balance, co-ordination, mobility

Speech and language pathologist
- Speech, language, swallowing

Social worker
- Psychosocial situation, family, work

Psychologist
- Cognition, mood
Long-term Post-stroke Disability

- Many survivors continue to experience disability years post-stroke

Conclusion

- Stroke is a very large problem in the world
- Participation is lacking for the patient with stroke
- Return to work is beneficial for the patient and for society

- Implementation of evidence based rehabilitation is lacking

- Universal health coverage of rehabilitation for stroke survivors is needed

- The Packages for Rehabilitation Intervention be important for stroke survivors since it will map out for decisionmakers where to focus the efforts.
Global Stroke Bill of Rights

As a person who has had a stroke I have a right to:

**Receive the best stroke care**
- A rapid diagnosis so I can be treated quickly.
- Receive treatment by a specialised team at all stages of my journey (in hospital and during rehabilitation).
- Receive care that is well coordinated.
- Access treatment regardless of financial situation, gender, culture or place that I live.
- Receive treatment that is right for me as an individual considering my age, gender, culture, goals and my changing needs over time.

**Be informed and prepared**
- Be informed about the signs of stroke so I can recognise if I am having one.
- Be fully informed about what has happened to me and about living with stroke for as long as I require it.

**Be supported in my recovery**
- Be provided with hope for the best possible recovery I can make now and into the future.
- Receive psychological and emotional support in a form that best meets my needs.
- Be included in all aspects of society regardless of any disability I may have.
- Receive support (financial or otherwise) to ensure I am cared for in the longer term.
- Be supported to return to work and/or to other activities I may choose to participate in after my stroke.
- Get access to formal and informal advocacy to assist me with access to the services I need.
- Be connected to other stroke survivors and caregivers so I may gain and provide support in my recovery from stroke.

World Stroke Organization

www.world-stroke.org
I want to acknowledge Prof Feigin for the slides from GBDS

Thank you!

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Stroke patients who receive organised inpatient care in a stroke unit are more likely to be alive, independent, and living at home one year after the stroke.

At even at 10 year follow up!
• Action Plan for Stroke in Europe 2018 – 2030
Rehabilitation process

- **Care in hospital – stroke units and early rehabilitation**
  - Care in a comprehensive stroke unit reduces mortality and disability. Acute stroke care, skilled nursing care and specialist rehabilitation are all core aspects of a comprehensive stroke unit (that provides for the medical and early rehabilitation needs).
Rehabilitation process

• **Transition from hospital to home – early supported discharge and community rehabilitation**
  – Early supported discharge is an innovative approach to rehabilitation where the services are provided at home by a mobile rehabilitation team and should be seen as an extension of the comprehensive stroke unit.
  – The recovery processes continue and stamina increases. This means that training doses might increase.
  – Stroke survivors are often physically deconditioned with muscle weakness in both the affected and unaffected sides, and impairments in cardiorespiratory fitness. Physical fitness training after stroke reduces disability improves walking ability and may improve other stroke related deficits such as cognition, mood and fatigue. Green areas and walking space may well facilitate physical activity.
STATE OF CURRENT SERVICES

The comprehensive stroke unit is still lacking as well as the slow stream rehabilitation

• Not enough comprehensive stroke units to ensure all patients have equitable access.

• There is also a lack trained stroke specialist staff. Rehabilitation should take place 24/7.

• There is a shortage of Early Supported Discharge services in all European countries

• Physical fitness training programmes are uncommon

• There is large variation in access to rehabilitation
TARGETS FOR 2030

• The aim for 2030 for Europe should be that **90% of the population with stroke have a comprehensive stroke unit** as the first point of access on admission to hospital.

• **ESD should be organized in all countries and offered to at least 20% of the population**

• **Physical fitness programs** should be offered to all stroke survivor living in the community

• All stroke patients with residual difficulties on discharge from hospital should have a **documented plan for community rehabilitation**.

• All stroke patients and carers have a **review of their rehabilitation needs at six months after stroke**