

Access to stroke care in Europe: preliminary results of a vignette approach





Stroke

- A major cause of burden of disease:
 - 8% of total deaths in Western Europe, 15% in Eastern Europe
 - 4% of DALYs Western Europe, 8% in Eastern Europe
- Two main types of stroke
 - Ischemic stroke: 85%
 - Hemorrhagic stroke: 15%
- Vignette focuses on ischemic stroke
 - More frequent
 - European clinical guidelines





Stroke vignette and relevant services

Stroke Vignettes

A 70 year-old retired male calls emergency medical services due to right-sided hemiparesis and aphasia, onset 2 hours ago. An ambulance reaches the home of the patient and takes him to the closest hospital with a stroke unit. He is admitted to emergency care and receives a fast-track stroke work-up including CT-based brain and intracranial arterial imaging. Acute ischemic stroke due to middle cerebral artery occlusion is diagnosed and the patient is treated with intravenous thrombolysis and mechanical thrombectomy. The patient receives further treatment on a stroke unit for 7 days. He is transferred to an inpatient rehabilitation facility (including at least physiotherapy and occupational therapy, 45 min each, 5 days a week) where he requires treatment for 4 weeks. He is then discharged home with additional ambulatory physiotherapy.

Service

Ambulance transfer to hospital

Imaging

Thrombolysis

Thrombectomy

Stroke unit treatment

Rehabilitation (physio- and occupational therapy, 45 min each, 5 days a week), at least 3 weeks



The survey: vignette and access dimensions

Vignettes	Services	Coverage		Access			Determinants-of-access
		Is the service covered by the statutory system? (including exemptions)	Does cost-sharing (value or rule for determining the amount) apply? Any financial protection measures (e.g. lower cost-sharing for low-income groups/chronic patients, annual cost-sharing caps etc.)?	Is there a lack of physical availability of services (e.g. due to distance, lack of statutory/contracted providers, poor quality of services, limited opening hours, waiting times and waiting lists)	Do patients lack the ability to obtain necessary care? (e.g. incapacity to formulate care request)	Do patients face problems due to the attitude of the provider? (discrimination, care denial, inability to accommodate preferences)	
Stroke Vignette A 70-year-old retired male calls emergency medical services due to right-sided hemiparesis and aphasia, onset 2 hours ago. An ambulance reaches the home of the patient and takes him to the closest hospital with a stroke unit.	Ambulance transfer to hospital						
	Imaging						





Survey results

Received answers from 9 countries (BL, DE, EE, LT, NL, PL, PT, SK, UK (ENG))

- Variation in granularity of information provided
- Variation in understanding of questions





Bulgaria

Services	Coverage	Cost-sharing (and exemptions)	Physical availability	Organizational barriers	Acceptability	Other factors
<i>Ambulance transfer to hospital</i>	Yes - emergency care is covered by the state	No	There are significant regional disparities in the time of arrival of an ambulance and transport to a hospital.	No. This is a life-threatening condition in which if the patient is unable to sign an informed consent,	No	Place of residence
<i>Imaging</i>	Yes - covered by the NHIF (it's a compulsory part of the clinical pathway for stroke;	Health insured people pay user fees for each day of hospitalization up to 10 days per year. If the patient is not health insured but he/she is socially disabled, the Ministry of Social Affairs pays for the treatment..	Every hospital can do this.			
<i>Thrombolysis</i>	Yes -it's part of the clinical pathway		Cannot be performed in every hospital. For example, in Varna, only one of the three major hospitals can do this			
<i>Thrombectomy</i>	Yes -it's part of the clinical pathway		Can be performed only in Sofia and Varna. In the other settings there are no trained teams, equipment lacks.			
<i>Stroke unit treatment</i>	Yes -it's part of the clinical pathway (minimum 5-days-hospital stay)		All hospitals treat stroke, but in most - undifferentiated			
<i>Rehabilitation (physio- and occupational therapy, 45 min each, 5 days a week), at least 3 weeks</i>	NO. The NHIF covers only early rehabilitation immediately after the acute episode for up to 10 days.		User fees for the hospital stay on a clinical pathway. Out-of-pocket payment for each rehabilitation service at home. No protection. This is a huge problem in Bulgaria.	Probably does not refer to SU treatment	Socioeconomic status and place of residence	



Slovakia

	Coverage		Access			Determinants of access
Service	Coverage	Cost-sharing	physical availability	Organizational barriers	acceptability	other factors
<i>Ambulance transfer to hospital</i>	Yes, fully covered	No cost sharing	No lack			
<i>Imaging</i>	Yes, fully covered	No cost sharing	No lack			
<i>Thrombolysis</i>	Yes, fully covered	No cost sharing	No lack			
<i>Thrombectomy</i>	Yes, fully covered	No cost sharing	10 centres in the country, differences across regions			Regional disparities
<i>Stroke unit treatment</i>	Yes, fully covered	No cost sharing	No lack - officially 43 stroke centres, but don't provide stroke unit care, no early rehabilitation			No early neurorehab
<i>Rehabilitation (physio- and occupational therapy, 45 min each, 5 days a week), at least 3 weeks</i>	No, Formally yes, but de facto no – rehabilitation is paid completely by families	Yes Rehabilitation is paid by patients and their families	Only one centre in country, limited availability			





Germany

Reported % for hospitals with service available and % of patients treated

	Coverage		Access			Determinants of
Service	Coverage	Cost-sharing	physical	Organizational	acceptability	other factors
<i>Ambulance transfer to</i>	Yes.	No. It is always	No. (In Germany, the	No. (Exemptions	No. (However,	Severe language barrier when
<i>Imaging</i>	Yes.	No.	No. Any hospital with	No.	No.	No.
<i>Thrombolysis</i>	Yes.	No.	No, technical But there are	No. However,	No.	Yes. Age: thrombolysis Day/Night: might
<i>Thrombectomy</i>	Yes.	No.	Yes. There are Especially in rural There is currently	No.	No.	Yes. Day/night: Probably also age
<i>Stroke unit treatment</i>	Yes.	Yes: Co-payment (10 Euro/d, max.	Yes. There are regional	No.	No.	No. Apart from
<i>Rehabilitation</i> (physio- and occupational therapy, 45 min each, 5 days a	Yes.	Yes: Co-payment (10 Euro/d, max. 28d/year or 42d/year if the pension fund has	Yes. There might be waiting lists especially for neurological inpatient	No.	Yes. Personal	Yes: 1) age: often 2) socioeconomic 3) employment 4) legal status:



Preliminary overview 1

	Coverage		Access			Determinants of access
Service	Coverage	Cost-sharing	physical availability	Organizational barriers	acceptability	other factors
<i>Ambulance transfer to hospital</i>	Yes: BG, DE, LT, SK, UK (ENG)	No: BG, DE, LT, SK, UK (ENG)	BG: regional differences important DE: some regional variation LT: available in every municipality UK: waiting time targets are often missed	DE: No LT: maybe UK (ENG): wide-spread unmet needs for social care mean patients might not be detected	No problems: BG, LT, SK DE: patient will be taken to next suitable hospital (not following patient preferences) UK (ENG): worse care for mentally ill (?)	BG, DE, LT: Place of residence DE: language barrier
<i>Imaging</i>	Yes: BG, De, LT, SK, UK (ENG)	No: DE, LT, SK, UK (ENG) BG: user fees for first 10 days in hospital; exemptions for disabled; non-covered pay OOP	BG, DE, LT, SK, UK (ENG): everywhere	LT: maybe No: BG, DE, SK, UK (ENG)	No problems: BG, DE, LT, SK, UK (ENG)	BG: Place of residence UK (ENG): lower availability during weekends
<i>Thrombolysis</i>	Yes: BG, DE, LT, SK, UK (ENG)	No: DE, LT, SK, UK (ENG) BG: user fees for first 10 days in hospital; exemptions for disabled; non-covered pay OOP	BG: not in every hospital DE: variation across hospitals/regions LT: patient will be transferred SK: 43 stroke centres UK (ENG): everywhere	LT: maybe No: BG, DE, SK, UK (ENG)	No problems: BG, DE, LT, SK, UK (ENG)	BG: Place of residence DE: age, not approved for >80 although beneficial, UK (ENG): lower availability during weekends
<i>Thrombectomy</i>	Yes: BG, DE, LT, SK, UK (ENG)	No: DE, LT, UK (ENG) BG: user fees for first 10 days in hospital; exemptions for disabled; non-covered pay OOP	BG: only in two hospitals in the country DE: Variation across hospitals/regions LT: patient will be transferred SK: 10 MTC centres, regional variation UK (ENG):	LT: maybe No: BG, DE, SK, UK (ENG)	No problems: BG, DE, LT, SK, UK (ENG)	BG: Place of residence DE, UK (ENG): lower availability during weekends



Preliminary overview 2

	Coverage		Access			Determinants of access
Service	Coverage	Cost-sharing	physical availability	Organizational barriers	acceptability	other factors
<i>Stroke unit treatment (min 7 days)</i>	Yes: BG, DE, LT, UK (ENG)	No: DE, LT, SK, UK (ENG) BG: user fees for first 10 days in hospital; exemptions for disabled; non-covered pay OOP	BG: all hospitals treat stroke (but not stroke unit?) DE: regional variation LT: No lack of availability SK: officially no lack - but no early rehab UK (ENG): some in rural	LT: maybe No: BG, DE, UK (ENG)	No problems: BG, DE, LT, SK, UK (ENG): known problem: no single sex wards	BG: Place of residence DE: No UK (ENG): non-permanent residents or non-recognized migration status may mean patients have to pay, unmet need for social care often prevents discharge.
<i>Rehabilitation (physio- and occupational therapy, 45 min each, 5 days a week), at least 3 weeks</i>	Yes: DE, LT (10 days early rehab, 10 days specialized inpatient, 10 days outpatient), UK (ENG) - but strict criteria No: BG (only early rehab (for 10 days), SK	No: DE, LT, UK (ENG) BG: user fees for first 10 days in hospital; exemptions for disabled; OOP for most rehab services at home SK: rehab is paid OOP	DE: waiting lists LT: No lack of availability SK: only one in country UK (ENG): low availability (in general)	DE: No LT: maybe SK: limited access UK (ENG): patients usually receive <3 weeks rehab	DE: preferences sometime not met (e.g. for inpatient rehab) No problems: BG, LT, SK	BG: Socio-economic status and place of residence DE: age, socio-economic status UK (ENG): non-permanent residents or non-recognized migration status may mean patients have to pay, unmet need for social care often prevents discharge.





Preliminary summary

- Detected access problems:
 - Rehabilitation:
 - Bulgaria: not covered
 - Poland: difficult access
 - Slovakia: not available
 - UK (ENG): strict access criteria in UK (ENG)
 - Thrombectomy:
 - Bulgaria: not explicitly mentioned but only two hospitals in the country
 - Slovakia, Germany: regional variation
 - UK (ENG), Germany: availability at nights/weekends
 - Stroke unit treatment: concept not always clear → access only to sub-standard stroke unit care (BL, SK)



Methodological considerations

- Limitations:
 - Summarizing results across countries is difficult
 - Information on organizational barriers/acceptability is sporadic/subjective
 - Subjective: depends on experts and their knowledge
 - Germany: reports on differential access for women vs. men
 - UK (ENG): stroke units: no single-sex wards
- Approach:
 - Reliability of results needs to be double-checked
 - More rounds of questions needed to clarify inaccuracies/misunderstandings
 - Standardization could be improved
 - More specific questions, e.g. where would you transfer such a patient? What is the proportion of patients treated with X
 - ... But should not miss the qualitative aspects: who is less likely to get it.



Outlook

- We still need to analyze the results in detail...
 - ... and follow-up to clarify inaccuracies/misunderstandings
- Presentation of results in summary tables needs to be improved
- Larger project would be needed to
 - define more specific survey,
 - collect quantitative data about access to specific services

Questions?

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