



# Stroke surveillance by the Belgian sentinel general practitioners (SGPs)

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## Background

- ❖ Stroke in Belgium:
  - ❖ 10,000 deaths every year
  - ❖ no stroke register
  - ❖ no reliable hospital data
  - ❖ prevalence figures on population suffering from stroke and its consequences

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## Purpose of the 1998-1999 recording by SGP's

- ❖ Estimate the stroke incidence
- ❖ Estimate the stroke mortality
- ❖ Comparison with previous registrations
- ❖ Study consequences of stroke
- ❖ Study care provided to stroke patients

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## Method (1)

- ❖ 178 GPs evenly spread over the country
- ❖ Representative of Belgian GPs for
  - ❖ Age
  - ❖ Gender
- ❖ Population coverage
  - ❖ 138,000 inh. or 1.4% of general population

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## Method (2)

### ❖ Recording concerned:

- ❖ Every transient or permanent cerebro-vascular event
- ❖ Patients for whom GP was first medical aid
- ❖ Patients directly hospitalised and of whom GP was informed

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## Method (3)

- ❖ Age and gender
- ❖ Risk factors (diabetes, hypertension, previous TIA or CVA)
- ❖ Disability (coma, motor deficits, speech and swallowing defects, incontinence)
- ❖ Outcome after 24 hours (death, hospitalised, at home, elsewhere)

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## Method (4)

- ❖ Follow-up questionnaire (>1, 6, 12 months)
  - ❖ Delivered care
  - ❖ Outcome of event



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## Method (5)

- ❖ Persistent cerebrovascular accident:
  - ❖ Patients with rapidly developing clinical signs of focal or global disturbance of cerebral function, with symptoms lasting 24 hours or longer or leading to death and with no apparent cause other than of vascular origin



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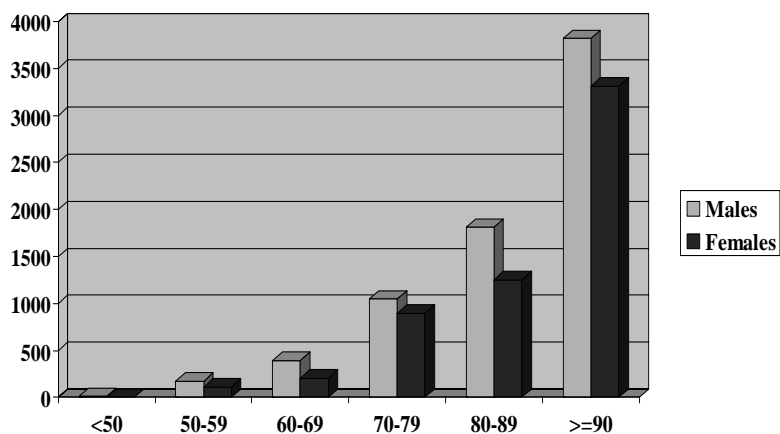
## Results (1)

- ❖ Mean age in men: 71.5 (SD=13)
- ❖ Mean age in women: 76.4 (SD=15)
- ❖ Incidence in men: 179/100,000 (157-203)
- ❖ Incidence in women: 192/100,000 (169-216)
- ❖ Total nb in men: 8,928 (7,408-10,668)
- ❖ Total nb in women: 9,947 (8,346-11,767)

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## Results (2)

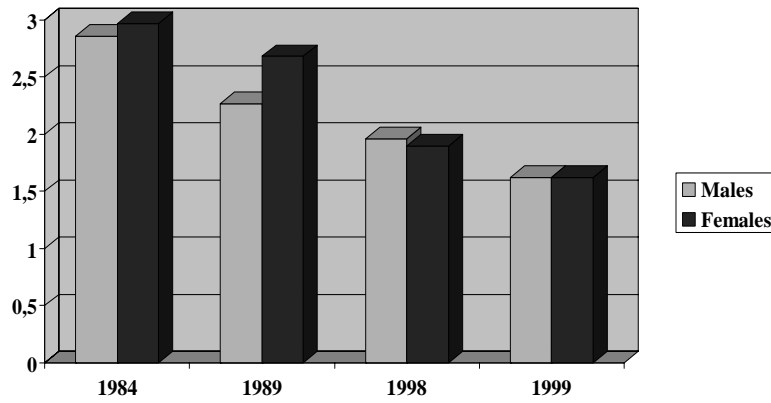
Stroke attack rates by age and gender (/100,000)



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### Results (3)

Age standardised attack rates by sex (/100,000)



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### Results (4)

First health care provider after stroke

Health care provider	N=464 %
Own GP	72.6
Other GP	12.3
Mobile urgency team	3.4
Hospital physician	10.1
Other	1.5

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## Results (5)

### ❖ Deficits after stroke

- ❖ Coma: 12%
- ❖ Loss of consciousness: 36%
- ❖ Motor deficits: 81%
- ❖ Speech disturbances: 67%
- ❖ Swallow disturbances: 25%
- ❖ Incontinence: 22%

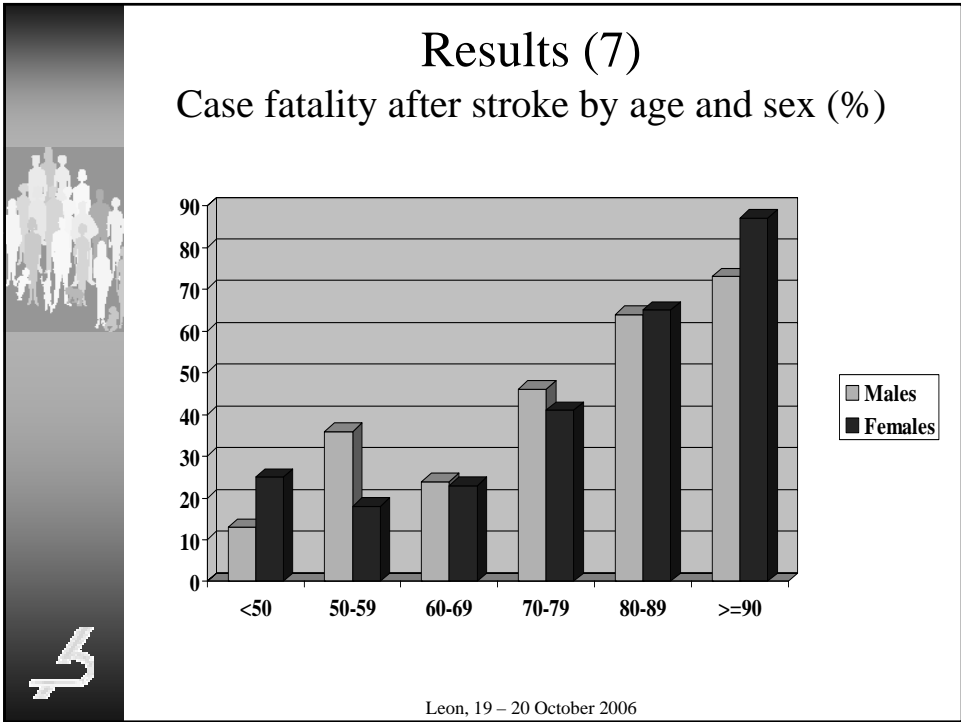
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## Results (6)

### Motor deficits in stroke patients

	Total N=465 %	Men N=223 %	Women N=242 %
Left	39	44	34
Right	34	32	37
Bilateral	8	7	9
Total	81	83	80

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### Results (8)

Stroke mortality in SGPs and death certificates

	Estimated Nb of deaths by SGPs (1998-1999)	Nb of deaths by official statistics (1995)
Men	3858 (2882-5060)	3691
Women	4970 (3851-6311)	5755
Total	8774 (7268-10499)	9446

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## Discussion

- ❖ International comparison of stroke incidence rates is difficult
  - ❖ Different settings
  - ❖ Age group limitations
  - ❖ Absence of standardised rates
- ❖ HIPC European project reveals similar results in various sentinel networks of GPs
- ❖ Our mortality data are very comparable with official death statistics

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## Conclusion

- ❖ SGPs valuable source of information on:
  - ❖ Stroke incidence
  - ❖ Stroke mortality
  - ❖ Outcome of stroke
  - ❖ Care delivered to stroke patients

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## International scientific publications

- ❖ *Buntinx F, Devroey D, Van Casteren V.* Incidence of stroke and transient ischemic attacks is going down : A report from the Belgian Sentinel Stations. Br J Gen Pract 2002; 52:813-817.
- ❖ *Devroey D, Buntinx F, Van Casteren V, Van Der Heyden J., Vandenberghe H.* Higher attack rates for left motor deficit among men with cerebrovascular events. Neurology 2002; 59(11):1794-1796.
- ❖ *Devroey D, Buntinx F, Van Casteren V.* Trends in stroke attack rates and mortality from a 16-year nationwide registration. Circulation 2002; 106:S752.



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