

STROKE MORTALITY TREND IN URUGUAY: A 60 YEARS NATIONAL STUDY



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- Pino S, Rada D, Hackembruch HJ, Vázquez C, Ketzoian C, Gaye Saavedra A.
- Unidad ACV, Instituto de Neurología, Hospital de Clínicas, Universidad de la República, Uruguay.

Objectives

- ❑ To describe national stroke mortality trend from 1957 to 2017.
- ❑ To analyze possible causes of these results.

Materials & Methods

All cerebrovascular deaths from 1957 to 2017 were registered according to International Classification of Diseases (ICD codes I60-69).

Anonymous data from death certificates was provided by Uruguayan Ministry of Health.

Population at risk was determined by national census from National Statistics Institute.

Stroke Age Standardized Death Rate (sASDR) per 100,000 was calculated using direct method for WHO standard population (2000).

Temporal trend analysis was performed (linear regression, significance $\alpha = 5\%$). Three 20-year periods (1957-1977; 1978-1997; 1998-2017) were established.

Joinpoint regression was made to determine the most significant stroke mortality trends changes.

Local Ethical Committee approved the study.

Results

Total sASDR showed a global decreasing trend considering the whole analyzed period ($r^2 = -0.653$ $p < 0.0001$). Female sASDR was higher but tended to equalize after '90s decade.

When analyzed in 20 years intervals, there was an increase in sASDR from 1957 to 1977 ($r^2 = 0.315$ $p < 0.0001$, maximum sASDR 97/100.000).

In the 1978-1997 period a decrease was observed ($r^2 = -0.895$ $p < 0.0001$, minimum sASDR 59/100.000), and in the latter period (1998-2017) the decrease was more prominent ($r^2 = -0.947$ $p < 0.0001$, minimum sASDR 29/100.000).

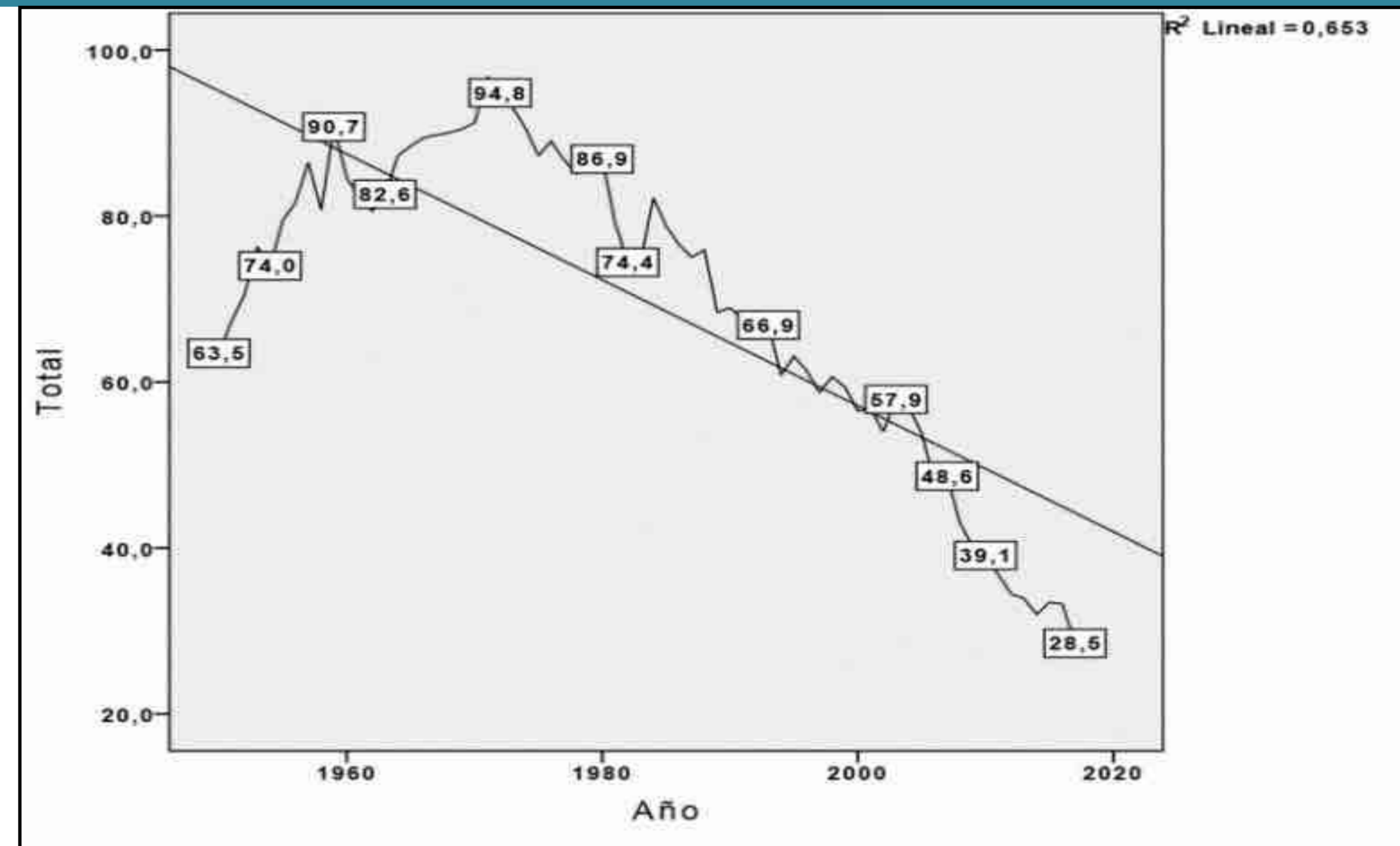


Fig 1. sASDR per 100.000 inhabitants (y) during the whole analyzed period (years in x)

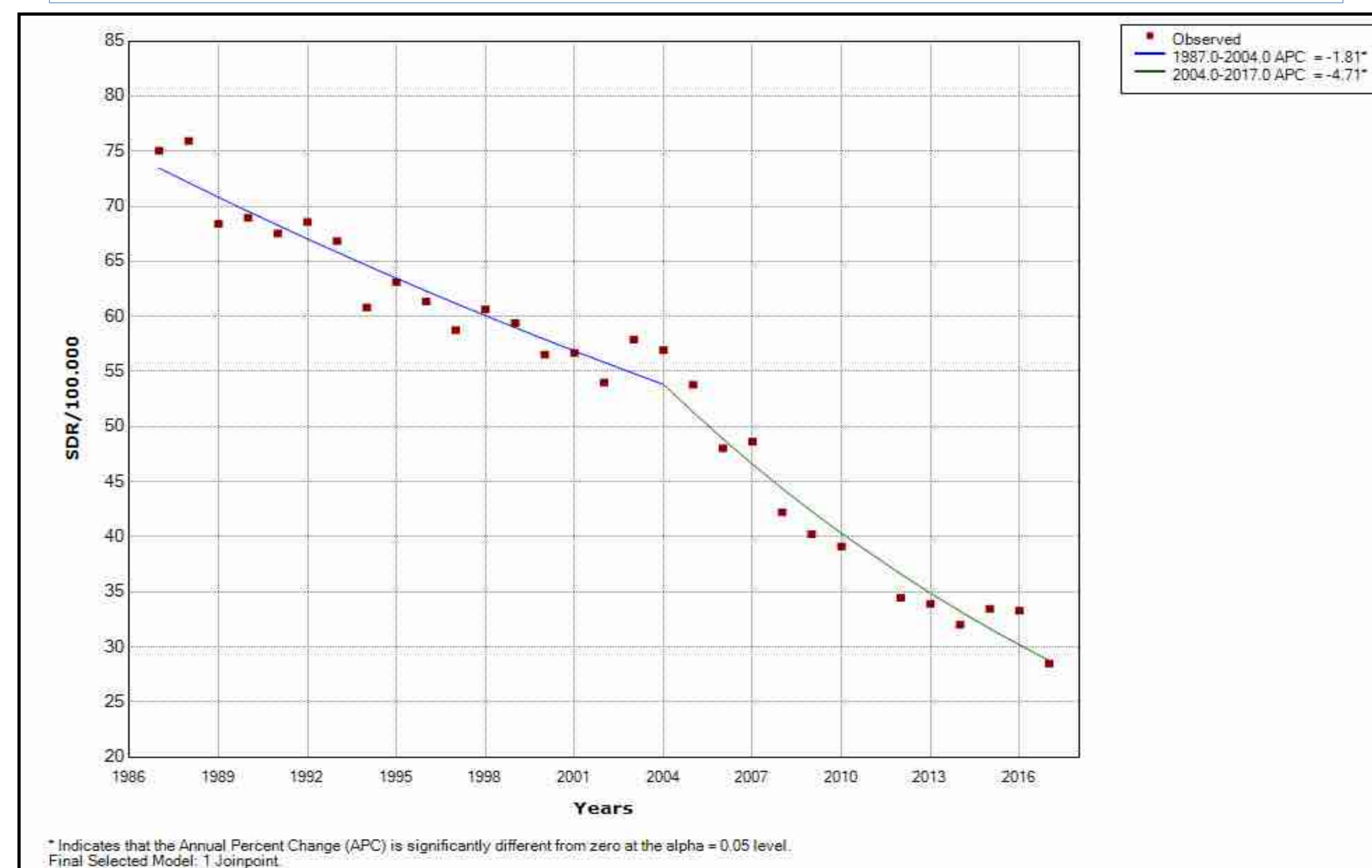
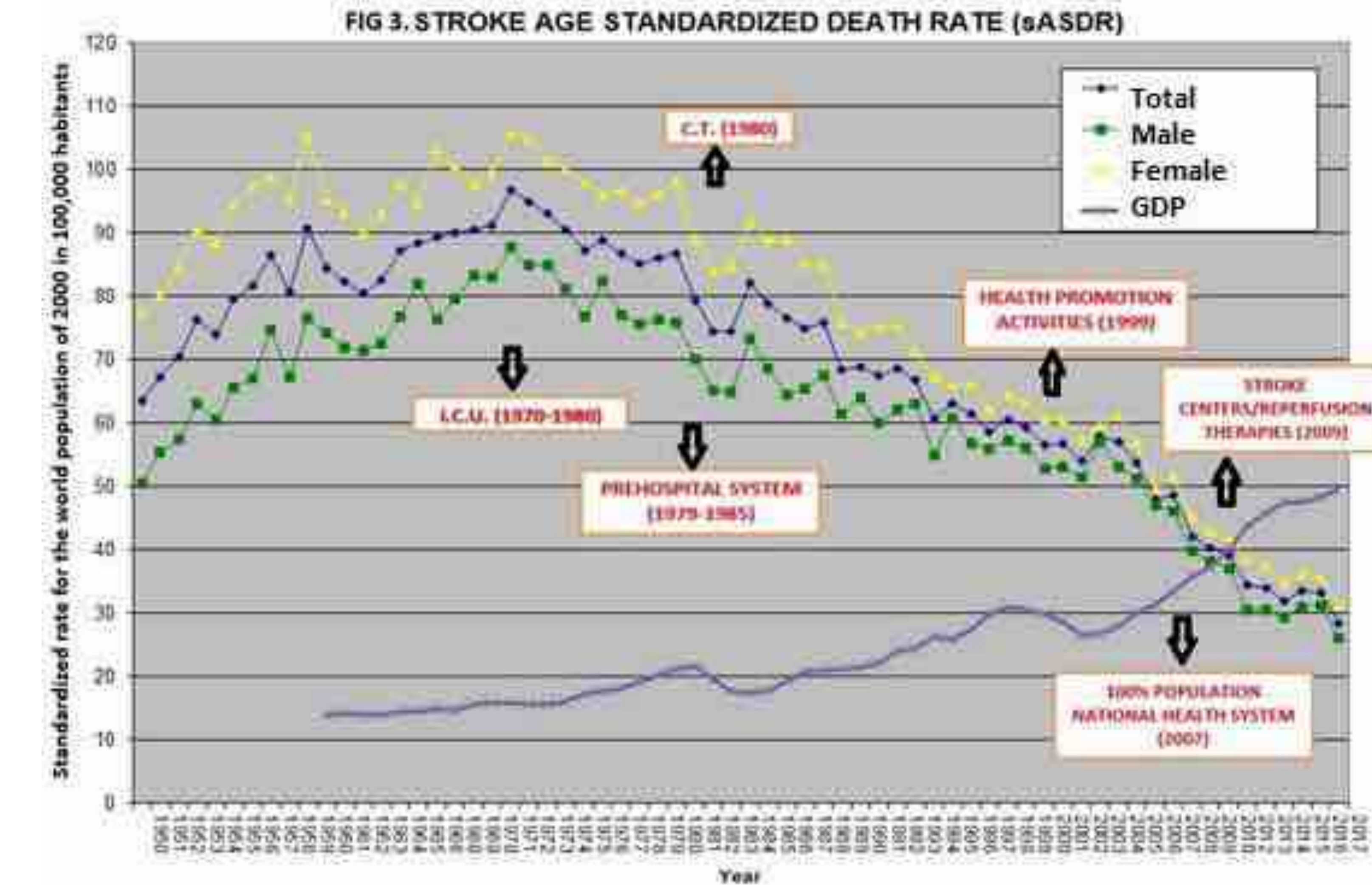


Fig 2. Joinpoint analysis showing most significant change in linear slope of sASDR in 2004-2017 period



Conclusions

After an initial increase from 1957 to 1977, total sASDR continuously decreased from 1978 to 2017. Female sASDR was higher during the whole period.

The most significant change in total sASDR occurred in the 2004-2017 period.

Implementation and gradual generalization of intensive care units, computed tomography and prehospital systems are probably the most important factors for the initial decreasing trend in the 1978-1997 period.

Inclusion of 100% of population in National Health System in the 2000 decade, improvement in risk factors control policies and in acute stroke care may have played a role in the most significant change occurred in the last period.

Maximum increase in National Gross Domestic Product occurred in 2004-2017 period, coinciding with the most significant decline in sASDR.