

The Barbados National Registry for Chronic Non-communicable Disease (the BNR)

The BNR team has actively collected data on all stroke and acute myocardial infarction (MI) events occurring on the island since July 2008 (stroke) and July 2009 (acute MI). Here we present an informal examination of changes in incidence and mortality rates between 2009 and 2013 (this page) as well as 5-year changes in case fatality rate (next page). In the text on the left, key findings are outlined, while the figure on the right shows the rates.

Abbreviations

IR: incidence rate per 100,000 population per year
MR: mortality rate per 100,000 population per year
95%CI: 95% confidence intervals

Key findings: Stroke events

- Approximately **593** stroke events occur in Barbados every year (**49** per month)
- A little more than half (**55%**) of strokes occur in women
- The IR and numbers increase with increasing age
- No** significant change in IR, other than the increase in 2013
- Crude annual IR over the 5 years: **210** (95%CI 203–218)
- IR age-standardised to US population: **246** (95%CI 226–267)
- IR in Barbados **similar** IR to that of the US population (**257** in 2010)

Key findings: Stroke deaths

- Approximately **318** stroke deaths per year (**27** per month)
- Increasing MR between 2009 and 2013
- Significant** change between 2009 and every other year
- Some possible reasons for increasing MR (to be investigated): **increasing** elderly population; **increasing** haemorrhagic strokes over time (higher death rate); **declining** population awareness of early stroke symptoms
- Note:** Age-standardised (US population) MRs for Barbados are **higher** than crude rates presented here
- Annual US stroke MR has been below 60 since the end of the last century

Key findings: Acute myocardial infarction events

- Approximately **350** heart attack events every year (**29** per month)
- Almost half (**48%**) of heart attacks occur in women
- IR and numbers increase with increasing age
- Over the **5-year** period, **no** significant change in IR (all 95% CIs overlap)
- Crude annual IR over the 5 years: **126** (95%CI 118–130)
- 5-year IR age-standardised to US population: **142** (95%CI 127–155)
- 5-year age-standardised IR in those aged 35–84 years: **198** (95%CI 175–224): **lower** than US black population in same age-group (>**300**)

Key findings: Acute myocardial infarction deaths

- Approximately **245** heart attack deaths per year (20 per month)
- Non-significant** overall decline in MR (13% over 4.5 years)
- Similar** annual MR decline to the US (3.5% per year)
- Note:** Both IR and MR are lower in 2011 than all other years (although there is a slight 95% CI overlap for IR)
- In that year, the BNR had exceptionally low numbers of data collection staff, which could have resulted in lower case ascertainment for that year

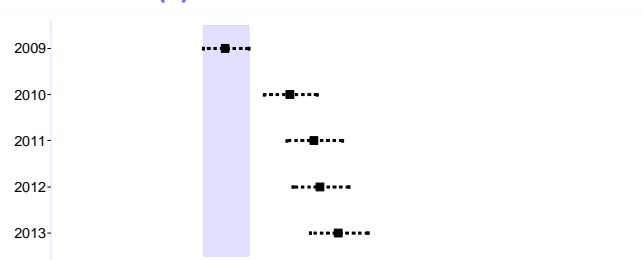
Figure. IR and MR for stroke and acute MI, 2009–2013, Barbados, with 95%CI.

Shaded is 95%CI for 2009 extended through all 5 years to highlight overlap (non-significant difference in rates) or no overlap (significant difference in rates)

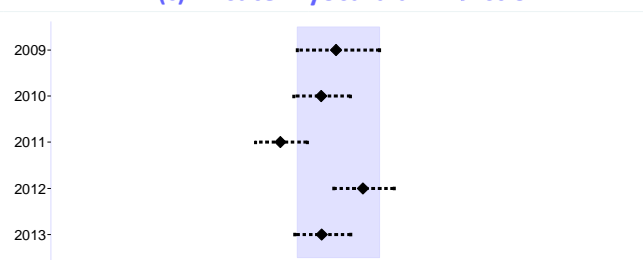
(a) Stroke IR



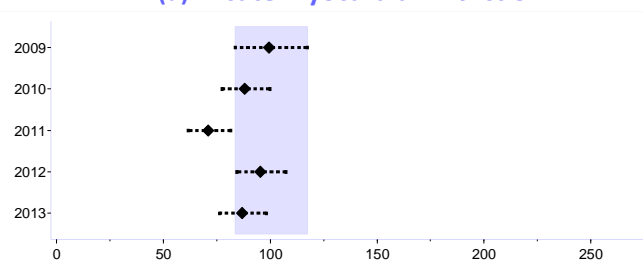
(b) Stroke MR



(c) Acute myocardial infarction IR



(d) Acute myocardial infarction MR



Abbreviations

CFR: case fatality rate (% deaths out of all events)

95%CI: 95% confidence intervals

IS: ischaemic stroke

Key findings: stroke case fatality

- Every year, about **50%** of stroke patients die
- Approximately **16%** patients with stroke die outside hospital
- **Increasing** CFR between 2009 and 2012, then decline in 2013
- **Higher** CFR than other developed countries: e.g. Norway's CFR for ischaemic stroke (IS) in patients 30–84 years is 7% (vs **32%** in Barbados)
- For those ≥85 years, Norway's IS CFR is 20% (vs **65%** in Barbados)
- **57%** of women with a stroke die by 28 days, vs **50%** of men
- High stroke CFR in Barbados may be a result of low ascertainment of mild cases, treated in the community
- **Note:** In Barbados, 22% of strokes notified by death certificate only do not have subtype details, so CFRs for ischaemic stroke cited above for comparison with Norway may be even higher

Key findings: acute MI case fatality

- Every year, about **70%** of heart attack patients die
- Approximately **46%** patients with heart attack die outside hospital
- **Declining** CFR (not significant) from 2009 to 2013
- **Higher** CFR than in other developed countries: 30-day all-cause CFR is 8% in Sweden; 11% in the UK
- **74%** of women with a heart attack die by 28 days, vs **67%** of men

For more information See the Annual Reports for the BNR for the years 2009–2013 or contact the BNR Director, Mrs Tanya Martelly (see BNR contact details below right).

Tables. CFR for stroke and acute MI, 2009–2013, Barbados, with 95%CI. CFR was estimated at 28 days post-event.

(a) Stroke CFR

Year	All stroke		Hospital-admitted stroke only	
	CFR (%)	95%CI	CFR (%)	95%CI
2009	40.1	35.0–45.8	33.1	28.2–38.6
2010	53.8	47.9–60.2	43.5	37.7–49.9
2011	59.7	53.5–66.4	51.4	45.1–58.3
2012	60.3	54.1–66.9	52.8	46.5–59.8
2013	53.7	48.4–59.5	45.4	40.2–51.2

(b) Acute MI CFR

Year	All acute MI		Hospital-admitted acute MI only	
	CFR (%)	95%CI	CFR (%)	95%CI
2009	77.4	65.1–91.3	51.8	37.5–69.8
2010	72.9	64.1–82.5	50.5	40.8–61.9
2011	68.7	59.5–78.9	41.3	31.8–52.7
2012	66.5	58.8–74.9	43.3	35.4–52.5
2013	70.0	61.5–79.3	40.8	32.0–51.3

