



# Hospital Stay among Cardiovascular Patients in Barbados

Briefing created by the Barbados National Chronic Disease Registry, The University of the West Indies.

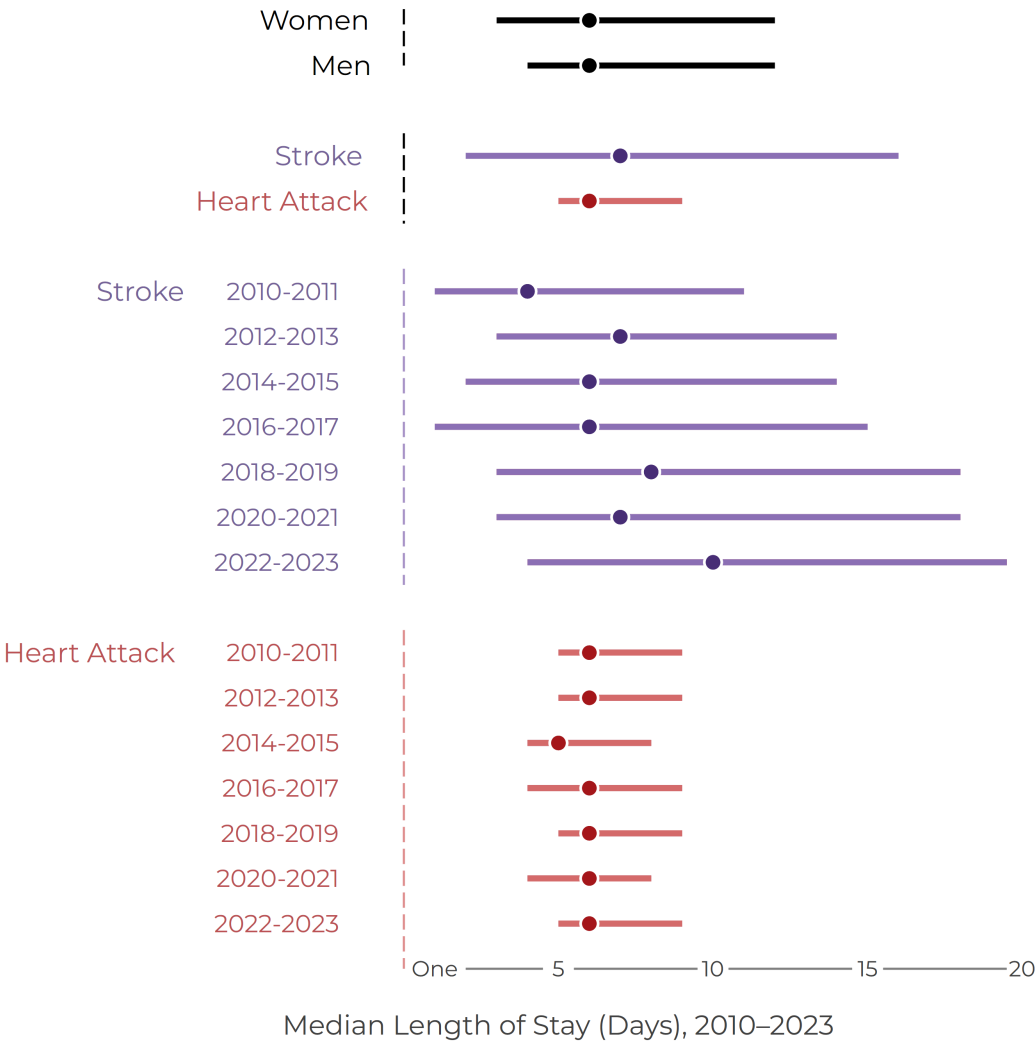
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• For all our surveillance outputs • <https://uwi-bnr.github.io/bnr-refit/5RefitDownloads/> •

## Why This Matters | What We Did

Cardiovascular admissions place substantial pressure on the health system, not only through the number of events but through the time patients spend in hospital. Length of hospital stay (LOS) reflects severity, access to step-down care, and ward efficiency—all key considerations for service planning. We analysed median LOS (with 25th–75th percentiles) for all stroke and heart attack (acute myocardial infarction, AMI) admissions between 2010 and 2023, using routinely collected hospital data held by the BNR. We summarised trends over time and applied quantile (median) regression, which estimates how the median LOS shifts across groups, to explore differences by event type, sex, and two-year periods.

## Stroke Patients are Staying Longer in Hospital — and the Gap is Widening.



## Key Messages | What This Means

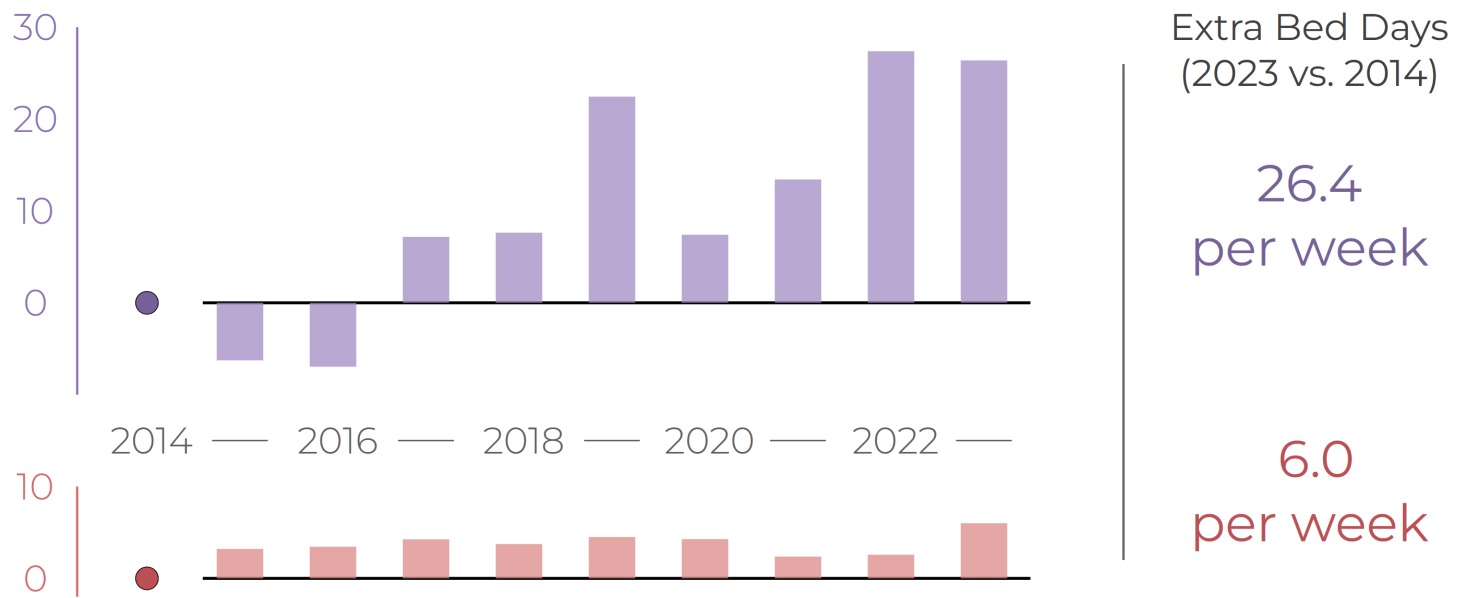
Stroke patients consistently spend longer in hospital than those admitted with heart attacks, and this gap has widened steadily over the past decade. In 2022–23, the median length of stay for stroke reached around 8–9 days (IQR typically 4–15 days), compared with 5–6 days for heart attacks (IQR about 3–8 days). Median regression shows that stroke stays have been rising by around half

a day every two years, while heart attack stays have remained stable. Differences between women and men are small for both conditions. Together, these findings show that increasing hospital time is concentrated among stroke patients, highlighting the importance of strengthening early mobilisation, rehabilitation access, and discharge planning to reduce bed pressures and support recovery.

### Translating Hospital Stays into Demand for Hospital Beds

Hospital planners need to understand not only how long patients typically stay, but how those stays add up across all admissions to create pressure on bed capacity. A small increase in the typical length of stay can translate into a large number of additional beds needed when multiplied across hundreds of patients. To capture this system-level impact, we created an “extra typical bed-days” metric. This measures how many more bed-days are required today compared with a decade ago, based on changes in the median length of stay and the number of stroke and heart attack admissions. Using routinely collected BNR between 2014 and 2023, we calculated the difference in median length of stay between each year and a 2014 baseline, and multiplied this by the number of events in each year. This approach avoids distortion from rare but very long hospital stays so provides a robust indicator of how routine changes in typical patient care accumulate into real bed pressure over time.

### Rising Bed-Day Demand from Longer **Stroke** Stays | **Heart Attack** Stays Hold Steady.



Extra typical bed-days, Barbados 2014–2023

### Key Messages | What This Means

The extra typical bed-days metric shows how changes in typical length of stay and the number of admissions combine to create real pressure on hospital capacity. Compared with 2014, stroke admissions in 2023 generated around 1,372 additional typical bed-days, equivalent to almost 4 extra beds occupied every day of the year. This increase arises from both a higher median length of stay and a sustained volume of stroke admissions, meaning that even modest shifts in typical stay length compound into substantial demand at the system level. In contrast, heart attack admissions contribute only a small and fairly consistent increase in typical bed-day demand when comparing each year to 2014, adding modest pressure but without the escalating pattern seen in stroke. For hospital planners, these findings demonstrate how rising bed-day demand accumulates invisibly in routine flow, stretching capacity even when total admission numbers change little year to year. Strengthening early supported discharge, improving access to step-down care, and ensuring timely rehabilitation will be essential to prevent these additional pressures from becoming enduring constraints on hospital throughput.