Background & Objectives

- Brazil reported 1.5 million Dengue cases in 2015, more than any other country. All publicly funded hospitalizations are registered in a publicly available database (SIH/SUS)1.
- Over 2008-2015, the SIH/SUS database describes 92 million admissions managed by 20,576 departments of 5,983 hospitals, of which 540k are admissions associated to a Dengue diagnostic.
- Data mining of hospital databases provides insights on the impact of diseases on the healthcare infrastructure2,3, and contributes to document the disease burden on public health.
- We present here the consequences of the seasonal aspect of dengue on the healthcare infrastructure2,3, and contributes to document the disease burden on public health.
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Results

Characterization of Dengue Episodes and Deaths

Characterization confirms higher Case Fatality Rate (CFR) for older adults (60+) and for more severe dengue cases.

Comparison of HDA vs LDA departments

Higher dengue case fatality rates in LDA departments: on the rise over the years ("All ages")

- 75% increase of CFR in LDA departments (.56% in 2009 to .98% in 2015)
- 2-fold higher dengue case fatality rate in LDA vs HDA departments; for all ages, up to 3% for elderly.

Impact of Dengue on Hospital Activity

Seasonality of hospital activity is dominated by dengue.*

- Department activity is calculated as the #in-patients vs the average calculated over the past 6 months.
- Department dengue load is calculated as the #in-patients with a dengue diagnosis vs the average calculated over the past 6 months.

Impact of Dengue on non-Dengue Deaths

Non-dengue mortality increases in LDA departments during periods of high dengue activity.

- Non-dengue mortality increases in LDA departments during periods of high dengue activity.

Conclusions

The characteristics of dengue hospitalized admissions in Brazil (heterogeneity, seasonality, mortality, high activity load) confirm the significant burden imposed by dengue on the population.

- Dengue case fatality rate is 2-fold higher in the LDA departments (.8% overall, consistent for all ages, up to 3.1% for 70+) vs HDA departments (.4%). This could be due to a combination of the ability of departments to manage dengue, and also characteristics of patients admitted.
- The proportion of dengue admissions managed by LDA departments (compared to HDA) is higher during periods of high dengue activity.
- Seasonality of hospital activity is dominated by dengue: 56% of the most overloaded hospital days coincide with days with high dengue related activity (20/36 days at the national level in 2015).
- Non-dengue mortality increases in LDA departments during periods of high dengue activity.

References

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Disclosures

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