INTRODUCTION: Brazil accounts for more than 70% of dengue cases notified on the American continent. In this context, Rio de Janeiro City became one of the most endemic in the country during the last decades, presenting a long history of co-circulation of all four dengue serotypes with a recent trend for the clinical and epidemiological profile of the disease to change.

METHODS: This ecological study aimed to analyze the relationship between incidence of severe dengue during the 2008 epidemic in Rio de Janeiro City and socioeconomic, previous circulation of other dengue serotype and health service availability indicators. The data was incorporated into a negative binomial regression model.

RESULTS: Districts with more cases of dengue in the 2001 epidemic and where higher percentages of the residents who declare their skin color/race as black showed higher incidence rates of severe dengue in the 2008 epidemic. Meanwhile, districts with lower incidences of severe dengue in 2008 were those with more Family Health Strategy (FHS) clinics.

CONCLUSIONS: The findings suggest persisting health inequalities possibly due to greater socioeconomic vulnerability among black population. Additionally, the protective effect of FHS clinics may be due to facilitated access to other levels of health care or even by reducing vulnerability to transmission afforded by local practices in health promotion. These aspects reinforce the importance of better integration between Vector Control Program and FHS for dengue control and its severe forms at local level.