81.009

Socioeconomical aspects of malaria morbidity and mortality in Venezuela: An analysis of their correlations with the Human Development Index and its components

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Background: Describe potential relationships between the Human Development Index (HDI) and its components and the morbidity and mortality of malaria in Venezuela in the period 1995-2004.

Methods: Socioeconomical data (classified according to the World Bank) was obtained from the National Institute of Statistics, and the epidemiological data from the Ministry of Health, both from Venezuela. For the analysis the annual variation of the variables was assessed and also regression models were done.

Results: The HDI varied in the period from 0.6746 (1995) to 0.8144 (2004). An increase in the morbidity rate was observed from 1.01 to 1.79 cases/1,000 pop (22,056 cases to 46,244 cases), but mortality rate decreased from 0.36 to 0.10. Analyzing the linear regression models, it was observed that the relationships between epidemiological and social variables were significant. There was an inverse relation between both types of variables; when education increased the malaria mortality decreased ($r2=0.5082$, $F=8.265$, $p=0.0207$) (Figure 1A), similarly for life expectancy, when increased, mortality decreased ($r2=0.6164$, $F=12.85$, $p=0.0071$) (Figure 1B); when income increased malaria mortality decreased ($r2=0.7328$, $F=21.94$, $p=0.0016$) (Figure 1C); and for the literacy also its increase was associated with a malaria mortality decrease ($r2=0.4662$, $F=6.986$, $p=0.0296$) (Figure 1D). As expected, the influence of HDI on malaria mortality was also significant, with the improvement of HDI a reduction of mortality was seen ($r2=0.5917$, $F=11.59$, $p=0.0093$) (Figure 1E). In Bolivar and Amazonas states (higher endemic states), these relations were similar, being significant between socioeconomical variables and malaria mortality ($p<0.05$) but not for morbidity ($p>0.05$).
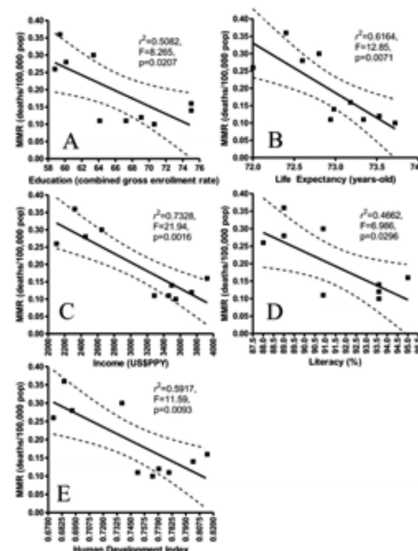

Figure 1 Linear regressions between malaria mortality (MMR) and socioeconomical variables (A, education, B, life expectancy, C, income, D, literacy and E, HDI), Venezuela, 1995-2004.

Conclusion: These data reflect the significant influence of socioeconomical indicators on malaria epidemiology in Venezuela, being an inverse relationship between both types of variables; with an increase or improvement in the socioeconomical indicators, the morbidity and, significantly, mortality decreased.

81.010

FluZone: A national decision support system for the H1N1 flu pandemic in England

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Background: This work is the continuation of a seven-year development programme of a web based decision support system for health protection in England called HPZone. The recent H1N1 outbreak has provided a real test bed for a new national system facilitating a response in the most effective way by coordinating all the arrangements for the clinical assessment and management of the first few and subsequent cases of Swine Flu. FluZone has been developed using a bottom-up and top down approach in a rapidly changing environment.

Methods: FluZone is a web based system linking ten Flu Response Centres throughout England. It includes a triage page commensurate with a continuously changing case definition and provides a variety of prompts for appropriate action in different circumstances, such as arranging nasal and throat swabs, and chemoprophylaxis. The application has enabled 1500 multi-disciplinary users enter appropriate data about H1N1 Enquiries, Cases, Contacts and Outbreaks across the entire country.