Immigration and Tuberculosis in Chile: A deterministic mathematical model

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The economic and political stability in Chile in the last years has been determinant for the growing immigration rates of the country. This mobility can provoke the appearance of diseases that are unknown in Chile, or can produce an increase in prevalence or incidence of diseases that have been controlled in the country. Tuberculosis (TB) is a bacterial disease transmitted from person to person through the air. In Chile, a slowdown in the decrease of TB prevalence has been observed during the last years. One of the risk groups are immigrants coming from countries with high TB prevalence compared to Chile. We present a deterministic mathematical model to describe TB dynamics in Chile. We analyze which factors related to immigration in Chile could affect TB prevalence and give recommendations on diseases control.