The temporal and geographical trends in officially registered gun violence-related deaths between 2000 and 2020 in Mexico are presented. Mixed-effects logistic regression models are used to describe sex and age group differences, and the geographic differences, accounted for by random effects associated with the 2,467 municipalities in the country. The death rate from homicides in Mexico has risen from 8.12 in 2007 to 28.15 per 100,000 in 2020, a 3.5-fold increase; this signifies a 12% homicide yearly increase in Mexico during this period. More than 421,815 homicides and 83,000 suicides occurred, almost two thirds of them with U.S. guns and ammunition being the agents and vector of this “silent epidemic”. Men between the ages of 20 and 39 account for nearly half of homicides, and suicide rates with guns are also increasing. Characterizing these deaths and risk factors is useful for design of appropriate interventions. We discuss how U.S. legal and illegal arms and ammunition sales to Mexico are used for homicides and crime. Arms and ammunition are the agents and vectors of this contagious disease. The U.S. is the number one exporter and importer of guns, providing 15% of global exports and acquiring 33% of guns worldwide. With an estimate of more than 30 million U.S. guns circulating in México, and that over 95% of firearms seized in Mexican crime scenes are from the U.S. and Europe (40% coming solely from the state of Texas), a public nuisance case has existed by the firearm industry. Gun trafficking from US has increased, in part due to gun and ammunition sales oversight transfer from the State to the Commerce Departments. We urgently call for policies and programs aimed at solving the gun violence and crime epidemic sweeping Mexico. Immediate legislative and judicial actions at national and international levels are warranted.