

## VITAL STATISTICS

## Evolution of deaths due to homicide in children under 15 years of age in Mexico, 2000-2012: updating the rates

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### INTRODUCTION

The subject of deaths due to homicide is one of the most challenging areas of public health, particularly as it affects mortality levels within a population in the early stages of life and, among other reasons, by the limited institutional interference with respect to this trend and the direct influence on the health sector. It should be noted that this subject has been previously addressed in this journal.<sup>1</sup> However, considering recent data in regard to this subject, there is justification to revisit the topic.

The information presented below is from the official figures published by the National Institute of Statistics and Geography (INEGI) and the Ministry of Health (Mexico) using the death statistics. This is obtained from death certificates coded according to the International Classification of Diseases (ICD-10) —codes X85-Y09— grouped according to the GBD (Global Burden of Diseases) listing under the term “homicide.” To calculate mortality rates, the population projections prepared by the National Population Council from the Census of Population and Housing 2005 were taken into consideration. There are at least two reasons for not using the new population projections here (based on the Population Census 2010): 1) to be consistent with the information published in the Boletín Médico Hospital Infantil de México in June 2011<sup>1</sup> and 2) no projection has been re-

leased since 2000 so trends of the previous decade could not be re-established.

In general terms, the figures recorded as homicides during a 13-year period show an upward trend in deaths due to this cause, with highs and lows and fluctuations throughout the period. Two trends are clearly distinguished whose inflection point is observed in 2007. Indeed, after a clear downward trend, from that year the increase worsened, although differentially by age of the population. For the group >15 years of age, the figure increased 350% (from 8570 deaths in 2007 to ~30,000 in 2012), whereas deaths of children <15 years of age increased by 84% (from 298 to 547). In that sense, the proportion of mortality due to homicide during the study period loses weight in a relative sense. In 2000, those children <15 years of age accounted for 4.4% of homicides. For 2012, due to the magnitude of the overall increase, this figure was 1.8% (Table 1).

This may not be interpreted as an attempt to minimize the severity of the phenomenon whose dimensions are truly alarming: an annual average of 434 deaths in children <15 years of age during the last 13 years, totaling 5639 homicides (or deaths due to intentionally inflicted assaults as per the ICD-10), which is equal to a rate of 1.4 deaths/100,000 persons of that age (Figure 1). Moreover, the proportion of homicides with respect to total deaths (all causes included) in the group of children <15 years of age has increased from 0.90% in 2000 to 1.32% in 2012.

Table 2 shows in detail the recorded progression at the national level and by age group, both in the number of deaths and in their respective rates. It is notable, in the first review, that of the total of those deaths, >40% are concentrated in the age group between 10 and 14 years, whereas a similar proportion corresponds to children <5

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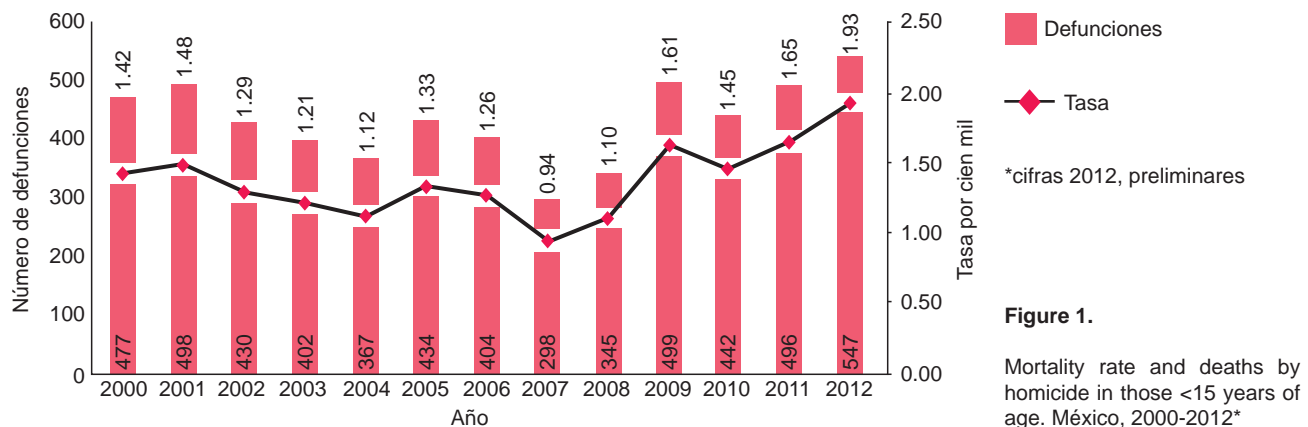


Figure 1.

Mortality rate and deaths by homicide in those <15 years of age. México, 2000-2012\*

Table 1. Evolution of deaths by homicide and relative weight of those &lt;15 years of age with regard to the total number of deaths, 2000-2012

Year	Deaths due to homicide						Relative weight of those <15 years of age with regard to the total deaths
	<15 years		>15 years		Total		
	Deaths	Rate**	Deaths	Rate**	Deaths	Rate**	
2000	477	1.42	10,266	15.83	10,743	10.91	4.4
2001	498	1.48	9,788	14.80	10,286	10.32	4.8
2002	430	1.29	9,659	14.31	10,089	10.00	4.3
2003	402	1.21	9,686	14.08	10,088	9.89	4.0
2004	367	1.12	8,963	12.79	9,330	9.06	3.9
2005	434	1.33	9,492	13.29	9,926	9.55	4.4
2006	404	1.26	10,050	13.82	10,454	9.97	3.9
2007	298	0.94	8,570	11.57	8,868	8.38	3.4
2008	345	1.10	13,662	18.13	14,007	13.13	2.5
2009	499	1.61	19,305	25.19	19,804	18.41	2.5
2010	442	1.45	25,315	32.49	25,757	23.76	1.7
2011	496	1.65	26,717	33.76	27,213	24.91	1.8
2012*	547	1.93	29,389	36.57	29,936	27.54	1.8
Total	5639	1.36	190,862	20.20	196,501	14.45	2.9

Source: INEGI/SSA, DGIS, Sistema Dinámico de Información de defunciones (Cubes); list GBD 02 homicides. \*Estimated rates for 2012; other years are definite rates.

\*\*Rate calculated per 100,000 inhabitants. <http://dgis.salud.gob.mx/cubes>

years of age (17% in children who have not yet completed 1 year of age). Regarding gender distribution within each of the age groups, male deaths always prevail (~60%) over deaths of females (40%).

From the above figures, some comments emerge from each of the age groups analyzed.

- With respect to children <1 year of age, from 2007 (63 deaths) this group shows an unclear trend, with a peak maximum of 105 deaths in 2009, and again decreases to 60 deaths and then has a rise to an estimated 73 deaths for 2012. Unofficially, comments

are made on the criteria modification in which the criteria for consideration of deaths in that age group are made in favor of "careless accidents." Despite this, their mortality levels are the highest in the entire group analysis.

- The 1- to 4-year-old age group seems to be, according to the trend (Figure 2), the only one whose mortality rates in the last 4 years are steadily declining, despite the fluctuating numbers of their deaths.
- In relation to children 5–9 years of age, their mortality is the lowest of the four age groups analyzed. The

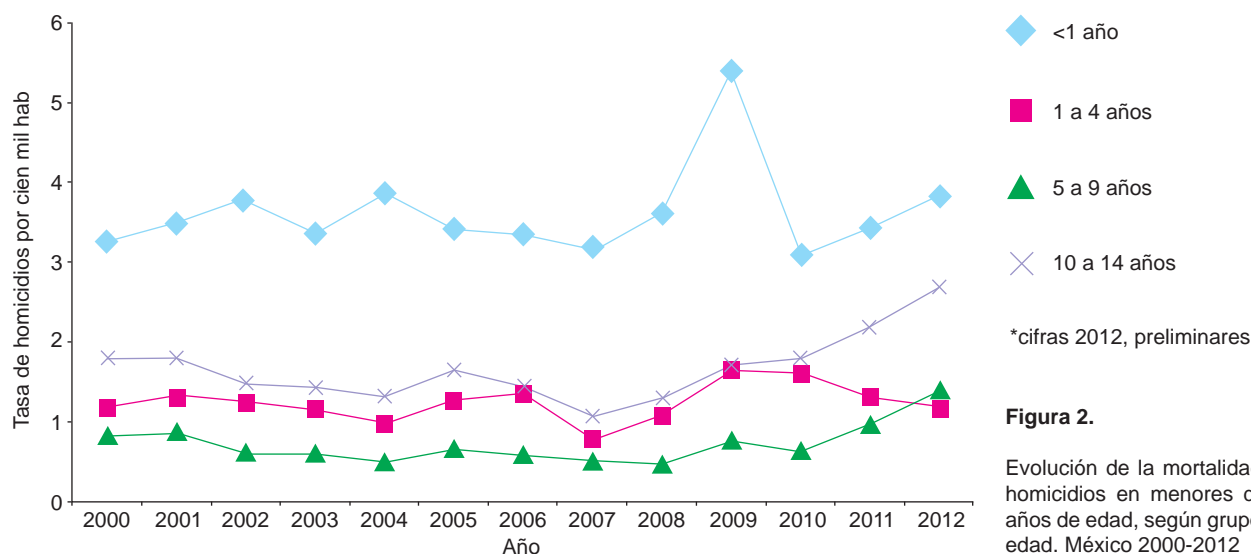


Figura 2.

Evolución de la mortalidad por homicidios en menores de 15 años de edad, según grupos de edad. México 2000-2012

Cuadro 2. Defunciones por homicidio en &lt; 15 años según grupos de edad, México 2000-2012

Año	Total de defunciones		<1 año		1 a 4 años		5 a 9 años		10 a 14 años	
	Def	Tasa**	Def	Tasa**	Def	Tasa**	Def	Tasa**	Def	Tasa**
2000	477	1.4	79	3.3	108	1.2	93	0.8	197	1.8
2001	498	1.5	80	3.5	120	1.3	99	0.9	199	1.8
2002	430	1.3	83	3.8	114	1.3	69	0.6	164	1.5
2003	402	1.2	71	3.4	105	1.2	68	0.6	158	1.4
2004	367	1.1	79	3.9	86	1.0	56	0.5	146	1.3
2005	434	1.3	69	3.4	108	1.3	75	0.7	182	1.7
2006	404	1.3	67	3.4	112	1.4	66	0.6	159	1.5
2007	298	0.9	63	3.2	63	0.8	57	0.5	115	1.1
2008	345	1.1	71	3.6	84	1.1	50	0.5	140	1.3
2009	499	1.6	105	5.4	127	1.7	82	0.8	185	1.7
2010	442	1.4	60	3.1	123	1.6	65	0.6	194	1.8
2011	496	1.6	66	3.4	100	1.3	95	1.0	235	2.2
2012*	547	1.9	73	3.8	110	1.2	105	1.4	259	2.7
Total	5,639	1.4	966	3.6	1,360	1.2	980	0.7	2,333	1.7

Fuente: INEGI/SSA, DGIS, Sistema Dinámico de Información de defunciones (Cubos); lista GBD 02 homicidios

\* cifras estimadas para 2012; los otros años son cifras definitivas. \*\*Tasa calculadas por cien mil habitantes, excepto menores de un año basadas en nacimientos.  
<http://dgis.salud.gob.mx/cubos>

mortality rate remains relatively stable, even when slight increases have been shown in the last 3 years.

- As for the group of 10- to 14-year-olds, it is definitely the most concerning as their mortality rates show a sustained increase since 2007 (with deaths that exceed the 115–259 deaths estimated for 2012). For the past year, rates are only slightly below those of children <1 year of age.

Regarding the type of aggression that causes death, data for 2011 (the last with final figures) show that two causes result in 6/10 deaths. First are gunshots (44% of cases) and second, hanging, strangulation and suffocation (15%). In 14% of the cases, the type of aggression responsible for the death is unknown.

The task remains to clarify the reasons behind these levels of violence affecting populations as vulnerable as

the ones we reference. On this occasion, it was intended simply to show the official information in this regard.

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