

VITAL STATISTICS

Mortality of children under 5 years of age in Mexico during 2011

Sonia Fernández Cantón,¹ Ana María Hernández Martínez,¹ Ricardo Viguri Uribe²

Vital statistics are the source of appropriate information for reporting overall mortality. Within these statistics, the trend observed of deaths in the group of children <5 years of age is of particular importance because its mortality rates represent an indicator of the advances in public health systems and the socioeconomic development of society as a whole.

Currently, the definitive figures of the recently released mortality statistics for 2011 [Instituto Nacional de Estadística y Geografía/Secretaría de Salud (INEGI) and Secretary of Health (SSA)] are presented here for analysis. Current data confirm, in general terms, the preliminary results published in July of the previous year in terms of mortality decline, both in children <1 year of age as well as in the group of children 1- to 4-years of age. The trend since 1940 is summarized in Table 1. Despite the importance of this historical view, which accounts for a large reduction in mortality in the first years of life, it is appropriate to conduct an annual review of this trend throughout the last 20 years (Table 2). Among the most relevant result is the fact that although throughout the entire period the mortality in the age groups presented continues to decrease, the rate of change is markedly different in the two decades analyzed (1990–2011). The decline has been much smaller as the period is more recent, and

there is a slight increase in the rate of infant mortality in 2010.

In regard to mortality of children <1 year of age during the period of analysis, the overall rate is reduced by ~46% (from 2800–1520 deaths/100,000 births), although 90% of this reduction occurred between the years 1990 and 2000. The mortality rate has remained almost stable in recent years. From 2007 to date, the reduction in the number of deaths is only 1653 deaths, placing the 2011 figure at 28,772 deaths, only 93 fewer than the previous year (Figure 1). A similar situation occurs with the 1- to 4-year-old age group whose mortality decreased to 66% between 1990 and 2000 (the rate declined from 221 to 76 deaths/per hundred thousand inhabitants of that age). However, it is only reduced to 4% in 2000 and the current figure (the rate was lowered from 76 to 73 deaths/100,000 inhabitants with a slight increase in 2009). The number of deaths in 2011 is 5,574, 77 less than those recorded in 2010 (Figure 2). In all cases, the gender distribution is maintained over time.

Deaths of males are more frequent (mortality ratio ~127 male deaths:100 females). For overall mortality, the relative weight of children <5 years of age is almost 6% to date. This means that of 100 deaths in Mexico in 2011, six were children <5 years of age. This figure compares with the 20% that occurred 20 years ago and the 48% observed in 1940 (Figure 3). This behavior is due to a double effect: the genuine decline in deaths of children <5 years of age and the clear aging of the population. It is important to note that the information in the last 2 years (2010 and 2011) has been impacted by an event of great significance.

Because of new procedures implemented by the Directorate General of Health Information, SSA and

¹ Dirección de Información Epidemiológica, Secretaría de Salud

² Departamento de Ediciones Médicas, Hospital Infantil de México Federico Gómez

México D.F., México

Received for publication: 12-18-12

Accepted for publication: 1-8-13

Table 1. Evolution of mortality in children under 5 years of age in Mexico, 1940-2011

Year	Deaths <5 years		Relative weight ^{4/}	Childhood deaths		Relative weight ^{4/}	Deaths in pre-school children		Relative weight ^{4/}
	Number	Rate ^{1/}		Number	Rate ^{2/}		Number	Rate ^{3/}	
1940	222,208	7,760.0	48.4	110,039	12,570.0	24.0	112,169	4,810.0	24.4
1950	200,808	5,060.0	48.0	113,032	9,620.0	27.0	87,776	2,780.0	21.0
1960	186,467	3,230.0	46.3	119,316	7,420.0	29.6	67,151	1,450.0	16.7
1970	216,591	2,650.0	44.6	146,028	6,850.0	30.1	70,563	1,060.0	14.5
1980	125,585	1,117.4	28.9	96,918	4,005.8	22.3	28,667	340.0	6.6
1990	85,635	749.9	20.3	65,497	2,704.0	15.5	20,138	221.7	4.8
2000	45,584	398.6	10.4	38,621	1,601.7	8.8	6,963	76.6	1.6
2011	34,346	364.6	5.8	28,772	1,503.7	5.0	5,574	74.0	1.0

Source: INEGI/SSA, Dirección General de Información en Salud (DGIS). Database of deaths 1979 - 2011. Sistema Nacional de Información en Salud (SINAIS). Secretary of Health. Official Population Rates INEGI/CONAPO.

^{1/}Per 100,000 children <5 years of age. ^{2/}Per 100,000 births. ^{3/}Per 100,000 children 1-4 years. ^{4/}Respect to general mortality.

Table 2. Number of deaths and mortality rate in children under 5 years of age Mexico, 1990 to 2011

Year registered	Deaths			Rate		
	<1 year	1-4 years	<5 years	<1 year	1-4 years	<5 years
1990	65,497	20,138	85,635	2,800.77	221.75	749.87
1991	57,091	13,400	70,491	2,431.18	146.79	614.20
1992	52,502	11,054	63,556	2,232.66	120.53	551.57
1993	49,631	11,534	61,165	2,114.76	125.31	529.50
1994	49,305	10,667	59,972	2,108.61	115.64	518.68
1995	48,023	10,680	58,703	2,061.73	115.78	508.08
1996	45,707	10,375	56,082	1,968.28	112.71	486.51
1997	44,377	9,371	53,748	1,920.78	102.13	467.93
1998	42,183	8,541	50,724	1,834.03	93.45	443.42
1999	40,283	7,774	48,057	1,737.86	85.42	420.87
2000	38,621	6,963	45,584	1,643.02	76.64	398.60
2001	35,911	6,620	42,531	1,559.04	72.67	372.65
2002	36,567	6,831	43,398	1,667.01	75.06	384.23
2003	33,355	6,700	40,055	1,587.27	74.49	361.00
2004	32,764	6,608	39,372	1,615.63	75.26	364.27
2005	32,603	6,469	39,072	1,641.94	76.43	373.91
2006	30,899	6,093	36,992	1,574.49	74.75	365.74
2007	30,425	6,068	36,493	1,566.12	76.58	369.87
2008	29,537	5,739	35,276	1,533.02	73.89	363.92
2009	28,988	5,992	34,980	1,516.06	78.16	365.19
2010	28,865	5,651	34,516	1,520.34	74.41	363.59
2011	28,772	5,574	34,346	1,520.60	73.72	363.32
1990-2011	881,906	188,842	1'070,748	1,844.97	98.43	446.79

Source: INEGI/SSA, Sistema Dinámico de Información en Sistemas de Salud (Cubes) and Population Estimations, CONAPO 2005-2030. Rate per 100,000 population; infant mortality is per 100,000 births

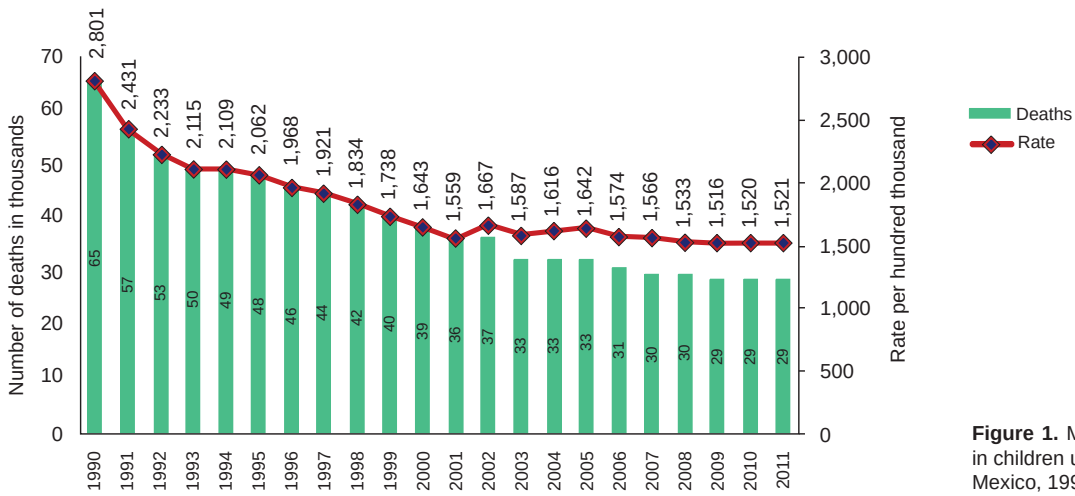


Figure 1. Mortality rate and deaths in children under 1 year Mexico, 1990-2011

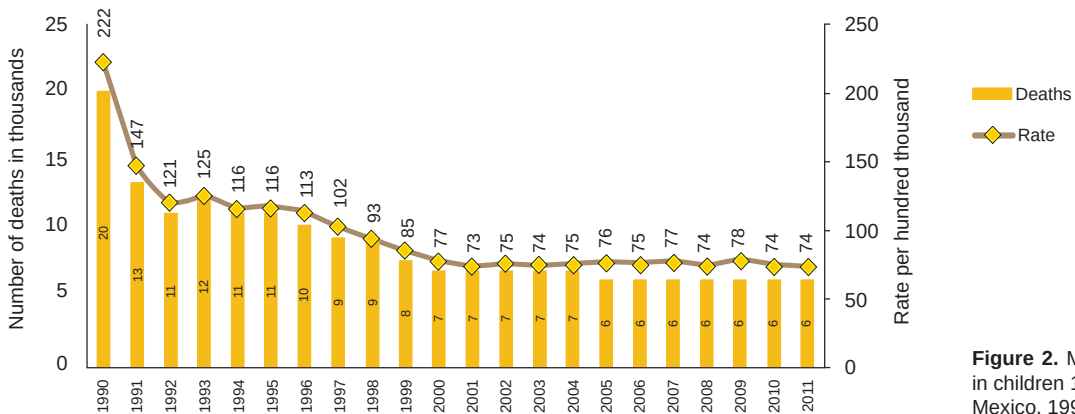


Figure 2. Mortality rate and deaths in children 1 to 4 years Mexico, 1990-2011

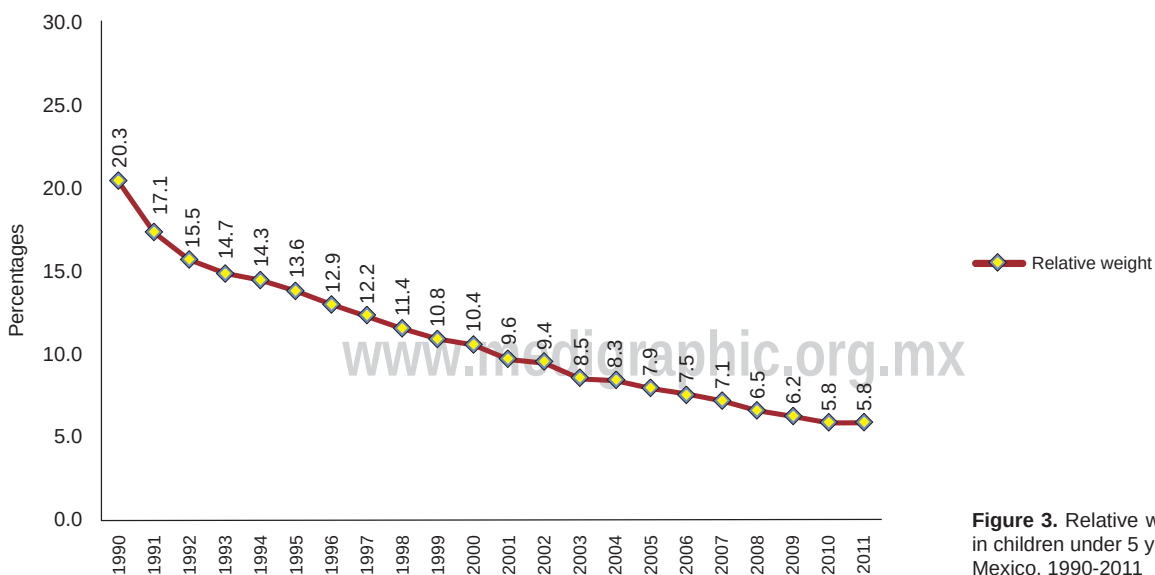


Figure 3. Relative weight of deaths in children under 5 years Mexico, 1990-2011

INEGI, information has increased in terms of coverage and integrity of data. This has ensured a considerable improvement in the quality of reporting by reducing levels of registration of deaths in the first year of life.

Correspondence: Dra. Sonia B. Fernández
Cantón

E-mail: sfernandez@dgepi.salud.org.mx;
sonia_fernandez@prodigy.net.mx

www.medigraphic.org.mx