Instituto Nacional de Salud Pública

SNSP SERVICIO NACIONAL DE SALUD PÚBLICA

EPH47

COLORECTAL CANCER MORTALITY OVERVIEW IN MEXICO 1998-2023

PALAFOX-TORRES DI[1], ESCAMILLA-NUÑEZ C[2], CASTRO-PORRAS LV[3], ROJAS-MARTÍNEZ R[4], CHÁVEZ-MILLÁN MF[5], NÚÑEZ-MARTÍNEZ G[6]

INTRODUCTION

Colorectal cancer (CRC) represents a growing public health challenge in Mexico due to its increasing incidence, mortality, and economic burden. In 2018, CRC ranked as the second leading cause of cancer-related deaths in both sexes. Globally, its burden is projected to rise by 60% by 2030, reaching more than 2.2 million new cases and 1.1 million deaths. Understanding the evolution of CRC mortality in Mexico is essential to guide prevention, early detection, and treatment strategies. This study provides an updated overview of CRC mortality trends and premature mortality burden through 2023, contributing evidence to support national cancer control policies.

OBJECTIVE

To describe colorectal cancer mortality in Mexico from 1998 to 2023, analyzing temporal trends and years of life lost (YLL) due to premature death among adults aged 20 years and older, stratified by sex.

METHOD

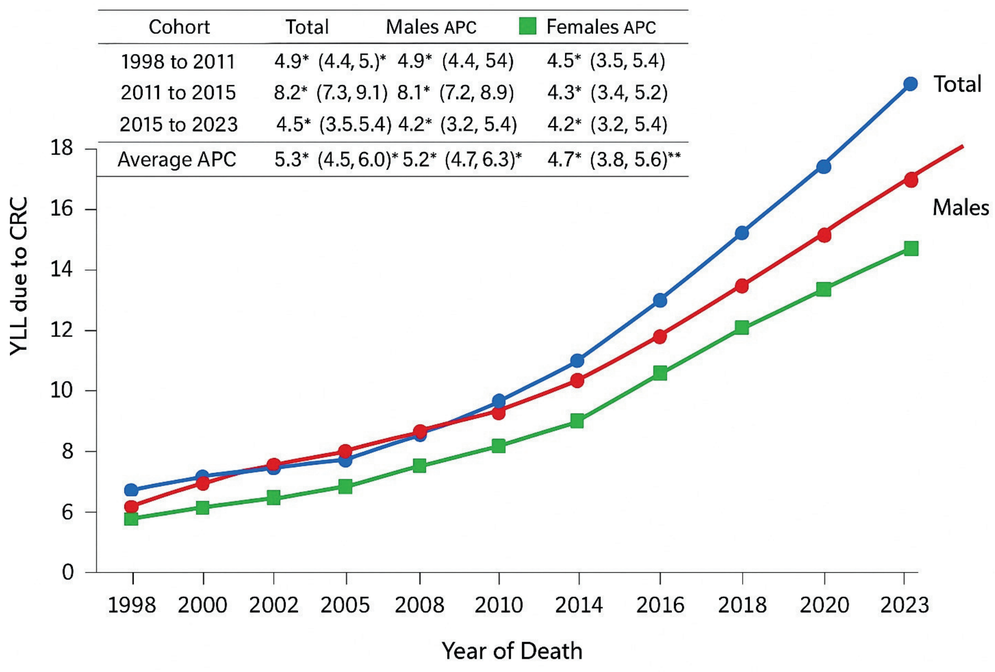
A longitudinal retrospective study using national data on CRC mortality, life expectancy, and population projections in Mexico (1998–2023). Mortality data were obtained from INEGI (ICD-10: C180–C189, C19–C20), and population denominators from CONAPO. Age-adjusted mortality rates were estimated using the 2010 census as the standard. Trends were analyzed with Joinpoint Regression to calculate the Annual Percent Change (APC), and Years of Life Lost (YLL) were computed following the Global Burden of Disease methodology.

RESULTS

Between 1998 and 2023, a total of 132,165 deaths due to CRC were recorded in adults aged 20 years and older in Mexico. Over this 25-year period, the number of deaths rose sharply from 2,338 in 1998 to 14,952 in 2023, reflecting a sustained upward trend in CRC mortality.

Figure 1. Age-Adjusted Colorectal Cancer Mortality Rate per 100,000 Population by Sex, Mexico, 1998–2023.

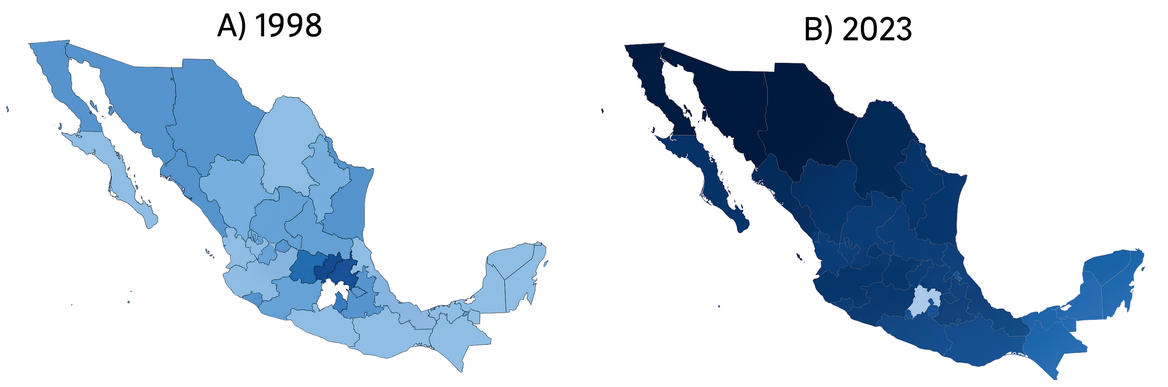
Cohort	Total	Males APC	Females APC
1998 to 2011	4.9* (4.4, 5.)*	4.9* (4.4, 54)	4.5* (3.5, 5.4)
2011 to 2015	8.2* (7.3, 9.1)	8.1* (7.2, 8.9)	4.3* (3.4, 5.2)
2015 to 2023	4.5* (3.5.5.4)	4.2* (3.2, 5.4)	4.2* (3.2, 5.4)
Average APC	5.3* (4.5, 6.0)*	5.2* (4.7, 6.3)*	4.7* (3.8, 5.6)**



Source: Demographic and Social Information Subsystem of the Information Program validated by the National Institute of Statistics and Geography (INEGI), 1998–2022. Population estimates: National Population Council (CONAPO), Mexico, 2010.

The age-adjusted mortality rate increased from 5.9 to 7.2 deaths per 100,000 population, with a consistently higher burden observed among men. Males exhibited an annual percent increase of 1.4%, compared with 0.34% in females, indicating a widening sex gap in CRC mortality over time.

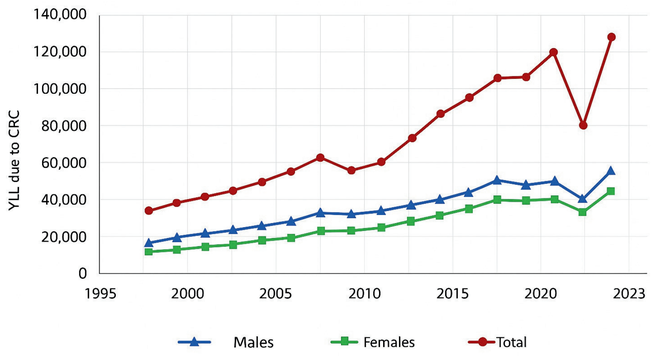
Figure 2. Geographic Distribution of Colorectal Cancer in Mexico: State Mortality Rates per 100,000 Population, 1998–2022



Source: Demographic and Social Information Subsystem of the Information Program validated by the National Institute of Statistics and Geography (INEGI), 1998–2022.

The burden of premature mortality also escalated substantially. YLL due to CRC rose from 10,876 to 41,022 among men, and from 14,396 to 51,603 among women, underscoring a significant increase in early mortality attributable to this condition throughout the study period.

Figure 3. YLL due to Premature Death from Colorectal Cancer in Adults Aged 30 Years and Older, by Sex, Mexico, 1998–2023



Source: Demographic and Social Information Subsystem of the Information Program validated by the National Institute of Statistics and Geography (INEGI), 1998–2022. Population estimates: National Population Council (CONAPO), Mexico, 2010.

CONCLUSIONS

CRC mortality in Mexico has increased steadily over the past 25 years, with a higher burden among men. The upward trend and growth in premature mortality highlight delayed diagnosis, limited screening, and unequal access to specialized care. Regional disparities reflect structural gaps in prevention and early detection programs. Expanding nationwide screening, improving diagnostic infrastructure, and integrating CRC prevention into noncommunicable disease programs are essential steps to reduce mortality and years of life lost.

Colorectal cancer mortality in Mexico increased significantly between 1998 and 2023, particularly among men. Strengthening screening, early detection, and timely treatment is essential to reduce premature deaths. These findings emphasize the need for comprehensive public health strategies to address CRC as a growing national priority.

REFERENCES

1. Sung H, Ferlay J, Siegel RL, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2021;71(3):209–249.
2. INEGI. Mortality Database 1998–2023. Instituto Nacional de Estadística y Geografía, Mexico. https://www.inegi.org.mx
3. CONAPO. Population projections 2020–2070. Consejo Nacional de Población, Mexico; 2023.
4. WHO. Colorectal Cancer – Fact Sheet. World Health Organization; 2023.
5. Secretaría de Salud. Specific Action Program: Cancer Prevention and Control 2021–2024. Mexico City; 2021.

CONTACT INFORMATION

[1],[6] National Institute of Public Health, Mexico City, Mexico; National Service of Public Health, Mexico City, Mexico; [2] Environmental Health Directorate, Center for Population Health, National Institute of Public Health, Mexico City, Mexico; [3] Center for Policy, Population, and Health Research, Faculty of Medicine, National Autonomous University of Mexico, Mexico City, Mexico; [4] Reproductive Health Directorate, Center for Population Health, National Institute of Public Health, Mexico City, Mexico; [5] HS Estudios Farmacoeconómicos, Mexico City, Mexico.
Corresponding author: david.palafox@insp.edu.mx