# Jordan Ministry of Health
# Non-Communicable Diseases Directorate

# National Cancer Registry
# Cancer Incidence in Jordan – 2024

**Ministry of Health** **وزارة الصحـة**

**Non-Communicable Diseases Directorate** **مديرية الامراض غير السارية**

**Cancer Control Department (CPD)** **قســم السيطرة على الســرطان**

**National Cancer Registry Section** **شعبة السجل الوطني للسرطان**

**Email:** jcr@moh.gov.jo

His Majesty King Abdullah II

His Royal Highness the Crown Prince Al-Hussein bin Abdullah II

Cancer Incidence in Jordan – 2024
29th Annual Report of the National Cancer Registry
National Cancer Registry, Non-Communicable Diseases Directorate, Ministry of Health
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## 1. Foreword

It is a privilege to present the twenty-ninth edition of the annual report on cancer epidemiology in the Hashemite Kingdom of Jordan. This report provides comprehensive data for the year 2024, offering an in-depth picture of cancer incidence nationwide. It highlights the occurrence of different cancer types and examines their distribution across age groups, gender, geographic areas, and other key population characteristics.

Cancer continues to pose a significant public health concern globally and remains one of the primary causes of morbidity and mortality. Although the overall burden of cancer is increasing worldwide, this growth is uneven, with low- and middle-income countries expected to bear the greatest share and experience the fastest rise in cases. In Jordan, cancer remains the second leading cause of death, underscoring the urgent need for sustained and strategic action within the healthcare system.

Addressing cancer effectively requires more than the efforts of the Ministry of Health alone. Cancer control is inherently a multisectoral responsibility that depends on strong collaboration among sectors such as education, environmental protection, finance, social development, and civil society organizations. Strengthening prevention, enhancing early detection, improving access to quality treatment, and ensuring comprehensive palliative care can only be achieved through coordinated national efforts.

Reliable and up-to-date cancer registry data are essential for understanding disease patterns, guiding policy decisions, supporting research, and improving patient care. The Jordan Cancer Registry continues to represent a cornerstone of national health information systems, demonstrating the commitment and cooperation of its staff and all participating health institutions. We extend our sincere appreciation to everyone contributing to maintaining high standards of data quality and completeness. The Ministry of Health reaffirms its full support for the registry and its ongoing role in shaping and advancing an effective national cancer control strategy.

Dr. Ibrahim Bdour

Minister of Health

## 2. Acknowledgment

With deep appreciation and sincere recognition, we thank all individuals and institutions whose contributions enabled the completion of the 29th Annual Cancer Report of the Jordan Cancer Registry for 2024. This achievement reflects a shared commitment to strengthening cancer surveillance and advancing public health in Jordan.

We extend our gratitude to healthcare professionals, including oncologists, pathologists, epidemiologists, palliative care teams, and cancer registrars across governmental, academic, non-governmental, and private sectors. Their dedication to reporting, validation, and data review is essential to ensuring the quality, accuracy, and reliability of registry data.

We also acknowledge hospital and laboratory focal points throughout the Kingdom for their commitment to timely and accurate reporting, which supports the development of a comprehensive national cancer database for planning, policy development, and research.

Our appreciation is extended to the Civil Status Bureau and the Mortality Directorate for providing vital population and mortality data that enhance the completeness and accuracy of registry outputs.

We are grateful to the International Agency for Research on Cancer (IARC) for its continued technical support and capacity-building efforts, particularly through the use of CanReg 5, which strengthens registry performance and data quality.

Recognition is extended to Dr. Anas Al Mohtaseb, former Director of Non-Communicable Diseases, for his leadership and valuable contributions to national cancer control efforts. We also thank the Information Technology teams and the Hakeem Program for their ongoing support in system integration, maintenance, and electronic data exchange, ensuring efficient and effective registry operations.

| Director of NCDs Directorate | Head, Cancer Control Dept. | Head, National Cancer Registry Sec. |
|---|---|---|
| Dr. Safwan Dababneh | Dr. Abdallah Matouq | Dr. Mohammad El Azhari |

## 3. List of Participants

### 3.1. Central Team — Ministry of Health

| # | Name | Position |
|---|---|---|
| 1 | Dr. Safwan Dababneh | Director of NCDs Directorate |
| 2 | Dr. Abdallah Mazin Ma'touq | Head of Cancer Control Department |
| 3 | Dr. Mohammad Isam El Azhari | Head of National Cancer Registry Section |
| 4 | Dr Mohammad Dari Al Fayez | Cancer Control Department |
| 5 | Pharm D. Mais Zaid Al Maabreh | Cancer Control Department |
| 6 | Islam Tawfiq Al-Qatamin | Cancer Control Department |
| 7 | Jameieha Ali Al Sraway | Cancer Control Department |
| 8 | Omar Ali Haron | IT Support — IT Department / MOH |

### 3.2. Focal Points at Hospitals / Facilities

| # | Name | Institution |
|---|---|---|
| 1 | Khaled Jamal Sulieman | King Hussein Cancer Center |
| 2 | Abd El Fattah Ibraheem Abdullah | King Hussein Cancer Center |
| 3 | Samer Abdullah Abu Dughaish | King Hussein Cancer Center |
| 4 | Mohammad Ahmad Abu Rialeh | King Hussein Cancer Center |
| 5 | Salma Rustom Mohammad Abdulla | King Hussein Cancer Center |
| 6 | Mai Eid Radwan Sabra | Prince Hamza Hospital — MOH |
| 7 | Taghreed Sulaiman Mohamamd Al Shreeqi | Prince Hamza Hospital — MOH |
| 8 | Mervat Hasan Mohammad Jebreen | Al-Basheer Hospital — MOH |
| 9 | Aida Abed Aladeem A. Alaidy | Zarqa Hospital, Zarqa — MOH |

| # | Name | Institution |
|---|---|---|
| 10 | Husnieh Ismail Ali Nasr Allah | Zarqa Hospital, Zarqa — MOH |
| 11 | Alia Abd Al Haleem Al Khalaileh | Al-Hussein Hospital, Salt — MOH |
| 12 | Hiba Yaser Ali Al Awadi | Al-Hussein Hospital, Salt — MOH |
| 13 | Ansab Fawzi Ahmad Al Oroud | Royal Medical Services |
| 14 | Wesam Abdel Aziz Mahmoud Al-Hajje | King Abdallah University Hospital |
| 15 | Mohammad Ageel Ali Al Dowairiy | King Abdallah University Hospital |
| 16 | Fuad Mahmoud Abdel Fattah Shahin | Jordan University Hospital |
| 17 | Khader Yousef Mohammed Zaben | Jordan University Hospital |
| 18 | Dalia Mosa Lutfi Nasser | Islamic Hospital — Private |
| 19 | Fatimah Al-Zahraa | Islamic Hospital — Private |
| 20 | Raneem Mohammad Busailah | Specialty Hospital — Private |
| 21 | Nemat Husam Rihan | Specialty Hospital — Private |
| 22 | Mohammad Fawzi Mohammad Zaro | Al-Khalidi Hospital — Private |
| 23 | Lubna Mahmoud Abu Ghoush | Al-Khalidi Hospital — Private |
| 24 | Israa Khader Hasan Wahbeh | Arab Center Hospital — Private |
| 25 | Hind Fawzi Ahmed Abu Louz | Arab Center Hospital — Private |
| 26 | Eyad Nabeel Yaacoob | Amman Surgery Hospital — Private |
| 27 | Esra’a Ahmad Okleh AlDwairi | Jordan Hospital — Private |
| 28 | Salam Ahmad Asfour | Jordan Hospital — Private |
| 29 | Esraa Waleed Rasheed Melhem | Istishari Hospital — Private |
| 30 | Saimaa Amer Obeid | Istishari Hospital — Private |

| # | Name | Institution |
|---|---|---|
| 31 | Kholoud Karaymeh | Jabal Al-Zaitoun Hospital — Private |
| 32 | Sahar Saud Khalil Al-Nabulsi | Al-Afia Center — Private |
| 33 | Abdullah Issa Abdelqader Shabaneh | Royal Hospital |
| 34 | Alaa Fayez Mohammad Odeh | Shmaisani Hospital |
| 35 | Lubna Nehad Mohammad Bader | Shmaisani Hospital |
| 36 | Rawan Mahmoud Kamel Abu Abbas | Al-Hayat General Hospital |
| 37 | Nour Faeq Hamdan | Al-Hayat General Hospital |
| 38 | Raed Suleiman Mohammad Ahmad | Med Lab — Private Laboratory |

### 3.3. Data Entry Team

| # | Name | Position |
|---|---|---|
| 1 | Abd El Hadi Mohammad Abu Mohsen | Community Medicine Resident — MOH |
| 2 | Raneem Ali Alauqaily | Community Medicine Resident — MOH |
| 3 | Hamed Meflih Qaraoma | Community Medicine Resident — MOH |
| 4 | Alaa Khaled Abu Yameen | Med Lab — Private Laboratory |

## 4. Executive Summary

There is no doubt that cancer has become an overwhelming problem worldwide. In Jordan as well, the incidence and burden of cancer continue to rise. Documentation of cancer cases helps determine the magnitude of the problem and to provide suitable solutions. This is the **29th annual report** of cancer incidence and epidemiology in Jordan, describing cancer cases diagnosed in 2024.

The total number of new cancer cases was **12,037** (9,792 Jordanians — **81.3%**). For Jordanians, **4,441** were males (45.4%) and **5,351** were females (54.6%); the male-to-female ratio was **0.8:1**. Overall, median age at diagnosis was **58** years. The crude incidence rate of all cancers among Jordanians was **120.1 per 100,000** (males 107; females 133.8). The Age-Standardized Incidence Rate (ASR) adjusted to the Segi 1960 World Standard Population was **170.6 per 100,000** (males 159; females 182.2).

In 2024, **45.5%** of cancer cases occurred among individuals aged ≥ 60 years. Children aged < 15 years accounted for **2.9%** of cases, while the remaining **51.6%** were in the age group 15–59 years.

The five most common cancers among Jordanians (both sexes) were: **Breast (2076, 21.2%); Colorectal (1130, 11.5%); Trachea,Bronchus,Lung (673, 6.9%); Bladder (464, 4.7%); Prostate (436, 4.5%)**.

Among Jordanian males, the top five were: **Colorectal (624, 14.1%); Trachea,Bronchus,Lung (521, 11.7%); Prostate (436, 9.8%); Bladder (401, 9%); Leukemia (257, 5.8%)**.

Among Jordanian females, the top five were: **Breast (2056, 38.4%); Colorectal (506, 9.5%); Thyroid (330, 6.2%); Corpus uteri (193, 3.6%); Leukemia (178, 3.3%)**.

The distribution of cancer cases by region showed that **63.7%** of cases were in the **Central region** (Amman accounted for **46.2%**), **17%** in the **North region**, and **6.7%** in the **South region**.

In the pediatric age group (< 15 years), the total number of cancer cases was **282**, accounting for **2.9%** of all Jordanian cancer cases, with a male-to-female ratio of **1.2:1**. The top five cancer types in the pediatric age group were: **Leukemia (94, 33.3%); Brain,Nervous System (36, 12.8%); Hodgkin Lymphoma (23, 8.2%); Bone (22, 7.8%); Soft tissue & connective tissue (21, 7.4%)**.

# 5. 1. Introduction

This is the **29th annual report** on cancer incidence in Jordan, published by the National Jordan Cancer Registry (JCR). It presents data for the year 2024 and analyses trends from 1980 to 2024. Cancer remains the second leading cause of death in Jordan, following cardiovascular disease.

Multiple factors contribute to cancer development, but many types can be prevented through lifestyle modifications. Smoking cessation is one of the most effective ways to reduce cancer risk, as smoking is a major cause not only of lung cancer but of several other cancers as well. A well-balanced diet also plays a significant role in prevention; diets rich in fruits and vegetables provide antioxidants that help repair damaged cells and lower the risk of various health conditions. Conversely, diets high in animal fat, particularly red meat, have been associated with an increased risk of certain cancers such as colon cancer. Obesity, often resulting from high-fat diets, is also a major risk factor for multiple cancers. Regular physical activity further contributes to cancer prevention; the American Cancer Society recommends at least 150 minutes of moderate-intensity exercise per week.

The primary goal of this report is to provide health professionals, researchers, policymakers, and others with detailed information on the most common types of cancer in Jordan, along with their distribution by various factors. The data collected by JCR supports new research efforts, informs cancer-control strategies, and aids in identifying public-health priorities. A key example of the effective use of JCR data is the establishment of the **Jordan Breast Cancer Program (JBCP)**, which utilises breast-cancer epidemiology and clinical data to enhance screening programmes and early detection.

### 5.1. Population & Geography

In 2024, Jordan's estimated population reached **11,734,000**, comprising **6,212,500** males and **5,521,500** females. Approximately **11.4%** of the population was under five years old, while **34.2%** was below 15 years of age. Only **3.7%** of the population was above 65 years old.

Jordan is situated in the Middle East, spanning latitudes 29–33° N and longitudes 35–39° E. It stretches approximately 500 km from north to south and shares borders with Syria (north), Iraq and Saudi Arabia (east), Saudi Arabia (south), and the Occupied Palestinian Territory (west). Covering a total area of 89,342 km², around 75% of the country consists of desert, primarily in the eastern region. Administratively, Jordan is divided into three main regions (**Central**, **North**, and **South**) and twelve governorates.

*Table 1: Estimated population of Jordan by age group and sex, 2024*

| Age group | Male N | Male % | Female N | Female % | Total N | Total % | Sex ratio |
|---|---|---|---|---|---|---|---|
| 0-4 | 685,745 | 11.0 | 650,590 | 11.8 | 1,336,335 | 11.4 | 105.4 |
| 5-9 | 733,770 | 11.8 | 700,045 | 12.7 | 1,433,815 | 12.2 | 104.8 |
| 10-14 | 639,585 | 10.3 | 602,875 | 10.9 | 1,242,460 | 10.6 | 106.1 |
| 15-19 | 614,260 | 9.9 | 553,445 | 10.0 | 1,167,705 | 10.0 | 111.0 |
| 20-24 | 638,405 | 10.3 | 526,260 | 9.5 | 1,164,665 | 9.9 | 121.3 |
| 25-29 | 564,260 | 9.1 | 457,625 | 8.3 | 1,021,885 | 8.7 | 123.3 |
| 30-34 | 488,070 | 7.9 | 418,100 | 7.6 | 906,170 | 7.7 | 116.7 |
| 35-39 | 436,585 | 7.0 | 369,725 | 6.7 | 806,310 | 6.9 | 118.1 |
| 40-44 | 376,560 | 6.1 | 316,980 | 5.7 | 693,540 | 5.9 | 118.8 |
| 45-49 | 318,830 | 5.1 | 264,845 | 4.8 | 583,675 | 5.0 | 120.4 |
| 50-54 | 231,275 | 3.7 | 201,390 | 3.6 | 432,665 | 3.7 | 114.8 |
| 55-59 | 157,815 | 2.5 | 145,275 | 2.6 | 303,090 | 2.6 | 108.6 |
| 60-64 | 107,045 | 1.7 | 100,025 | 1.8 | 207,070 | 1.8 | 107.0 |
| 65-69 | 83,405 | 1.3 | 83,935 | 1.5 | 167,340 | 1.4 | 99.4 |
| 70-74 | 65,045 | 1.0 | 58,035 | 1.1 | 123,080 | 1.0 | 112.1 |
| 75-79 | 39,995 | 0.6 | 39,140 | 0.7 | 79,135 | 0.7 | 102.2 |
| 80-84 | 18,930 | 0.3 | 19,295 | 0.3 | 38,220 | 0.3 | 98.1 |
| 85+ | 12,920 | 0.2 | 13,915 | 0.3 | 26,840 | 0.2 | 92.8 |
| Total | 6,212,500 | 100.0 | 5,521,500 | 100.0 | 11,734,000 | 100.0 | 112.5 |

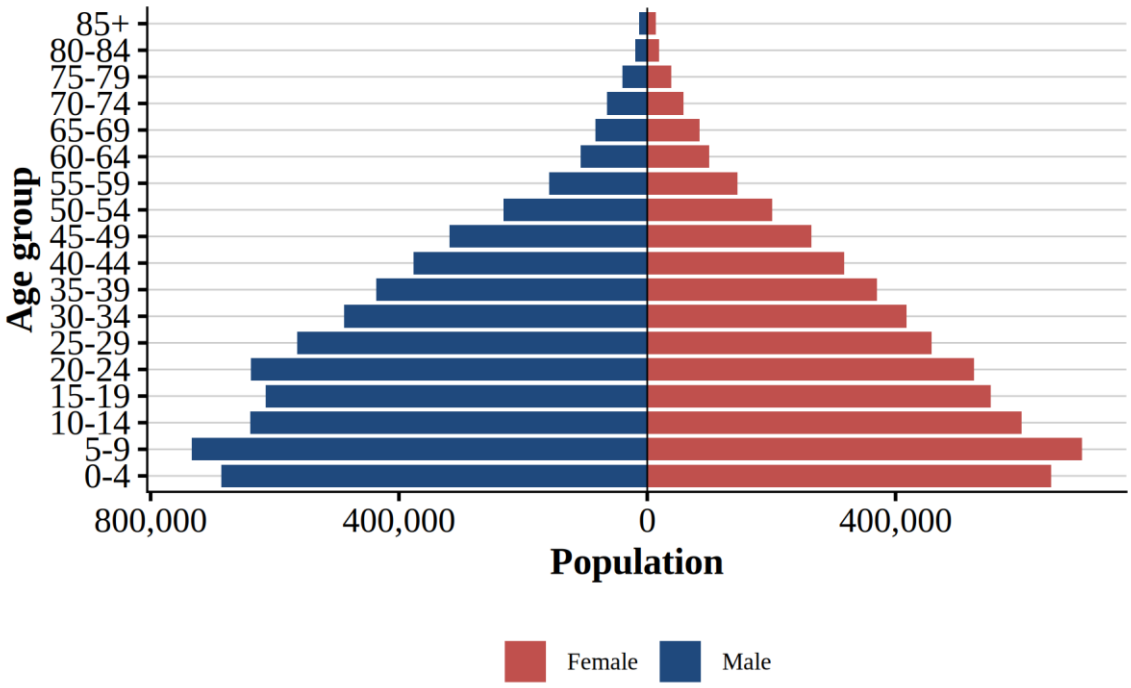


***Figure 1: Population Pyramid, Jordan, 2024***

## 6. 2. Jordan Cancer Registry (JCR)

The Jordan Cancer Registry (JCR) is a population-based registry established in **1996** under the jurisdiction of the Ministry of Health, by ministerial decree. Hosted at the Cancer Prevention Department within the Non-Communicable Disease Directorate, the registry plays a central role in the national cancer-control strategy. Since its inception, cancer notification has been mandatory, and the registry has been responsible for the systematic collection, recording, and analysis of data related to cancer incidence in Jordan.

The core aim of JCR is to provide timely, accurate, and comprehensive national cancer-incidence data for public-health planning, clinical decision-making, and research. Its data support the entire cancer-control continuum, from prevention and early detection to treatment and palliative care.

### 6.1. Vision

To meet the highest attainable international standards in cancer registration, surveillance, and control.

### 6.2. Mission

To register all cancer cases reported in health institutions across Jordan and to make available high-quality data and information to support policy development, research, prevention, control, treatment, and surveillance efforts.

### 6.3. Objectives of JCR

- To quantify the burden and determine the pattern of cancer occurrence in Jordan.
- To provide timely and reliable cancer data for health planners, aiding in the design and implementation of prevention, early-detection, and treatment strategies.
- To inform public-health policy development and support initiatives aimed at reducing cancer incidence and controlling associated risk factors.
- To enable and support epidemiological and clinical research by making quality-assured data available to researchers and health professionals.

## 7. 3. Methodology and Data Management

### 7.1. 3.1 Data Collection Methods

JCR uses both **active** and **passive** data-collection methods. The active method involves trained registrars who visit notifying institutions and abstract data directly from medical records, pathology reports, and imaging studies. The passive method relies on electronic notifications submitted by institutions through the national **Hakeem** electronic medical-record system and via CanReg5 transfers.

### 7.2. 3.2 Sources of Information

The registry collects the most important data about cancer patients and ensures that it is complete and of high quality. Notifications of cancer are obtained from many sources:

1. Hospital admissions and medical records from all public, private, military, and university hospitals across the country.
2. Hospital-based cancer registries such as the **King Hussein Cancer Center (KHCC)**.
3. Histopathology, cytology, and haematology laboratories in the public and private sectors.
4. Forensic-medicine records through death certificates.

*Table 2: Sources of data of cancer patients to the registry, 2024*

| Data source | Number | % |
|---|---|---|
| King Hussein Cancer Center | 4,911 | 34.8 |
| Royal Medical Services | 2,509 | 17.8 |
| Ministry of Health | 2,418 | 17.1 |
| Universities' Hospitals | 1,429 | 10.1 |
| Private Hospitals | 1,605 | 11.4 |
| Laboratories | 1,250 | 8.9 |
| Total | 14,122 | 100.0 |

#### 7.3. 3.3 Reportable List

All cases registered with the JCR are reportable: malignant invasive tumours (ICD-O-3 behaviour code **3**) and in-situ tumours (behaviour code **2**). The 2024 annual statistics presented in this report include the **full registered case set** (n = 12,037), following the convention adopted by the JCR for the 2024 annual report to match the totals used in routine surveillance summaries. Localised basal-cell and squamous-cell carcinomas of non-genital skin sites (C44.0–C44.9) are registered; non-melanoma skin cancer (C44) is excluded from top-10 rankings only, per IARC convention.

#### 7.4. 3.4 Data Variables

The number of assessment variables used by JCR is based on the international standard variables for all cancer registries, following the framework provided by IARC:

1. **Patient details**: first name, given/middle name, last name, ID number, date of birth, sex, current residence (governorate).
2. **Tumour**: incidence date, basis of diagnosis, primary site / topography (ICD-O code), histology / morphology (ICD-O code), behaviour, grade, and stage at diagnosis (SEER summary stage).
3. **Treatment**: initial and subsequent treatments — surgery, radiotherapy, chemotherapy, immunotherapy, hormonal therapy.
4. **Sources of data**: hospital/laboratory name, facility code, abstracter name and date.
5. **Follow-up**: patient status (alive or dead), date of last contact, cause of death.

#### 7.5. 3.5 Classification and Coding

The primary site (topography) and histology (morphology) of the malignancies are identified and coded according to the **International Classification of**

**Diseases for Oncology, Third Edition (ICD-O-3)**, published by the WHO (2000), and converted to ICD-10 for reporting.

#### 7.6.3.6 Data Management

Data management is conducted using a dedicated server connected to a local area network. Cancer-case abstracts are submitted electronically via email and through the Hakeem system. Data is managed using **CanReg5** software, which supports both data entry and statistical analysis. External users seeking access to registry data must obtain authorisation from the Director of the NCD Directorate.

#### 7.7.3.7 Quality Assurance and Data Analysis

Accuracy and consistency are critical components in tumour-registry reporting. The JCR implements rigorous quality-control measures aimed at assessing completeness, accuracy, and uniformity of data at all levels including case finding, abstraction, coding, and data processing. Validation steps include data-completeness assurance, demographic verification, duplicate detection, and internal quality checks. The **Segi 1960 World Standard Population** is used for the calculation of age-standardised rates (Table 3).

***Table 3: World Standard Populations used for age-adjustment (Segi 1960 is primary; WHO shown for reference)***

| Age group | Segi World Std (per 100,000) | WHO World Std (%) |
|---|---|---|
| 0-4 | 120,000 | 8.86 |
| 5-9 | 100,000 | 8.69 |
| 10-14 | 90,000 | 8.60 |
| 15-19 | 90,000 | 8.47 |
| 20-24 | 80,000 | 8.22 |
| 25-29 | 80,000 | 7.93 |
| 30-34 | 60,000 | 7.61 |
| 35-39 | 60,000 | 7.15 |
| 40-44 | 60,000 | 6.59 |
| 45-49 | 60,000 | 6.04 |
| 50-54 | 50,000 | 5.37 |
| 55-59 | 40,000 | 4.55 |

| Age group | Segi World Std (per 100,000) | WHO World Std (%) |
|---|---|---|
| 60-64 | 40,000 | 3.72 |
| 65-69 | 30,000 | 2.96 |
| 70-74 | 20,000 | 2.21 |
| 75-79 | 10,000 | 1.52 |
| 80-84 | 5,000 | 0.91 |
| 85+ | 5,000 | 0.59 |
| Total | 1,000,000 | 99.99 |

#### 7.8. 3.8 Confidentiality

- All identifying variables (name, national ID, address, telephone) are stored in restricted-access tables.
- Only de-identified analytic extracts leave the registry's secure environment.
- Access to identifiable data is granted only to authorised registry personnel.

# 8. 4. Results

### 8.1. 4.1 Trend of Cancers in Jordan, 1980–2024

Figure 2 shows the trend of cancer cases in Jordan during the period **1980–2024**. Before the establishment of the JCR in 1996, reported cases came from a hospital-based registry, mainly from Al-Basheer Hospital. After 1996, reported cases were collected from all over the country as a **population-based cancer registry**. The number of registered cases markedly increased after the transformation from a hospital-based to a population-based registry.

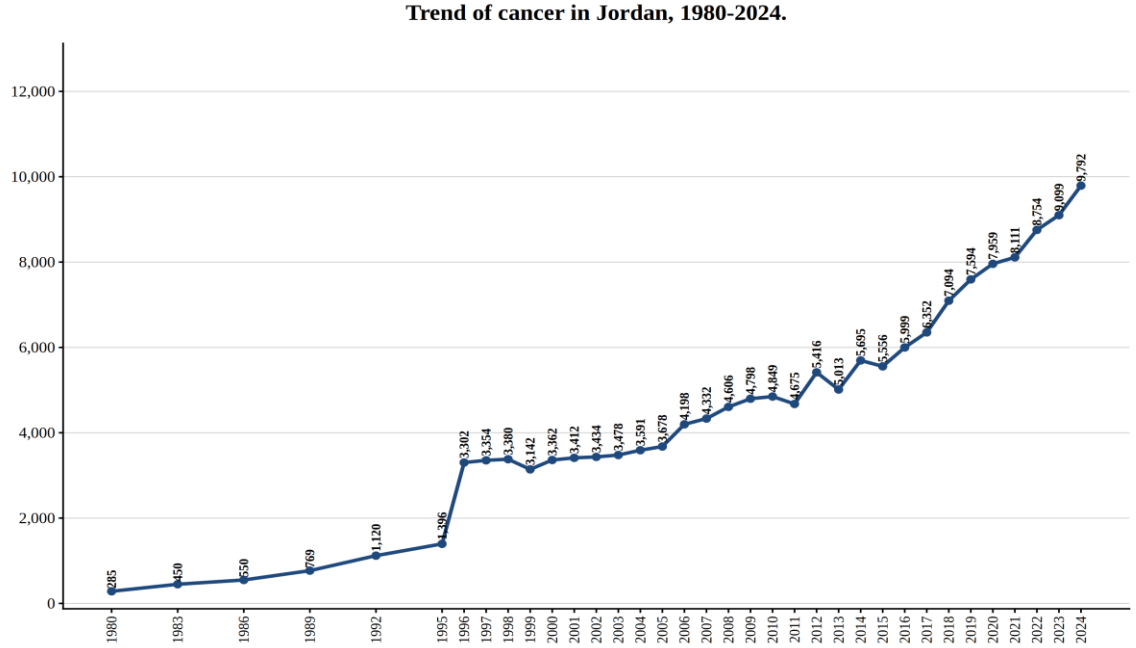


***Figure 2: Trend of cancer among Jordanians, 1980–2024***

Figure 3 shows the number of reported Jordanian cases by sex over the last decade. There has been a sustained increase in the number of incidence cases among Jordanians for both males and females.

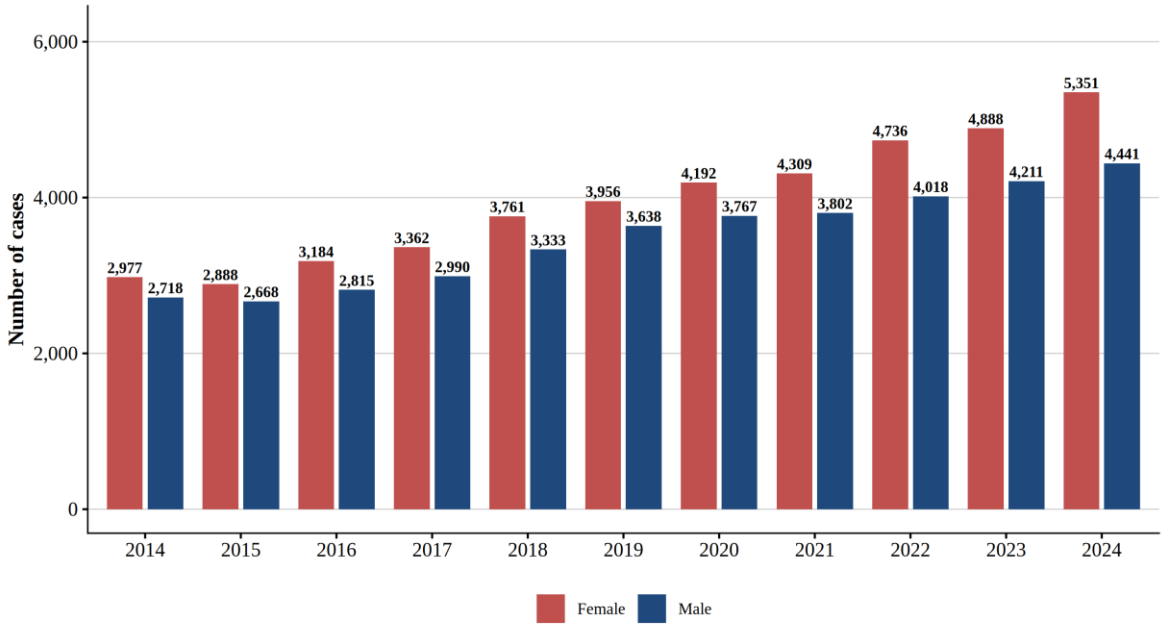


***Figure 3: Cases numbers for Jordanian by sex, 2014–2024***

Figure 4 shows the number of reported non-Jordanian cases to JCR by sex, 2014–2024.

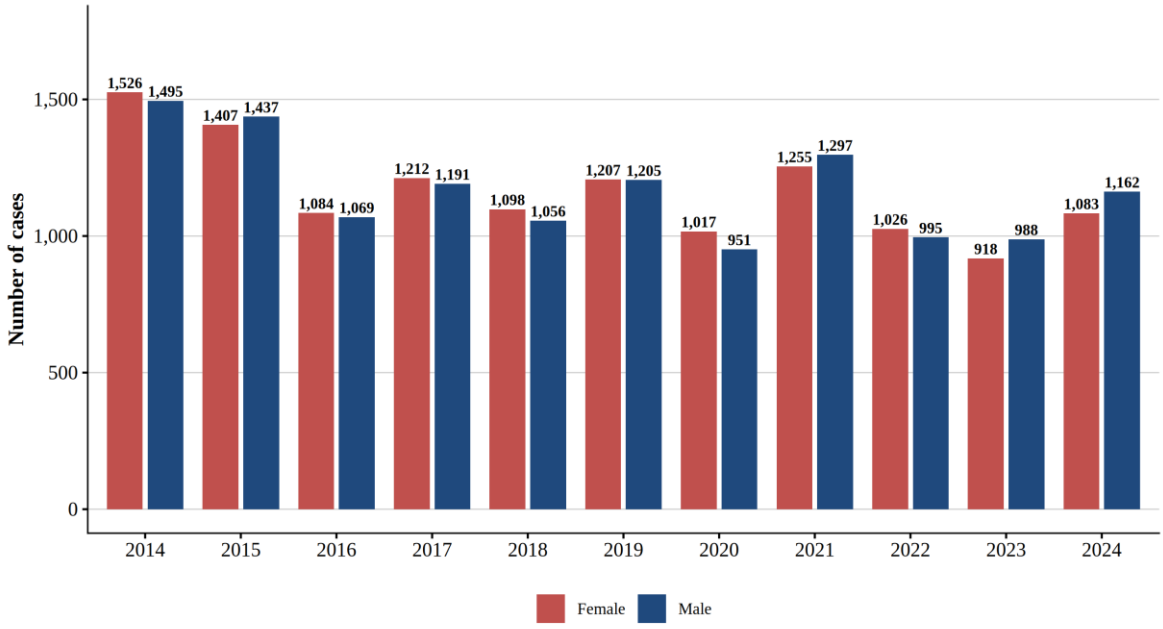


***Figure 4: Cancer cases numbers for non-Jordanian by sex, 2014–2024***

### 8.2. 4.2 Cancer Incidence in Jordan – 2024

#### 8.2.1. 4.2.1 Summary

*Table 4 (A): Summary of cancer incidence in Jordan, 2024*

| Number of cases | Male | Female | Total |
|---|---|---|---|
| Total cases | 5,603 | 6,434 | 12,037 |
| Jordanian | 4,441 | 5,351 | 9,792 |
| Non-Jordanian | 1,162 | 1,083 | 2,245 |

*Table 4 (B): Jordanians — further analysis, 2024*

| Jordanians – Further analysis | Male | Female | Total |
|---|---|---|---|
| Pediatric age group 0–14 years | 156 | 126 | 282 |
| Crude incidence rate (per 100,000) | 107 | 133.8 | 120.1 |
| Age-Standardized rate (Segi, per 100,000) | 159 | 182.2 | 170.6 |
| Mean age at diagnosis | 57.7 | 53.6 | 55.4 |
| Median age at diagnosis | 61 | 55 | 58 |
| Mode age at diagnosis | 64 | 56 | 61 |

#### 8.2.2. 4.2.2 Distribution by Age Group and Sex

A total of **9,792** new cases of cancer were recorded among the Jordanian population for the year 2024, of which **4,441** (45.4%) were males. The male-to-female ratio for cancer cases was **0.8:1**.

Overall, **45.5%** of the cases in 2024 were diagnosed in people aged 60 years and older. The distribution of new cancer cases by age group showed that **2.9%** of the cases were below 15 years.

The overall median age at diagnosis was **58** years (males 61; females 55). The crude incidence rate (CR) of all cancers among Jordanians was **120.1 per 100,000** (males 107; females 133.8). The Age-Standardized Rate (ASR) adjusted to the Segi 1960 World Standard Population was **170.6 per 100,000** (males 159; females 182.2). Table 5 shows the number and age-specific incidence rate (ASIR), which increases with age for both males and females.

*Table 5: Number and age-specific incidence rate (per 100,000) of cancer by age group and sex – Jordanians, 2024*

| Age group | Male N | Male ASIR | Female N | Female ASIR | Total N | Total ASIR |
|---|---|---|---|---|---|---|
| 0-4 | 73 | 15.5 | 48 | 10.7 | 121 | 13.2 |
| 5-9 | 30 | 5.9 | 38 | 7.8 | 68 | 6.8 |
| 10-14 | 53 | 11.6 | 40 | 9.3 | 93 | 10.5 |
| 15-19 | 58 | 13.3 | 71 | 17.4 | 129 | 15.3 |
| 20-24 | 101 | 24.3 | 86 | 22.7 | 187 | 23.5 |
| 25-29 | 75 | 22.6 | 154 | 49.3 | 229 | 35.5 |
| 30-34 | 123 | 43.0 | 217 | 74.8 | 340 | 59.0 |
| 35-39 | 145 | 55.0 | 323 | 120.8 | 468 | 88.2 |
| 40-44 | 212 | 88.4 | 471 | 194.2 | 683 | 141.6 |
| 45-49 | 241 | 113.5 | 561 | 267.3 | 802 | 190.0 |
| 50-54 | 420 | 259.5 | 611 | 379.6 | 1,031 | 319.4 |
| 55-59 | 511 | 450.0 | 676 | 590.2 | 1,187 | 520.4 |
| 60-64 | 646 | 804.0 | 638 | 810.6 | 1,284 | 807.3 |
| 65-69 | 582 | 918.4 | 526 | 796.5 | 1,108 | 856.2 |
| 70-74 | 444 | 858.5 | 367 | 785.9 | 811 | 824.0 |
| 75-79 | 388 | 1,190.7 | 290 | 922.4 | 678 | 1,059.0 |
| 80-84 | 240 | 1,543.4 | 157 | 1,032.2 | 397 | 1,290.0 |
| 85+ | 99 | 1,024.3 | 77 | 706.7 | 176 | 856.7 |
| Total | 4,441 | 107.0 | 5,351 | 133.8 | 9,792 | 120.1 |

### 8.2.3. 4.2.3 Distribution by Primary Site and Sex

*Table 6: Number and percentage of cancer by primary site and sex – Jordanians, 2024*

| Primary site | Male N | Male % | Female N | Female % | Total N | Total % |
|---|---|---|---|---|---|---|
| Breast | 20 | 0.5 | 2,056 | 38.4 | 2,076 | 21.2 |
| Colorectal | 624 | 14.1 | 506 | 9.5 | 1,130 | 11.5 |
| Trachea,Bronchus,Lung | 521 | 11.7 | 152 | 2.8 | 673 | 6.9 |
| Bladder | 401 | 9.0 | 63 | 1.2 | 464 | 4.7 |
| Prostate | 436 | 9.8 | 0 | 0.0 | 436 | 4.5 |
| Thyroid | 106 | 2.4 | 330 | 6.2 | 436 | 4.5 |

| Primary site | Male N | Male % | Female N | Female % | Total N | Total % |
|---|---|---|---|---|---|---|
| Leukemia | 257 | 5.8 | 178 | 3.3 | 435 | 4.4 |
| NHL | 209 | 4.7 | 166 | 3.1 | 375 | 3.8 |
| Other skin (non-melanoma) | 211 | 4.8 | 123 | 2.3 | 334 | 3.4 |
| Stomach | 154 | 3.5 | 108 | 2.0 | 262 | 2.7 |
| Hodgkin Lymphoma | 128 | 2.9 | 103 | 1.9 | 231 | 2.4 |
| Kidney | 157 | 3.5 | 73 | 1.4 | 230 | 2.3 |
| Other / not classified | 83 | 1.9 | 137 | 2.6 | 220 | 2.2 |
| Brain,Nervous System | 103 | 2.3 | 102 | 1.9 | 205 | 2.1 |
| Corpus uteri | 0 | 0.0 | 193 | 3.6 | 193 | 2.0 |
| Pancreas | 110 | 2.5 | 79 | 1.5 | 189 | 1.9 |
| Multiple myeloma | 80 | 1.8 | 62 | 1.2 | 142 | 1.5 |
| Ovary | 0 | 0.0 | 142 | 2.7 | 142 | 1.5 |
| Soft tissue & connective tissue | 57 | 1.3 | 66 | 1.2 | 123 | 1.3 |
| Larynx | 117 | 2.6 | 5 | 0.1 | 122 | 1.2 |
| Uterus, NOS | 0 | 0.0 | 120 | 2.2 | 120 | 1.2 |
| Testis | 101 | 2.3 | 0 | 0.0 | 101 | 1.0 |
| Vulva | 0 | 0.0 | 96 | 1.8 | 96 | 1.0 |
| Cervix uteri | 0 | 0.0 | 95 | 1.8 | 95 | 1.0 |
| Bone | 49 | 1.1 | 44 | 0.8 | 93 | 0.9 |
| Liver | 68 | 1.5 | 25 | 0.5 | 93 | 0.9 |
| Unknown primary | 45 | 1.0 | 41 | 0.8 | 86 | 0.9 |
| Oesophagus | 38 | 0.9 | 16 | 0.3 | 54 | 0.6 |
| Nasopharynx | 37 | 0.8 | 12 | 0.2 | 49 | 0.5 |
| Small intestine | 26 | 0.6 | 22 | 0.4 | 48 | 0.5 |
| Immunoproliferative | 23 | 0.5 | 23 | 0.4 | 46 | 0.5 |
| Gallbladder | 15 | 0.3 | 25 | 0.5 | 40 | 0.4 |
| Other biliary | 25 | 0.6 | 13 | 0.2 | 38 | 0.4 |
| Other lymphoid/haematopoietic uncertain | 15 | 0.3 | 22 | 0.4 | 37 | 0.4 |
| Melanoma of skin | 19 | 0.4 | 15 | 0.3 | 34 | 0.3 |
| Myelodysplastic syndrome | 18 | 0.4 | 10 | 0.2 | 28 | 0.3 |
| Eye & adnexa | 13 | 0.3 | 13 | 0.2 | 26 | 0.3 |
| Tongue (other) | 13 | 0.3 | 7 | 0.1 | 20 | 0.2 |

| Primary site | Male N | Male % | Female N | Female % | Total N | Total % |
|---|---|---|---|---|---|---|
| Adrenal gland | 9 | 0.2 | 10 | 0.2 | 19 | 0.2 |
| Other mouth | 12 | 0.3 | 6 | 0.1 | 18 | 0.2 |
| Parotid gland | 9 | 0.2 | 6 | 0.1 | 15 | 0.2 |
| Digestive System, NOS | 8 | 0.2 | 6 | 0.1 | 14 | 0.1 |
| Lip | 11 | 0.2 | 2 | 0.0 | 13 | 0.1 |
| Nasal cavity & middle ear | 10 | 0.2 | 3 | 0.1 | 13 | 0.1 |
| Thymus | 8 | 0.2 | 5 | 0.1 | 13 | 0.1 |
| Other endocrine | 5 | 0.1 | 7 | 0.1 | 12 | 0.1 |
| Other major salivary glands | 6 | 0.1 | 6 | 0.1 | 12 | 0.1 |
| Retroperitoneum & peritoneum | 6 | 0.1 | 6 | 0.1 | 12 | 0.1 |
| Anus | 6 | 0.1 | 5 | 0.1 | 11 | 0.1 |
| Tongue (base) | 7 | 0.2 | 4 | 0.1 | 11 | 0.1 |
| Renal pelvis | 7 | 0.2 | 3 | 0.1 | 10 | 0.1 |
| Ill-defined sites | 6 | 0.1 | 3 | 0.1 | 9 | 0.1 |
| Other urinary | 7 | 0.2 | 1 | 0.0 | 8 | 0.1 |
| Vagina | 0 | 0.0 | 8 | 0.1 | 8 | 0.1 |
| Accessory sinuses | 5 | 0.1 | 2 | 0.0 | 7 | 0.1 |
| Palate | 4 | 0.1 | 3 | 0.1 | 7 | 0.1 |
| Heart, mediastinum & pleura | 3 | 0.1 | 3 | 0.1 | 6 | 0.1 |
| Polycythaemia vera | 4 | 0.1 | 2 | 0.0 | 6 | 0.1 |
| Mesothelioma | 4 | 0.1 | 1 | 0.0 | 5 | 0.1 |
| Other female genital | 0 | 0.0 | 5 | 0.1 | 5 | 0.1 |
| Tonsil | 2 | 0.0 | 3 | 0.1 | 5 | 0.1 |
| Floor of mouth | 3 | 0.1 | 1 | 0.0 | 4 | 0.0 |
| Kaposi sarcoma | 3 | 0.1 | 1 | 0.0 | 4 | 0.0 |
| Oropharynx | 4 | 0.1 | 0 | 0.0 | 4 | 0.0 |
| Ureter | 3 | 0.1 | 1 | 0.0 | 4 | 0.0 |
| Gum | 3 | 0.1 | 0 | 0.0 | 3 | 0.0 |
| Lymph nodes (secondary) | 0 | 0.0 | 3 | 0.1 | 3 | 0.0 |
| Other male genital | 3 | 0.1 | 0 | 0.0 | 3 | 0.0 |
| Other oral cavity & pharynx | 1 | 0.0 | 1 | 0.0 | 2 | 0.0 |
| Other respiratory | 2 | 0.0 | 0 | 0.0 | 2 | 0.0 |

| Primary site | Male N | Male % | Female N | Female % | Total N | Total % |
|---|---|---|---|---|---|---|
| Hypopharynx | 0 | 0.0 | 1 | 0.0 | 1 | 0.0 |
| Penis | 1 | 0.0 | 0 | 0.0 | 1 | 0.0 |
| Total | 4,441 | 100.0 | 5,351 | 100.0 | 9,792 | 100.0 |

### 8.2.4. 4.2.4 Top Cancers among the Jordanian Population by Sex, 2024

***Table 7: Ten most common cancers among Jordanians, both sexes, 2024***

| Rank | Cancer | No. | % |
|---|---|---|---|
| 1 | Breast | 2,076 | 21.2 |
| 2 | Colorectal | 1,130 | 11.5 |
| 3 | Trachea,Bronchus,Lung | 673 | 6.9 |
| 4 | Bladder | 464 | 4.7 |
| 5 | Prostate | 436 | 4.5 |
| 6 | Thyroid | 436 | 4.5 |
| 7 | Leukemia | 435 | 4.4 |
| 8 | NHL | 375 | 3.8 |
| 9 | Stomach | 262 | 2.7 |
| 10 | Hodgkin Lymphoma | 231 | 2.4 |

*N.B: Non-melanoma skin cancer (C44, n = 334) and the 'Other / not classified' category are excluded from top-10 rankings per IARC convention. The top ten cancers accounted for 6,518 (66.6%).*

***Table 8: Ten most common cancers among Jordanian Males, 2024***

| Rank | Site | Frequency | Percent |
|---|---|---|---|
| 1 | Colorectal | 624 | 14.1 |
| 2 | Trachea,Bronchus,Lung | 521 | 11.7 |
| 3 | Prostate | 436 | 9.8 |
| 4 | Bladder | 401 | 9.0 |

| Rank | Site | Frequency | Percent |
|---|---|---|---|
| 5 | Leukemia | 257 | 5.8 |
| 6 | NHL | 209 | 4.7 |
| 7 | Kidney | 157 | 3.5 |
| 8 | Stomach | 154 | 3.5 |
| 9 | Hodgkin Lymphoma | 128 | 2.9 |
| 10 | Larynx | 117 | 2.6 |

*N.B: Non-melanoma skin cancer (C44, n = 211) and the 'Other / not classified' category are excluded from top-10 rankings per IARC convention. The top ten male cancers accounted for 3,004 (67.6%).*

***Table 9: Ten most common cancers among Jordanian Females, 2024***

| Rank | Site | Frequency | Percent |
|---|---|---|---|
| 1 | Breast | 2,056 | 38.4 |
| 2 | Colorectal | 506 | 9.5 |
| 3 | Thyroid | 330 | 6.2 |
| 4 | Corpus uteri | 193 | 3.6 |
| 5 | Leukemia | 178 | 3.3 |
| 6 | NHL | 166 | 3.1 |
| 7 | Trachea,Bronchus,Lung | 152 | 2.8 |
| 8 | Ovary | 142 | 2.7 |
| 9 | Uterus, NOS | 120 | 2.2 |
| 10 | Stomach | 108 | 2.0 |

*N.B: Non-melanoma skin cancer (C44, n = 123) and the 'Other / not classified' category are excluded from top-10 rankings per IARC convention. Top ten female cancers accounted for 3,951 (73.8%).*

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### 8.2.5. 4.2.5 Distribution by Governorate / Region

***Table 10: Number of cancer cases and crude incidence rates by governorate, region, and sex – Jordanians, 2024***

| Governorate | Male N | Male CR | Female N | Female CR | Total N | Total CR | % |
|---|---|---|---|---|---|---|---|
| Amman | 2,011 | 126.8 | 2,517 | 163.1 | 4,528 | 144.7 | 46.2 |
| Zarqa | 423 | 73.0 | 481 | 87.1 | 904 | 79.9 | 9.2 |
| Balqa | 255 | 103.6 | 304 | 126.6 | 559 | 115.0 | 5.7 |
| Madaba | 112 | 114.3 | 139 | 147.9 | 251 | 130.7 | 2.6 |
| Irbid | 500 | 60.7 | 560 | 71.0 | 1,060 | 65.7 | 10.8 |
| Mafraq | 84 | 42.7 | 122 | 65.0 | 206 | 53.5 | 2.1 |
| Jarash | 89 | 84.5 | 111 | 110.9 | 200 | 97.4 | 2.0 |
| Ajlun | 85 | 86.7 | 109 | 115.3 | 194 | 100.8 | 2.0 |
| Karak | 121 | 72.0 | 160 | 96.6 | 281 | 84.2 | 2.9 |
| Aqaba | 70 | 66.0 | 70 | 73.1 | 140 | 69.4 | 1.4 |
| Ma'an | 65 | 74.2 | 63 | 74.7 | 128 | 74.5 | 1.3 |
| Tafila | 48 | 85.1 | 58 | 107.4 | 106 | 96.0 | 1.1 |
| Central Region — CR | 2,801 | 111.6 | 3,441 | 141.6 | 6,242 | 126.4 | 63.7 |
| North Region — CR | 758 | 61.9 | 902 | 77.0 | 1,660 | 69.3 | 17.0 |
| South Region — CR | 304 | 72.7 | 351 | 87.8 | 655 | 80.1 | 6.7 |
| Non-Resident | 9 | | 6 | | 15 | | 0.2 |
| Unknown | 569 | | 651 | | 1,220 | | 12.5 |
| Total — Jordan | 4,441 | 107.0 | 5,351 | 133.8 | 9,792 | 120.1 | 100.0 |

*N.B: CR = crude rate per 100,000 Jordanian resident population. Population denominators are from the 2024 Department of Statistics governorate-level estimates. Non-Resident / Unknown rows lack a denominator.*

### 8.3. 4.3 Pediatric Malignancies among Jordanians, 2024

The JCR conventionally reports pediatric cancer in two age windows:

- **§4.3.1 — Ages 0–14 years** (the standard pediatric definition used by the WHO and IARC).
- **§4.3.2 — Ages 0–19 years** (the wider "adolescent & young adult" lower bound used in some cancer-control planning).

The two sub-sections present the same four figures so the reader can compare directly. Crude rates in both sub-sections are expressed **per million** of the corresponding age denominator (JCR convention).

### 8.3.1. 4.3.1 Pediatric Malignancies, Ages 0–14 Years

There were **282** children in the age group 0–14 years diagnosed with new cancer among Jordanians, constituting **2.9%** of all registered malignant tumours in 2024.

The distribution of cases by sex shows that it was higher in males (**156**, 55.3%) than females (**126**, 44.7%). The male-to-female ratio was **1.2:1**. The crude incidence rate for all cancers in this age group was **100.5 per million** (108.5 per million for boys and 92.2 per million for girls).

The mean age at diagnosis was **6.6 years**. Children aged < 1 year accounted for **21** cases. About **42.9%** of registered cases were under five years.

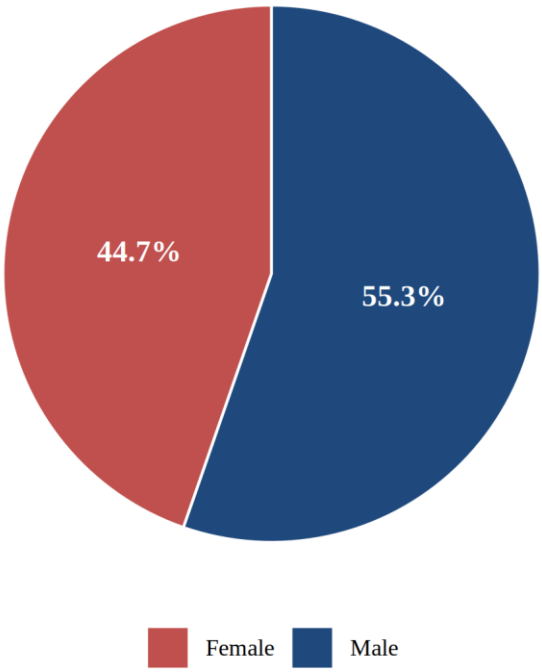


***Figure 5: Distribution of pediatric cancer cases by sex – Jordanians, 2024***

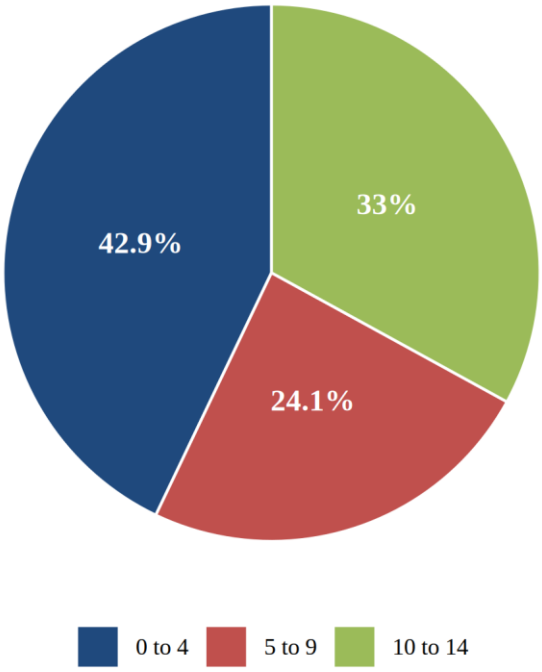


***Figure 6: Distribution of pediatric cancer cases by age subgroup – Jordanians, 2024***

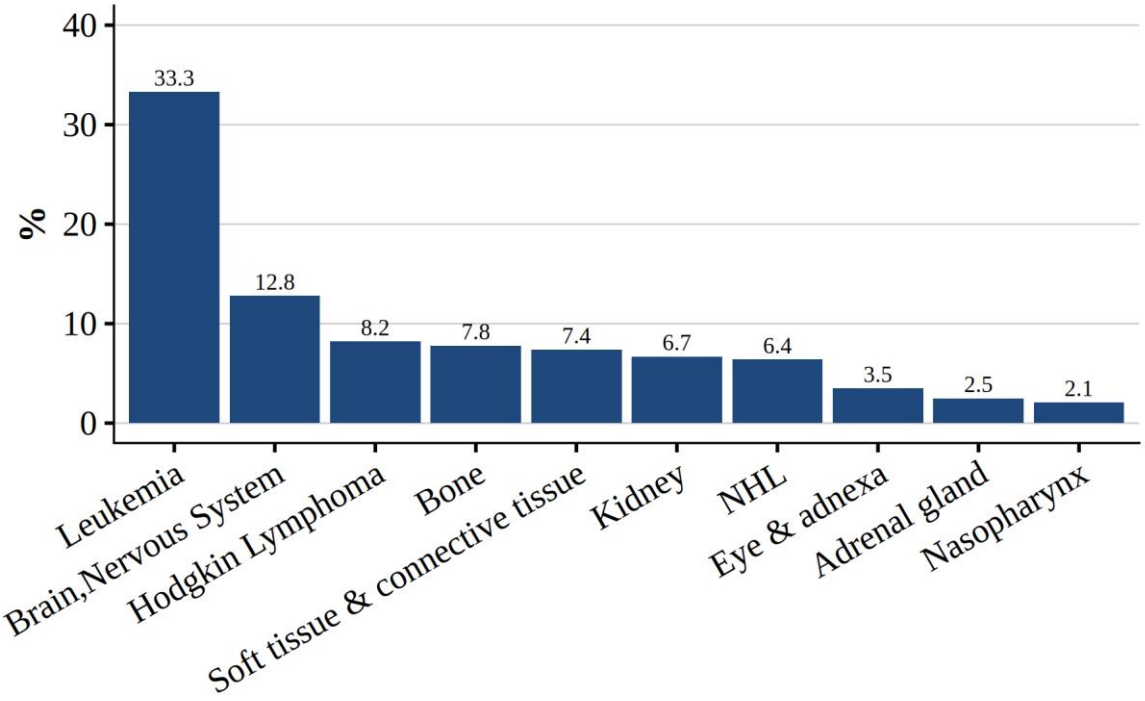


***Figure 7: Percentage of top ten cancers in Pediatric age group (both sexes), 2024, Jordanians***

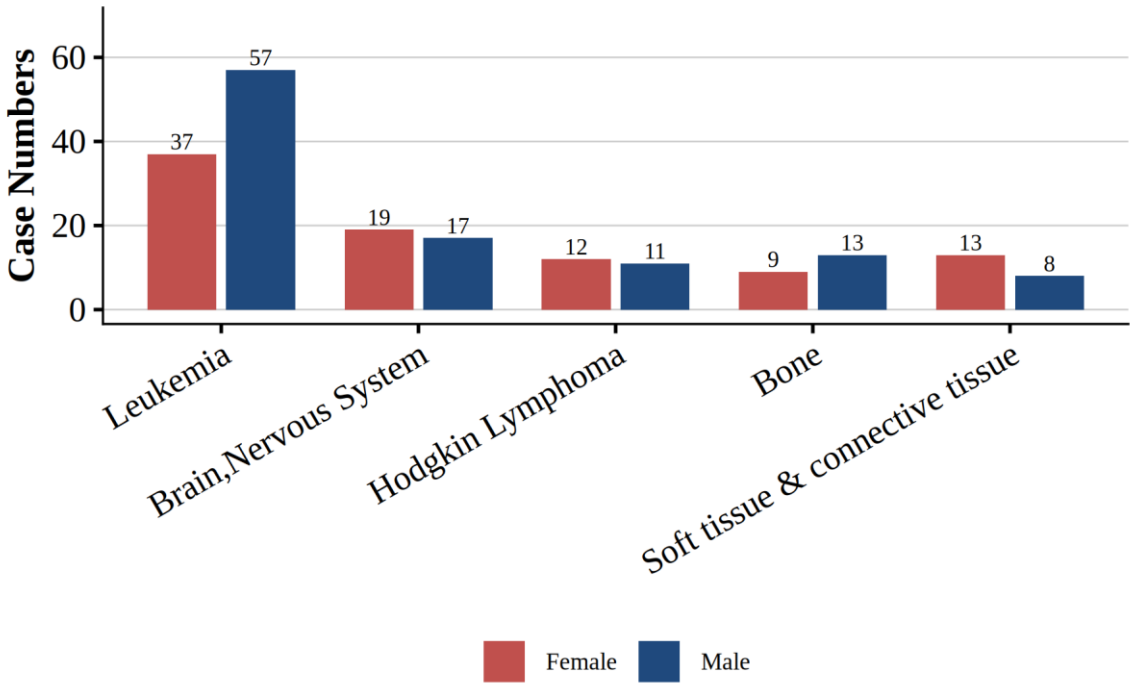


***Figure 8: Top five pediatric cancer cases by sex, 2024, Jordanians***

### 8.3.2. 4.3.2 Pediatric & Adolescent Malignancies, Ages 0–19 Years

There were **411** Jordanian children and adolescents aged 0–19 years diagnosed with new cancer in 2024, constituting **4.2%** of all registered cases — a wider window that captures the adolescent group (15–19 years) often excluded from the strict 0–14 pediatric definition.

The distribution by sex was higher in males (**214**, 52.1%) than females (**197**, 47.9%). The male-to-female ratio was **1.1:1**. The crude incidence rate in this age group was **112.7 per million** (114.2 per million for boys and 111 per million for girls).

The mean age at diagnosis was **9.8 years**; **29.4%** of cases were under five years.

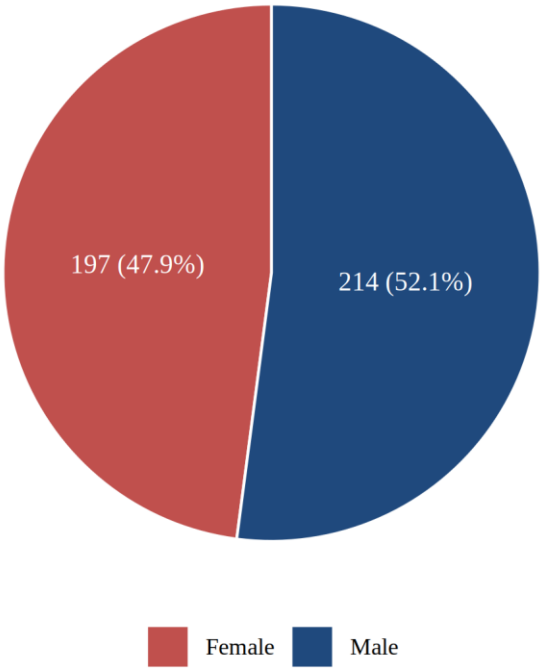


***Figure 5b: Distribution of pediatric & adolescent (0–19) cancer cases by sex – Jordanians, 2024***

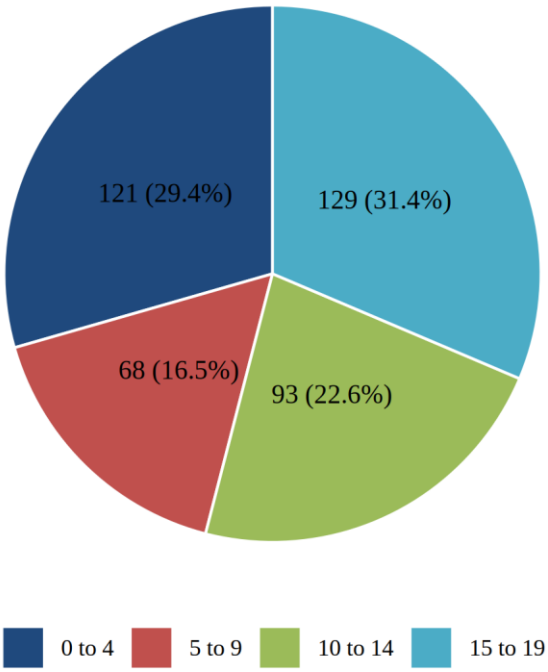


***Figure 6b: Distribution of pediatric & adolescent (0–19) cancer cases by age subgroup – Jordanians, 2024***

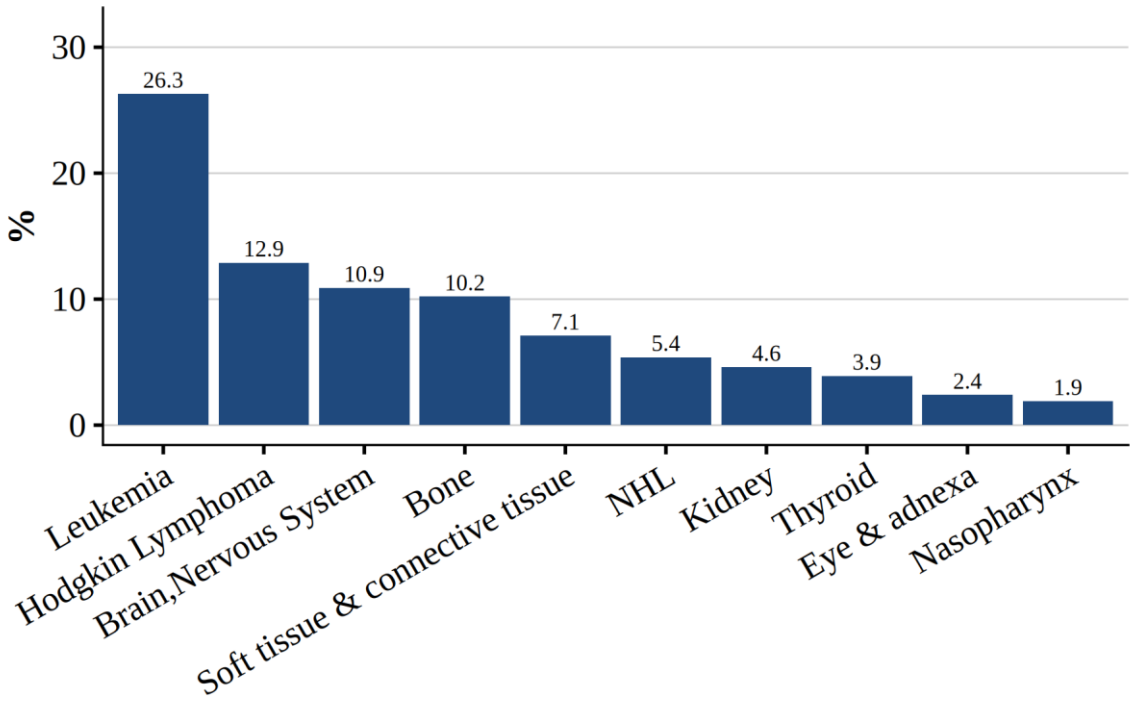


***Figure 7b: Percentage of top ten cancers in age group 0–19 (both sexes), 2024, Jordanians***

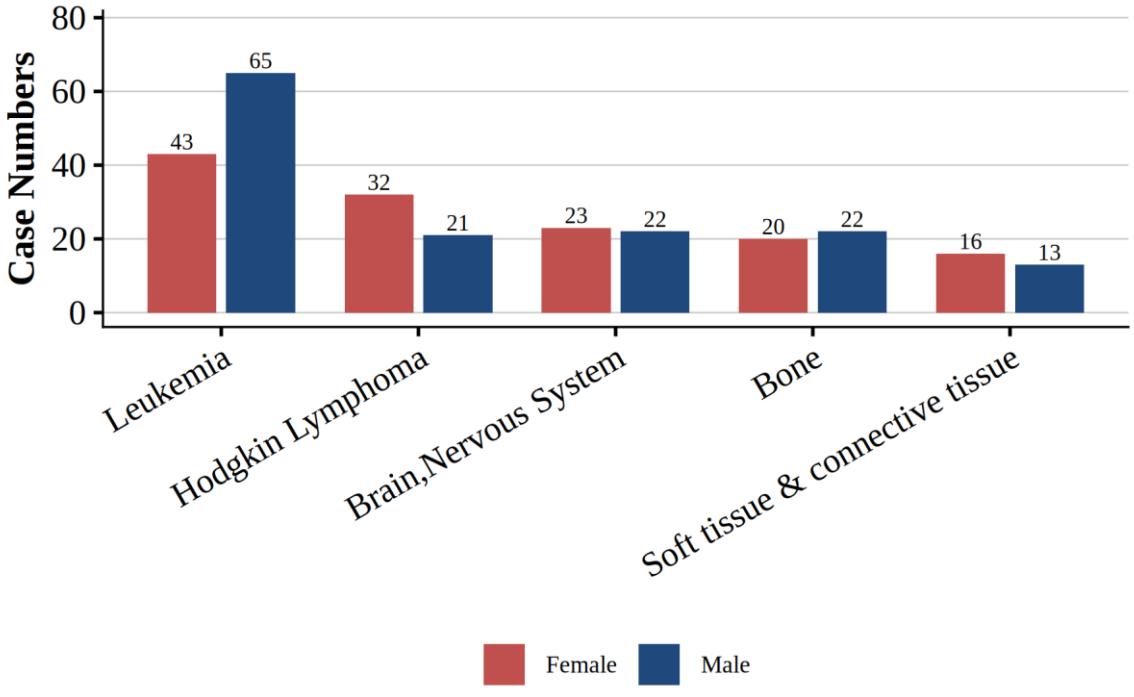


***Figure 8b: Top five pediatric & adolescent (0–19) cancer cases by sex, 2024, Jordanians***

#### 8.4. 4.4 Cancer among Non-Jordanians, 2024

The total number of cancer cases among non-Jordanians was **2,245**, accounting for **18.7%** of all cancers reported and registered in JCR for the year 2024. The distribution of cases by sex shows that males were **1,162**

(51.8%) and females were **1,083** (48.2%). The mean age for diagnosis was **52.6 years** (males 54.1; females 51).
There were **134** cases below the age of 15 years, which accounted for **6%** of all non-Jordanians registered in JCR for the year 2024.

***Table 11: Most frequent cancers among Non-Jordanians (both sexes), 2024***

| Rank | Primary site | No. | % |
|---|---|---|---|
| 1 | Breast | 383 | 17.1 |
| 2 | Colorectal | 213 | 9.5 |
| 3 | Trachea,Bronchus,Lung | 157 | 7.0 |
| 4 | Thyroid | 147 | 6.5 |
| 5 | Prostate | 116 | 5.2 |
| 6 | Bladder | 115 | 5.1 |
| 7 | Brain,Nervous System | 96 | 4.3 |
| 8 | Leukemia | 88 | 3.9 |
| 9 | NHL | 80 | 3.6 |
| 10 | Kidney | 74 | 3.3 |

*N.B: Non-melanoma skin cancer (C44) and 'Other / not classified' excluded per IARC convention.*

***Table 12: Most frequent cancers among Non-Jordanian Males, 2024***

| Rank | Primary site | N | % |
|---|---|---|---|
| 1 | Colorectal | 123 | 10.6 |
| 2 | Trachea,Bronchus,Lung | 122 | 10.5 |
| 3 | Prostate | 116 | 10.0 |
| 4 | Bladder | 102 | 8.8 |
| 5 | Brain,Nervous System | 65 | 5.6 |
| 6 | Leukemia | 65 | 5.6 |
| 7 | NHL | 52 | 4.5 |
| 8 | Thyroid | 52 | 4.5 |

| Rank | Primary site | N | % |
|---|---|---|---|
| 9 | Kidney | 48 | 4.1 |
| 10 | Stomach | 44 | 3.8 |
| 11 | Others | 373 | 32.1 |
| | Total | 1,162 | 100.0 |

*N.B: Non-melanoma skin cancer (C44) and 'Other / not classified' excluded per IARC convention.*

***Table 13: Most frequent cancers among Non-Jordanian Females, 2024***

| Rank | Primary site | N | % |
|---|---|---|---|
| 1 | Breast | 381 | 35.2 |
| 2 | Thyroid | 95 | 8.8 |
| 3 | Colorectal | 90 | 8.3 |
| 4 | Trachea,Bronchus,Lung | 35 | 3.2 |
| 5 | Ovary | 33 | 3.0 |
| 6 | Corpus uteri | 32 | 3.0 |
| 7 | Brain,Nervous System | 31 | 2.9 |
| 8 | NHL | 28 | 2.6 |
| 9 | Kidney | 26 | 2.4 |
| 10 | Stomach | 24 | 2.2 |
| 11 | Others | 308 | 28.4 |
| | Total | 1,083 | 100.0 |

*N.B: Non-melanoma skin cancer (C44) and 'Other / not classified' excluded per IARC convention.*

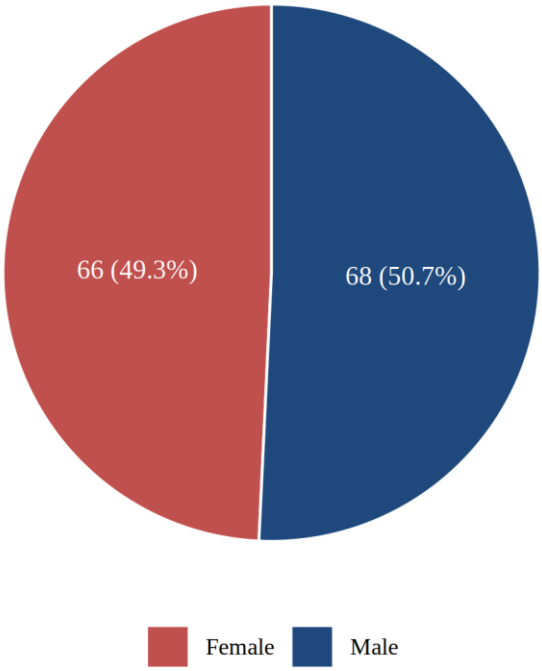


***Figure 9: Percentage distribution of pediatric cancer among non-Jordanians by sex, 2024***

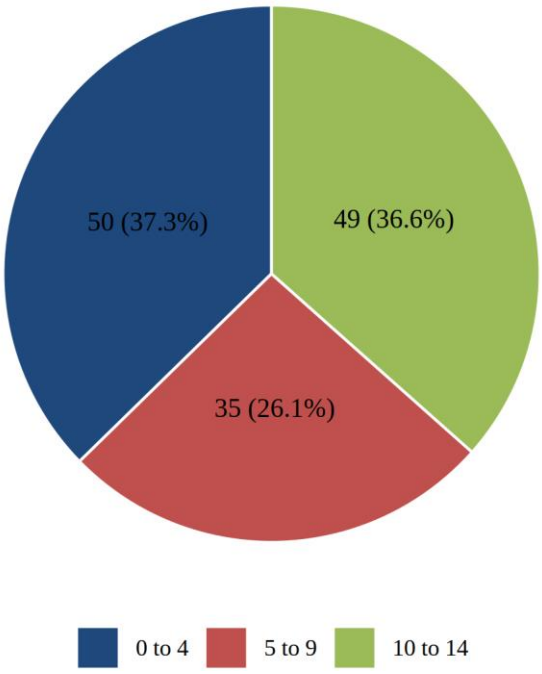


***Figure 10: Percentage distribution of pediatric cancer among non-Jordanians by age, 2024***

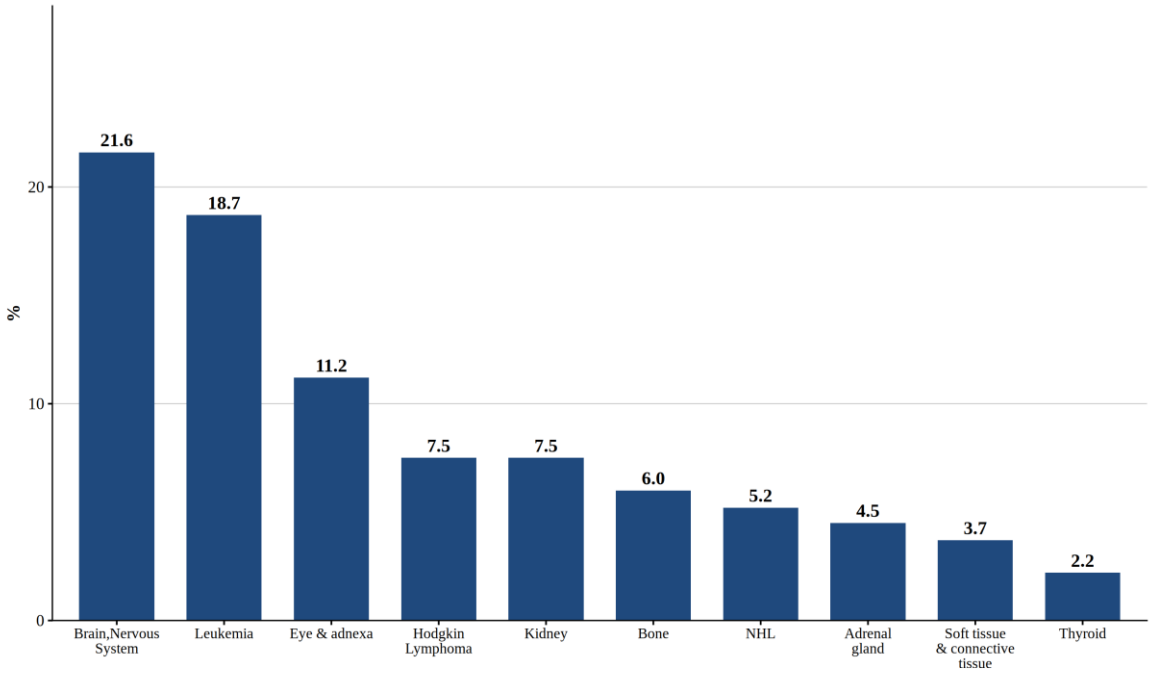


***Figure 11: Percentage of top ten cancers of pediatric age group among non-Jordanians (both sexes), 2024***

## 9. 5. Cancer Mortality 2024

The National Mortality Registry showed that the leading cause of death in Jordan in 2024 was **cardiovascular and circulatory diseases** representing **30.6%**, followed by **neoplasms** which constituted **13.0%**. Therefore cancer ranked as the **second cause of death in Jordan**.

Mortality due to cancer was taken from the Mortality Registry data sets for the year 2024. Data were collected from death-notification forms received from all hospitals and forensic medicine for 2024, coded using the **ICD-11 mortality coding system** (C00–D48). Malignant, in-situ and uncertain-behaviour neoplasms were included in this chapter; data were centrally checked, coded, and entered into special software used for this purpose. The number of deaths due to cancer was **3,470 / 26,655 (13.0%)**. The **male-to-female ratio was 1.1:1**. The distribution of the number of deaths by age group is shown in **Figure 12**. The strongest predictor of mortality (cancer) was advanced age. **Figures 13 and 14** show more mortality data.

*Source: National Mortality Registry — Ministry of Health,* ***Annual Mortality Report, Jordan, 2024****.*

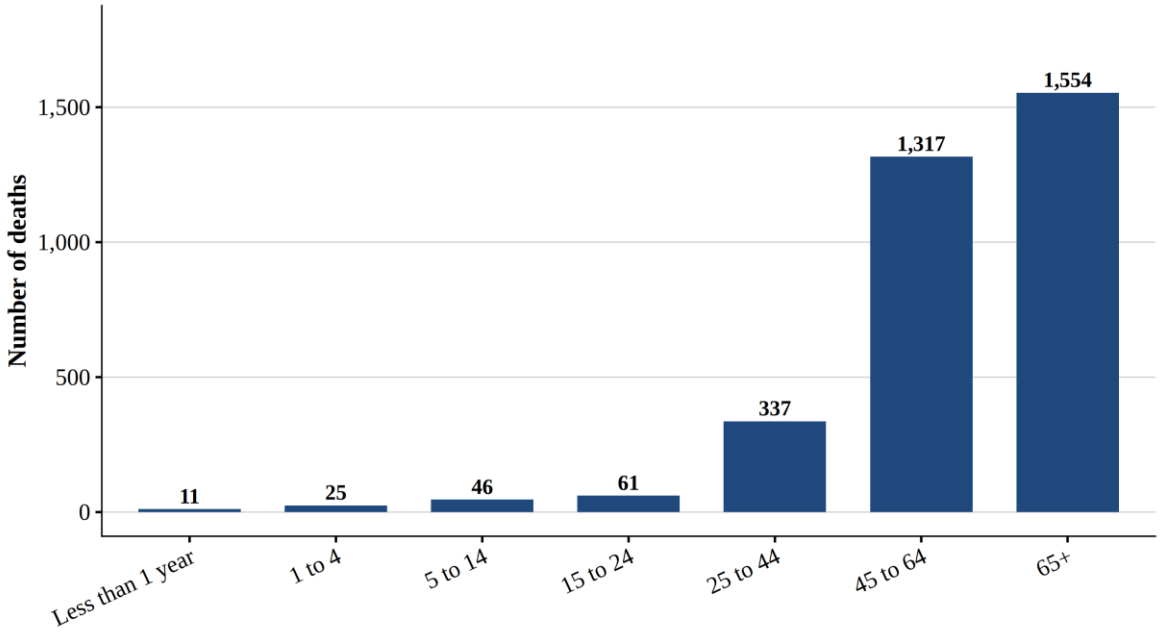


***Figure 12: Number of cancer deaths by age group – National Mortality Registry, 2024***

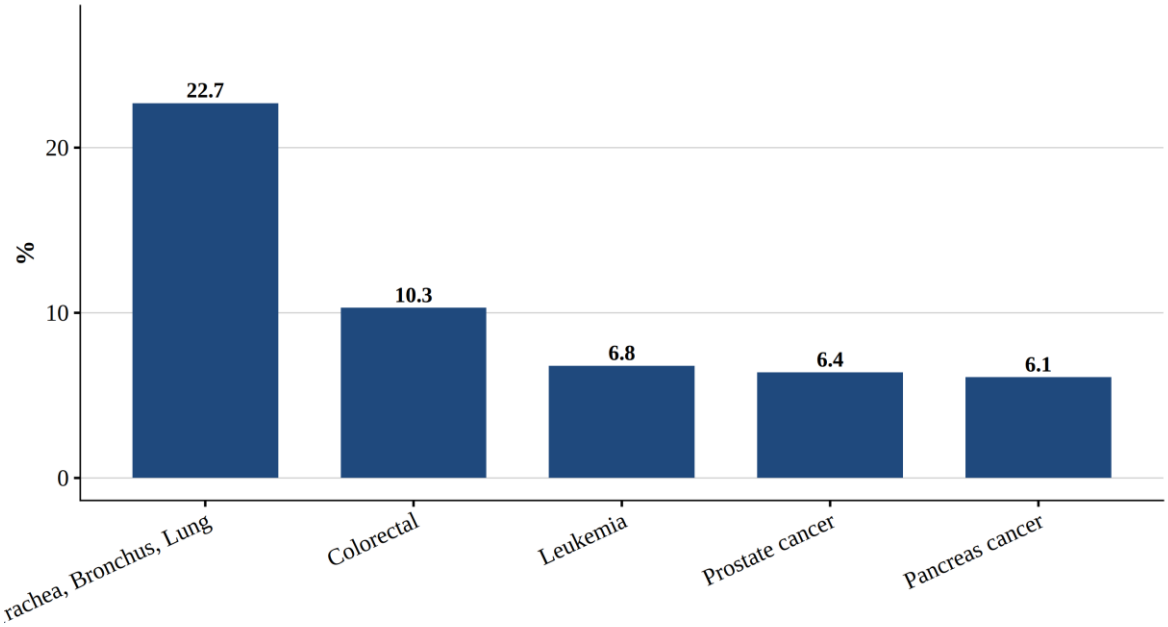


***Figure 13: Top five — percentage distribution of cancer deaths among males, National Mortality Registry, 2024***

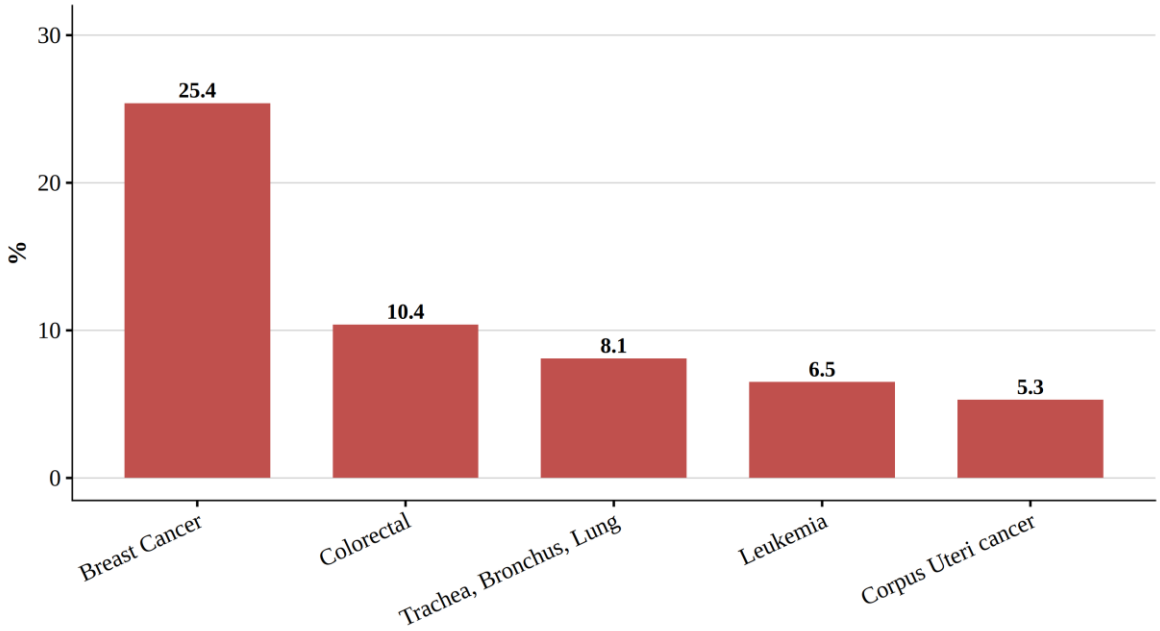


***Figure 14: Top five — percentage distribution of cancer deaths among females, National Mortality Registry, 2024***

## 10. 6. Discussion

### 10.1. Global Variations in Cancer Incidence

Cancer remains a leading cause of morbidity and mortality worldwide, with age-standardised incidence rates (ASIR) reflecting complex interactions among demographic, environmental, genetic, lifestyle, and healthcare factors. In 2022, the global ASIR was approximately 186.5 per 100,000. However, substantial variation exists among countries. High-income nations such as Denmark (349.8), Norway (340.3), Australia (322.4), Hungary (321.2), and France (316.6) report incidence rates nearly double or more than the global average. This disparity is largely due to established screening programmes, advanced healthcare systems, and longer life expectancy, which contribute to higher detection rates, especially for cancers associated with ageing and lifestyle factors such as breast, colorectal, and prostate cancers.

### 10.2. Regional Variability in the MENA Region

Within the Middle East and North Africa (MENA) region, incidence rates vary considerably. Countries reporting higher ASIR include Egypt (163.9), Syria (135.7), Iran (144.5), Tunisia (132.4), and Iraq (134.9). Meanwhile, countries with moderate rates include Oman (103.7), Sudan (93.9), Saudi Arabia (85.8), and Qatar (81.7). These differences stem from variations in healthcare infrastructure, demographic differences such as the proportion of older individuals, lifestyle factors like smoking prevalence and obesity, environmental exposures, and cultural acceptance of screening programmes.

### 10.3. Focus on Jordan's Cancer Incidence

Jordan's ASIR of **170.6** in 2024 is relatively high within the MENA region and approaches the levels seen in some high-income countries. This may be attributable to:

- Improved cancer registration and detection systems.
- Demographic shifts toward an ageing population.
- Lifestyle changes including increased smoking rates, unhealthy diets, and sedentary habits.
- Environmental exposures related to urbanisation and industrial growth.

### 10.4. Implications for Public Health Policy

The higher cancer incidence observed in Jordan necessitates urgent public-health action. Priority strategies include:

- Implementing national screening programmes for common cancers such as breast, colorectal, and cervical cancers.
- Raising public awareness about early symptoms and risk factors.
- Promoting primary prevention through tobacco-control policies and education.
- Encouraging healthier lifestyles emphasising balanced diets, physical activity, and weight management.
- Strengthening healthcare infrastructure by improving diagnostic capacity, cancer-registry systems, and training healthcare providers in early detection and treatment.

## 11. 7. Conclusion

The disparities in cancer incidence rates globally and within the MENA region, including Jordan's ASIR of **170.6 per 100,000** populations, underscore the multifactorial nature of cancer risk. Comprehensive public-health strategies focusing on modifiable risk factors, early detection, and healthcare-capacity enhancement are urgently needed. Continued surveillance, research, and targeted interventions will be vital to reduce the cancer burden and improve population-health outcomes.

## 12. 8. Deep-Dive: Breast, Lung & Colorectal Cancers

This chapter provides detailed sub-analyses for the three cancers that drive the largest share of cancer burden in Jordan: **breast**, **lung (trachea, bronchus & lung)**, and **colorectal** cancers. For each cancer we present: counts by sex, age statistics (mean / median / mode), distribution by 5-year age group with age-specific rates, top-5 morphologies, SEER summary-stage distribution, crude rate vs ASIR, and distribution by governorate.

### 12.1. 8.1 Breast Cancer

Breast cancer is by far the most common cancer in Jordanian women. In 2024 there were **2,076** Jordanian cases of breast cancer (20 males; 2,056 females), constituting **21.2%** of all Jordanian cases and **38.4%** of female cases.

***Table 14: Breast cancer — counts by sex, Jordanians, 2024***

| Sex | N | % |
|---|---|---|
| Male | 20 | 1 |
| Female | 2,056 | 99 |
| Total | 2,076 | 100 |

***Table 15: Breast cancer — age at diagnosis, Jordanians, 2024***

| Group | Mean | Median | Mode |
|---|---|---|---|
| Both sexes | 53.9 | 53 | 56 |
| Males | 62.4 | 62 | 52 |
| Females | 53.8 | 53 | 56 |

***Table 16: Breast cancer — cases and age-specific rate per 100,000 by age group, Jordanians, 2024***

| Age group | Male N | Male rate | Female N | Female rate | Total N | Total rate |
|---|---|---|---|---|---|---|
| 0-4 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 5-9 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 10-14 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 15-19 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 20-24 | 0 | 0.0 | 8 | 2.1 | 8 | 1.0 |
| 25-29 | 0 | 0.0 | 33 | 10.6 | 33 | 5.1 |
| 30-34 | 0 | 0.0 | 93 | 32.1 | 93 | 16.1 |
| 35-39 | 2 | 0.8 | 153 | 57.2 | 155 | 29.2 |
| 40-44 | 0 | 0.0 | 243 | 100.2 | 243 | 50.4 |
| 45-49 | 1 | 0.5 | 286 | 136.3 | 287 | 68.0 |
| 50-54 | 4 | 2.5 | 264 | 164.0 | 268 | 83.0 |
| 55-59 | 2 | 1.8 | 302 | 263.7 | 304 | 133.3 |
| 60-64 | 2 | 2.5 | 253 | 321.4 | 255 | 160.3 |
| 65-69 | 1 | 1.6 | 165 | 249.9 | 166 | 128.3 |

| Age group | Male N | Male rate | Female N | Female rate | Total N | Total rate |
|---|---|---|---|---|---|---|
| 70-74 | 4 | 7.7 | 102 | 218.4 | 106 | 107.7 |
| 75-79 | 0 | 0.0 | 97 | 308.5 | 97 | 151.5 |
| 80-84 | 4 | 25.7 | 37 | 243.3 | 41 | 133.2 |
| 85+ | 0 | 0.0 | 20 | 183.6 | 20 | 97.3 |
| Total | 20 | 0.5 | 2,056 | 51.4 | 2,076 | 25.5 |

***Table 17: Breast cancer — top 5 morphologies, Jordanians, 2024***

| Rank | Morphology | N | % |
|---|---|---|---|
| **1** | Infiltrating duct carcinoma, NOS | 1,253 | 60.4 |
| **2** | Carcinoma, NOS | 451 | 21.7 |
| **3** | Lobular carcinoma, NOS | 170 | 8.2 |
| **4** | Neoplasm, malignant | 46 | 2.2 |
| **5** | Duct carcinoma, desmoplastic type | 23 | 1.1 |

***Table 18: Breast cancer — SEER summary-stage distribution, Jordanians, 2024***

| Stage | N | % |
|---|---|---|
| In situ | 9 | 0.4 |
| Localised | 344 | 16.6 |
| Regional | 762 | 36.7 |
| Distant | 263 | 12.7 |
| Unknown | 698 | 33.6 |

***Table 19: Breast cancer — crude rate vs ASIR, Jordanians, 2024***

| Indicator | Male | Female | Total |
|---|---|---|---|
| Crude rate per 100,000 | 0.5 | 51.4 | 25.5 |
| ASIR per 100,000 (Segi 1960) | 0.7 | 69.2 | 34.9 |

*Table 20: Breast cancer — distribution by governorate, Jordanians, 2024*

| Rank | Governorate | N | % |
|---|---|---|---|
| 1 | Amman | 960 | 52.6 |
| 2 | Irbid | 255 | 14.0 |
| 3 | Zarqa | 176 | 9.6 |
| 4 | Balqa | 129 | 7.1 |
| 5 | Karak | 68 | 3.7 |
| 6 | Madaba | 53 | 2.9 |
| 7 | Mafraq | 43 | 2.4 |
| 8 | Ajlun | 39 | 2.1 |
| 9 | Jarash | 33 | 1.8 |
| 10 | Aqaba | 27 | 1.5 |
| 11 | Tafila | 23 | 1.3 |
| 12 | Ma'an | 19 | 1.0 |

### 12.2. 8.2 Lung Cancer (Trachea, Bronchus & Lung)

Lung cancer (trachea, bronchus & lung — ICD-10 C33–C34) is strongly driven by tobacco use and is a leading cause of cancer death in Jordan. In 2024 there were **673** Jordanian cases (521 males; 152 females; M:F ratio 3.43:1), constituting **6.9%** of all Jordanian cases.

*Table 21: Lung cancer — counts by sex, Jordanians, 2024*

| Sex | N | % |
|---|---|---|
| Male | 521 | 77.4 |
| Female | 152 | 22.6 |
| Total | 673 | 100.0 |

*Table 22: Lung cancer — age at diagnosis, Jordanians, 2024*

| Group | Mean | Median | Mode |
|---|---|---|---|
| Both sexes | 62.3 | 63 | 64 |
| Males | 62.8 | 63 | 59 |
| Females | 60.5 | 63 | 68 |

*Table 23: Lung cancer — cases and age-specific rate per 100,000 by age group, Jordanians, 2024*

| Age group | Male N | Male rate | Female N | Female rate | Total N | Total rate |
|---|---|---|---|---|---|---|
| 0-4 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 5-9 | 1 | 0.2 | 0 | 0.0 | 1 | 0.1 |
| 10-14 | 1 | 0.2 | 1 | 0.2 | 2 | 0.2 |
| 15-19 | 0 | 0.0 | 1 | 0.2 | 1 | 0.1 |
| 20-24 | 1 | 0.2 | 2 | 0.5 | 3 | 0.4 |
| 25-29 | 2 | 0.6 | 2 | 0.6 | 4 | 0.6 |
| 30-34 | 2 | 0.7 | 3 | 1.0 | 5 | 0.9 |
| 35-39 | 9 | 3.4 | 6 | 2.2 | 15 | 2.8 |
| 40-44 | 19 | 7.9 | 6 | 2.5 | 25 | 5.2 |
| 45-49 | 28 | 13.2 | 9 | 4.3 | 37 | 8.8 |
| 50-54 | 52 | 32.1 | 11 | 6.8 | 63 | 19.5 |
| 55-59 | 76 | 66.9 | 19 | 16.6 | 95 | 41.7 |
| 60-64 | 96 | 119.5 | 24 | 30.5 | 120 | 75.4 |
| 65-69 | 86 | 135.7 | 29 | 43.9 | 115 | 88.9 |
| 70-74 | 61 | 117.9 | 18 | 38.5 | 79 | 80.3 |
| 75-79 | 53 | 162.7 | 10 | 31.8 | 63 | 98.4 |
| 80-84 | 30 | 192.9 | 9 | 59.2 | 39 | 126.7 |
| 85+ | 4 | 41.4 | 2 | 18.4 | 6 | 29.2 |
| Total | 521 | 12.5 | 152 | 3.8 | 673 | 8.3 |

*Table 24: Lung cancer — top 5 morphologies, Jordanians, 2024*

| Rank | Morphology | N | % |
|---|---|---|---|
| 1 | Adenocarcinoma, NOS | 247 | 36.7 |
| 2 | Non-small cell carcinoma | 117 | 17.4 |
| 3 | Squamous cell carcinoma, NOS | 90 | 13.4 |
| 4 | Small cell carcinoma, NOS | 86 | 12.8 |
| 5 | Neoplasm, malignant | 46 | 6.8 |

*Table 25: Lung cancer — SEER summary-stage distribution, Jordanians, 2024*

| Stage | N | % |
|---|---|---|
| In situ | 3 | 0.4 |
| Localised | 49 | 7.3 |
| Regional | 75 | 11.1 |
| Distant | 299 | 44.4 |
| Unknown | 247 | 36.7 |

*Table 26: Lung cancer — crude rate vs ASIR, Jordanians, 2024*

| Indicator | Male | Female | Total |
|---|---|---|---|
| Crude rate per 100,000 | 12.5 | 3.8 | 8.3 |
| ASIR per 100,000 (Segi 1960) | 19.9 | 5.8 | 12.9 |

*Table 27: Lung cancer — distribution by governorate, Jordanians, 2024*

| Rank | Governorate | N | % |
|---|---|---|---|
| 1 | Amman | 307 | 53.8 |
| 2 | Irbid | 65 | 11.4 |
| 3 | Zarqa | 60 | 10.5 |
| 4 | Balqa | 43 | 7.5 |
| 5 | Karak | 17 | 3.0 |
| 6 | Ajlun | 16 | 2.8 |

| Rank | Governorate | N | % |
|---|---|---|---|
| 7 | Jarash | 15 | 2.6 |
| 8 | Madaba | 15 | 2.6 |
| 9 | Mafraq | 14 | 2.5 |
| 10 | Ma'an | 10 | 1.8 |
| 11 | Tafila | 6 | 1.1 |
| 12 | Aqaba | 3 | 0.5 |

### 12.3. 8.3 Colorectal Cancer

Colorectal cancer (ICD-10 C18–C20) is the second most common cancer overall in Jordan. In 2024 there were **1,130** Jordanian cases (624 males; 506 females; M:F ratio 1.23:1), constituting **11.5%** of all Jordanian cases.

***Table 28: Colorectal cancer — counts by sex, Jordanians, 2024***

| Sex | N | % |
|---|---|---|
| Male | 624 | 55.2 |
| Female | 506 | 44.8 |
| Total | 1,130 | 100.0 |

***Table 29: Colorectal cancer — age at diagnosis, Jordanians, 2024***

| Group | Mean | Median | Mode |
|---|---|---|---|
| Both sexes | 61.0 | 61 | 59 |
| Males | 61.9 | 62 | 68 |
| Females | 60.0 | 60 | 67 |

***Table 30: Colorectal cancer — cases and age-specific rate per 100,000 by age group, Jordanians, 2024***

| Age group | Male N | Male rate | Female N | Female rate | Total N | Total rate |
|---|---|---|---|---|---|---|
| 0-4 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 5-9 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| 10-14 | 1 | 0.2 | 0 | 0.0 | 1 | 0.1 |
| 15-19 | 1 | 0.2 | 2 | 0.5 | 3 | 0.4 |
| 20-24 | 1 | 0.2 | 1 | 0.3 | 2 | 0.3 |

| Age group | Male N | Male rate | Female N | Female rate | Total N | Total rate |
|---|---|---|---|---|---|---|
| 25-29 | 4 | 1.2 | 8 | 2.6 | 12 | 1.9 |
| 30-34 | 9 | 3.1 | 6 | 2.1 | 15 | 2.6 |
| 35-39 | 13 | 4.9 | 22 | 8.2 | 35 | 6.6 |
| 40-44 | 42 | 17.5 | 24 | 9.9 | 66 | 13.7 |
| 45-49 | 37 | 17.4 | 44 | 21.0 | 81 | 19.2 |
| 50-54 | 62 | 38.3 | 64 | 39.8 | 126 | 39.0 |
| 55-59 | 93 | 81.9 | 76 | 66.4 | 169 | 74.1 |
| 60-64 | 94 | 117.0 | 69 | 87.7 | 163 | 102.5 |
| 65-69 | 81 | 127.8 | 62 | 93.9 | 143 | 110.5 |
| 70-74 | 73 | 141.1 | 48 | 102.8 | 121 | 122.9 |
| 75-79 | 62 | 190.3 | 44 | 139.9 | 106 | 165.6 |
| 80-84 | 36 | 231.5 | 19 | 124.9 | 55 | 178.7 |
| 85+ | 15 | 155.2 | 17 | 156.0 | 32 | 155.8 |
| Total | 624 | 15.0 | 506 | 12.6 | 1,130 | 13.9 |

***Table 31: Colorectal cancer — top 5 morphologies, Jordanians, 2024***

| Rank | Morphology | N | % |
|---|---|---|---|
| 1 | Adenocarcinoma, NOS | 942 | 83.4 |
| 2 | Mucinous adenocarcinoma | 73 | 6.5 |
| 3 | Neoplasm, malignant | 49 | 4.3 |
| 4 | Carcinoma, NOS | 21 | 1.9 |
| 5 | Neuroendocrine carcinoma, NOS | 14 | 1.2 |

***Table 32: Colorectal cancer — SEER summary-stage distribution, Jordanians, 2024***

| Stage | N | % |
|---|---|---|
| In situ | 3 | 0.3 |
| Localised | 91 | 8.1 |
| Regional | 368 | 32.6 |
| Distant | 189 | 16.7 |
| Unknown | 479 | 42.4 |

*Table 33: Colorectal cancer — crude rate vs ASIR, Jordanians, 2024*

| Indicator | Male | Female | Total |
|---|---|---|---|
| Crude rate per 100,000 | 15.0 | 12.6 | 13.9 |
| ASIR per 100,000 (Segi 1960) | 23.1 | 18.6 | 20.9 |

*Table 34: Colorectal cancer — distribution by governorate, Jordanians, 2024*

| Rank | Governorate | N | % |
|---|---|---|---|
| 1 | Amman | 450 | 49.1 |
| 2 | Irbid | 141 | 15.4 |
| 3 | Zarqa | 106 | 11.6 |
| 4 | Balqa | 54 | 5.9 |
| 5 | Karak | 32 | 3.5 |
| 6 | Jarash | 31 | 3.4 |
| 7 | Madaba | 26 | 2.8 |
| 8 | Mafraq | 22 | 2.4 |
| 9 | Ma'an | 18 | 2.0 |
| 10 | Tafila | 15 | 1.6 |
| 11 | Ajlun | 13 | 1.4 |
| 12 | Aqaba | 9 | 1.0 |

## 13. Appendix: Definitions of Terms

**Incidence** — A cancer-incidence rate is the number of new cancers of a specific site/type occurring in a specified population during a year, usually expressed as the number of cancers per 100,000 populations at risk:
*Incidence rate = (New cancers / Population) × 100,000*
**Prevalence** — The number or percent of people alive on a certain date in a population who previously had a diagnosis of the disease. It includes new (incidence) and pre-existing cases.
**Crude Incidence Rate (CR)** — Number of new cancer cases observed in the population during a defined period, divided by the population at risk in the same period. Usually expressed per 100,000.
**Age-Specific Incidence Rate (ASIR)** — The number of cancer cases occurring during a specific period in a population of a specific age group and sex, divided by the mid-year population of that age group and sex, multiplied by 100,000.
**Age-Standardized Rate (ASR)** — A weighted average of the age-specific rates, where the weights are the proportions of persons in the corresponding age groups of a standard population. The **Segi 1960 World Standard Population** is used in this report.
**Rank** — Ordinal position of a cancer in a frequency distribution, where rank 1 is the most frequent.

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*End of report. The Arabic Executive Summary follows on a separate right-to-left section.*

**الملخص التنفيذي لوبائية السرطان لعام 2024**

**التقرير السنوي التاسع والعشرون للسجل الوطني الأردني للسرطان**

**مديرية الأمراض غير السارية – قسم السيطرة على السرطان – شعبة السجل الوطني للسرطان**

**الرسـالة**: تخفيف عبء مرض السرطان من خلال خفض معدلات الإصابة وذلك بتبني سياسات وبرامج وطنية لمكافحة السرطان تتضمن زيادة تدابير الوقاية والكشف والتشخيص المبكر.

**الـرؤية:** نحو مجتمع واعي للتدابير الوقائية من السرطان وطرق الكشف المبكر وبمشاركة كافة الجهات الوطنية وصولاً إلى معدلات متدنية من الإصابة وبالتالي الوفيات من هذا المرض.

**الإنجازات الحديثة للسجل الوطني الأردني للسرطان**

شهد السجل الوطني الأردني للسرطان خلال السنوات الأخيرة تطورًا ملحوظًا في أنشطته الفنية والتنظيمية، وشملت الإنجازات الاستمرار في إصدار التقارير السنوية للسرطان وفق أعلى معايير الجودة، وكان أحدثها التقرير السنوي لعام 2023.

وفي سياق تطوير وتعزيز نظام تسجيل السرطان في المملكة، تم العمل على إنشاء سجلات سرطان قائمة على المستشفيات في عدد من المؤسسات الصحية الكبرى، حيث شكّل مركز الحسين للسرطان نموذجًا متقدمًا في تطبيق هذا النهج. وتضمنت هذه الجهود تنفيذ برامج تدريبية متخصصة لضباط الارتباط وكوادر السجلات الطبية والمختبرات، ركزت على أساليب الترميز المعتمدة، وتحديد مراحل السرطان، وآليات استخدام برنامج CanReg5 في إدخال البيانات وإدارتها بما يضمن جودة ودقة المعلومات المسجلة.

كما تم إنشاء سجلات سرطان قائمة على المستشفى في عدد من المستشفيات، من أبرزها: مستشفى الاستشاري، مستشفى الحياة العام، مستشفى الرويال، مستشفى ماركا التخصصي، ومستشفى الشميساني، بهدف تطوير أنظمة توثيق بيانات مرضى السرطان وتحسين جودة الرعاية الصحية، ودعم التخطيط العلاجي والبحث العلمي المتعلق بالسرطان.

وخلال الفترة الأخيرة ، واصل السجل الوطني للسرطان تنفيذ الزيارات الميدانية الدورية لمراكز تسجيل السرطان في مختلف محافظات المملكة، والتي شملت عددًا من المستشفيات والمختبرات الطبية في القطاعات الحكومية والخاصة والعسكرية. وهدفت هذه الزيارات إلى تعزيز جودة نظام التسجيل السرطاني من خلال مراجعة السجلات والتأكد من دقة

واكتمال البيانات، وتحسين آليات التبليغ وتوثيق الحالات، إضافة إلى تقديم الدعم الفني والتدريب الميداني للعاملين في مواقع التسجيل بما يسهم في رفع كفاءة العمل وتحسين جودة البيانات المسجلة.

وشملت الزيارات عددًا من المؤسسات الصحية الرئيسية في القطاعين العام والخاص والعسكري، من أبرزها مركز الحسين للسرطان، مستشفى البشير، مستشفى الجامعة الأردنية، الخدمات الطبية الملكية، مستشفى الملك عبدالله الجامعي، مستشفى الأمير حمزة، إضافة إلى عدد من المستشفيات والمختبرات الطبية الخاصة المعتمدة في تسجيل حالات السرطان بالمملكة.

وشملت الزيارات الميدانية تحديث برنامج CanReg5 في مواقع التسجيل المختلفة، بما يتوافق مع المتطلبات الفنية الحديثة ويعزز جودة البيانات وتوحيدها. كما جرى مراجعة السجلات السرطانية للتحقق من دقة المعلومات المسجلة، ومعالجة التناقضات، واستكمال البيانات الناقصة، إضافة إلى تنقيح السجلات واستبعاد الحالات التي ثبت لاحقًا عدم مطابقتها لمعايير تسجيل السرطان.

وفي إطار بناء القدرات ورفع كفاءة الكوادر العاملة، تم تنفيذ دورات تدريبية متخصصة خلال عام 2025 حول تحديد وتوثيق مراحل السرطان وفق نظام Essential TNM ، بهدف تعزيز دقة تصنيف الحالات وتحسين جودة البيانات المتعلقة بمراحل المرض. كما تضمنت هذه الدورات تدريب المشاركين على المفاهيم الأساسية ومعايير التوثيق المعتمدة بما يسهم في توحيد إجراءات تسجيل مراحل السرطان على المستوى الوطني.

وقد أسهمت هذه الجهود بشكل مباشر في تعزيز نظام الترصد السرطاني الوطني، ورفع موثوقية البيانات، وتحسين جاهزية السجل للتطويرات المستقبلية.
ومن الإنجازات المهمة أيضًا مساهمة بيانات السجل الوطني للسرطان في دعم السياسات الصحية الوطنية، بما في ذلك القرارات المتعلقة بزيادة الضرائب على منتجات التبغ، استنادًا إلى المؤشرات التي أظهرت ارتفاع معدلات السرطان المرتبط بالتدخين. وتهدف هذه الإجراءات إلى الحد من استهلاك التبغ وتقليل العبء الصحي الناجم عن السرطانات المرتبطة به.
كما لعبت بيانات السجل دورًا مهمًا في تقدير العبء المستقبلي لمرض السرطان ودعم التخطيط لبرامج التأمين الصحي الخاصة بمرضى السرطان، بما في ذلك الاتفاقية الحكومية مع مركز الحسين للسرطان لتغطية علاج الأردنيين ممن تزيد أعمارهم عن 60 عامًا والأطفال دون سن 20 عامًا.

**الرؤية المستقبلية للسجل الوطني الأردني للسرطان**

يطمح السجل الوطني الأردني للسرطان إلى تعزيز دوره كمصدر وطني مرجعي للبيانات السرطانية من خلال تطوير نظام متكامل وحديث لتسجيل السرطان، يعتمد على معايير وبروتوكولات موحدة في جمع البيانات وإدارتها وتحليلها، بما يضمن توفير معلومات دقيقة وموثوقة تدعم التخطيط الصحي، والبحث العلمي، وتحسين خدمات رعاية مرضى السرطان في المملكة.

وفي إطار تطوير العمل المؤسسي، يعمل السجل على تحديث وإصدار الدليل الإرشادي الوطني لتسجيل السرطان، ليكون مرجعًا علميًا وعمليًا موحدًا يوضح آليات وإجراءات تسجيل البيانات السرطانية ومعايير إدارتها وتحليلها، بما يسهم في توحيد إجراءات العمل ورفع كفاءة العاملين في مجال التسجيل السرطاني والسجلات الطبية.

كما يسعى السجل إلى تطوير قدرات الكوادر العاملة في مجال تسجيل السرطان من خلال دعم برامج التدريب والتأهيل المهني، وتشجيع الحصول على الشهادات التخصصية المعتمدة في إدارة بيانات الأورام، بما يعزز جودة البيانات ودقة التحليل ويدعم تطوير خدمات الرعاية والتخطيط الصحي المرتبط بالسرطان.

ويولي السجل أهمية خاصة لتعزيز التوعية الصحية المجتمعية من خلال إعداد ونشر مواد تثقيفية باللغة العربية تتناول عوامل الخطورة المرتبطة بالسرطان، وأهمية الوقاية والكشف المبكر، بما يسهم في رفع مستوى الوعي الصحي لدى أفراد المجتمع.

كما يركز السجل على الاستفادة من البيانات الوطنية للسرطان في دعم الدراسات والأبحاث العلمية، وتحليل الاتجاهات الوبائية، ودراسة عوامل الخطورة ونتائج العلاج، بهدف دعم متخذي القرار وتطوير السياسات والبرامج الوطنية الخاصة بالوقاية والكشف المبكر ومكافحة السرطان.

ويواصل السجل الوطني الأردني للسرطان العمل على تحديث الأنظمة الإلكترونية والتقنيات المستخدمة في إدارة البيانات بصورة مستمرة، بما يواكب التطورات الحديثة في مجال تسجيل السرطان والمعلوماتية الصحية، ويعزز كفاءة النظام الوطني للترصد السرطاني ودوره في دعم جهود مكافحة السرطان على المستوى الوطني والإقليمي.

**السجل الوطني للسرطان**

أنشئ السجل الوطني للسرطان كوحدة في وزارة الصحة بموجب قرار وزاري وترتبط إداريا بمعالي الوزير في عام 1996 حيث كانت حالات السرطان الخبيث قبل ذلك تسجل من مستشفى واحد يتبع لوزارة الصحة. بعد ذلك أصبحت جميع حالات السرطان المكتشفة والمشخصة في الأردن ومن كافة القطاعات الصحية والمختبرات ترصد من خلال السجل

الوطني للسرطان وذلك باتباع أسلوبين في عملية الرصد لتلك الحالات أولها أسلوب الرصد الذاتي لحالات السرطان من خلال التبليغ الإلكتروني باستخدام برنامجCanReg5 ، حيث تقوم المستشفيات والمختبرات والجهات المعنية بتعبئة البيانات الخاصة بالحالات السرطانية في البرنامج، ومن ثم إرسال النسخة الإلكترونية مباشرة إلى السجل الوطني للسرطان عبر البريد الإلكتروني. ويُشرف على هذه العملية ضباط ارتباط أكفاء ومدربين موزعين على جميع المستشفيات في القطاعين العام والخاص، ومستشفيات الخدمات الطبية الملكية، ومستشفيات الجامعات، بالإضافة إلى مختبرات القطاعين العام والخاص. أما الطريقة الثانية المتبعة في رصد حالات السرطان في الأردن فهي الرصد النشط، حيث يقوم فريق من كادر السجل الوطني بزيارة المستشفيات والمختبرات والجهات ذات العلاقة لاستنباط الحالات المشخصة وإرسالها إلكترونيًا إلى السجل الوطني للسرطان.
فيما بعد تتم عملية مراجعة وتنقيح للمعلومات والبيانات وعملية الترميز باستخدام (ICD-O3) ومن ثم إدخال الحالات إلى نظام رصد في الحاسوب باستعمال برنامج معد خصيصاً من قبل معهد البحوث السرطانية IARC (إحدى فروع منظمة الصحة العالمية WHO) ويراعي أعلى درجات الدقة والحرص لتجنب ازدواجية في الحالات المدخلة وذلك من خلال عدة آليات ومستويات من الرقابة الذاتية والداخلية وأيضاً الرقابة الخارجية على مجريات عمل وإنجازات السجل.

بعد الانتهاء من إدخال كافة الحالات المشخصة للفترة الزمنية المحددة (سنة) يتم تحليل تلك المعلومات باستخدام برامج التحليل الإحصائية ليصار بعد ذلك إلى إعداد التقرير ومن ثم نشر التقرير السنوي الذي يبين نمطية وانتشار مرض السرطان في الأردن حيث يبين التقرير وجود حالات السرطان من حيث مكان الإصابة والعمر والجنس والتوزيع الجغرافي. كما يتم إعداد جزء خاص بسرطانات الأطفال وآخر خاص بالسرطان بين غير الأردنيين في الأردن، ويتم أيضا إعداد جزء خاص بالوفيات بسبب السرطان موزعة حسب أنواع السرطانات والفئات العمرية والجنس وكذلك التوزيع الجغرافي.

وقد عمل السجل على إيجاد قاعدة بيانات للمرضى حسب المعايير العالمية المتبعة في استنباط وترميز واستعمال هذه البيانات في رفد متخذي القرار وجميع المهن في مجال مرض السرطان على جميع المستويات والأصعدة (إدارية وتخطيط وعلمية...). وقد عمل السجل على إصدار تقرير سنوي لوجود الحالات السرطانية المكتشفة في فترة عام واحد Incidence Cancer وحفاظا على أعلى درجات الدقة في جمع وترميز الحالات السرطانية، ويقوم السجل وبشكل دوري بعقد العديد من الدورات التدريبية لضباط الارتباط العاملين بجمع واستنباط البيانات من سجلات السرطان. وحيث إن السجل الوطني للسرطان من الأوائل والرواد في السجلات المجتمعية (Community Based Registry) في الإقليم فانه يقوم بتدريب كوادر من الدول العربية.

في عام 2008 تم إلغاء مديرية مكافحة السرطان واستحدث قسم مكافحة السرطان وتم الإبقاء على وحدة السجل الوطني للسرطان ليتبع كل منهما إلى مديرية الإمراض غير السارية حيث يتابع قسم مكافحة السرطان والسجل الوطني للسرطان أعماله من تسجيل

الحالات السرطانية المكتشفة وتطبيق نشاطات الاستراتيجية الوطنية في مجال مكافحة السرطان في الأردن. قدم السجل العديد من الأوراق العلمية في الموتمرات المحلية والدولية وقد أصبحت قاعدة البيانات المتراكمة لدى السجل مقصد العديد من الباحثين لإجراء الدراسات والبحوث العلمية.

## ملخص وبائية السرطان في الأردن لعام 2024

يُعد السرطان من أبرز التحديات الصحية في الأردن والعالم، حيث تشهد معدلات الإصابة به ارتفاعًا مستمرًا، مما يزيد من العبء الصحي والاجتماعي والاقتصادي على المجتمع. ويهدف تسجيل حالات السرطان وتحليلها إلى توفير بيانات دقيقة تساعد في التخطيط الصحي، وتطوير برامج الوقاية والكشف المبكر، وتحسين خدمات التشخيص والعلاج.

يمثل هذا التقرير الإصدار التاسع والعشرين من التقرير السنوي للسرطان في المملكة الأردنية الهاشمية، ويستعرض بيانات حالات السرطان التي تم تشخيصها خلال عام 2024.

**إجمالي حالات السرطان**

بلغ العدد الإجمالي لحالات السرطان الجديدة المسجلة خلال عام 2024 نحو 12,037 حالة، منها 9,792 حالة بين الأردنيين، أي ما نسبته 81.3% من مجموع الحالات المسجلة.

ومن بين الحالات الأردنية:

- 4441 حالة لدى الذكور (45.4%) .
- 5,351 حالة لدى الإناث (54.6%) .

وبلغت نسبة الذكور إلى الإناث 0.8 : 1، فيما بلغ الوسيط العمري للإصابة 58 عامًا.

**معدلات الإصابة بالسرطان**

بلغ معدل الحدوث الخام لجميع السرطانات بين الأردنيين:

- 120.1 لكل 100 ألف من السكان.
- 107 لكل 100 ألف بين الذكور.
- 133.8 لكل 100 ألف بين الإناث.

أما معدل الحدوث المعياري حسب العمر (ASR) والمعدل وفق سكان العالم القياسي (Segi 1960)، فقد بلغ:

- 170.6 لكل 100 ألف من السكان.
- 159 لدى الذكور.
- 182.2 لدى الإناث.

**توزيع الحالات حسب الفئات العمرية**

أظهرت البيانات أن:

- 45.5% من الحالات سُجلت بين الأشخاص بعمر 60 سنة فأكثر .
- 51.6% من الحالات كانت ضمن الفئة العمرية 15–59 سنة .
- 2.9% من الحالات سُجلت لدى الأطفال أقل من 15 سنة .

**أكثر أنواع السرطان شيوعًا بين الأردنيين (كلا الجنسين)**

جاءت أكثر خمسة أنواع شيوعًا على النحو الآتي:

1. سرطان الثدي: 2,076 حالة (21.2%)
2. سرطان القولون والمستقيم: 1,130 حالة (11.5%)
3. سرطان الرئة والقصبات الهوائية والقصبة الهوائية: 673 حالة (6.9%)
4. سرطان المثانة: 464 حالة (4.7%)
5. سرطان البروستاتا: 436 حالة (4.5%)

**أكثر أنواع السرطان شيوعًا لدى الذكور الأردنيين**

1. سرطان القولون والمستقيم: 624 حالة (14.1%)
2. سرطان الرئة والقصبات الهوائية والقصبة الهوائية: 521 حالة (11.7%)
3. سرطان البروستات: 436 حالة (9.8%)
4. سرطان المثانة: 401 حالة (9%)
5. اللوكيميا: 257 حالة (5.8%)

**أكثر أنواع السرطان شيوعًا لدى الإناث الأردنيات**

1. سرطان الثدي: 2,056 حالة (38.4%)
2. سرطان القولون والمستقيم: 506 حالات (9.5%)
3. سرطان الغدة الدرقية: 330 حالة (6.2%)
4. سرطان جسم الرحم: 193 حالة (3.6%)
5. اللوكيميا: 178 حالة (3.3%)

**التوزيع الجغرافي للحالات**

تركزت غالبية حالات السرطان في إقليم الوسط، حيث بلغت نسبتها 63.7% من إجمالي الحالات، وكانت محافظة العاصمة عمّان تمثل 46.2% من مجموع الحالات.

كما توزعت الحالات على الأقاليم الأخرى كما يلي:

- إقليم الشمال: 17 %
- إقليم الجنوب: 6.7 %

**سرطان الأطفال (15 > سنة )**

بلغ عدد حالات السرطان لدى الأطفال أقل من 15 سنة:

- 282 حالة
- بنسبة 2.9% من إجمالي الحالات بين الأردنيين

وبلغت نسبة الذكور إلى الإناث 1.2 : 1.

وكانت أكثر أنواع السرطان شيوعًا لدى الأطفال:

1. اللوكيميا: 94 حالة (33.3%)
2. أورام الدماغ والجهاز العصبي: 36 حالة (12.8%)
3. لمفوما هودجكن: 23 حالة (8.2%)
4. سرطانات العظام: 22 حالة (7.8%)
5. سرطانات الأنسجة الرخوة والأنسجة الضامة: 21 حالة (7.4%)

**الخلاصة**

تُظهر نتائج التقرير استمرار ارتفاع عبء السرطان في الأردن، مع تركز واضح للحالات في الفئات العمرية الأكبر سنًا، وارتفاع نسب الإصابة لدى الإناث نتيجة الانتشار المرتفع لسرطان الثدي. كما يبرز سرطان القولون والمستقيم كأحد أكثر السرطانات شيوعًا لدى الجنسين.

وتؤكد هذه النتائج أهمية تعزيز برامج الوقاية والكشف المبكر، ورفع مستوى الوعي الصحي، وتطوير خدمات التشخيص والعلاج، إضافة إلى دعم نظام تسجيل السرطان بما يسهم في تحسين التخطيط الصحي وتقليل العبء الناتج عن المرض في المملكة.