Qatar Health Report 2022-2023

Foreword

The Qatar Health Report 2022–2023 marks the fourth edition in our ongoing efforts to provide regular, evidence-based updates on the health profile of Qatar and the performance of its healthcare system. This report presents the latest health indicators and trends, enabling health and government authorities to identify priority areas for action and informed decision-making. It also serves as a foundation for evaluating the impact of interventions aimed at improving health and well-being across the population.

Promoting the health of Qatar's population requires a thorough understanding of the current health landscape, including the distribution of diseases, associated risk factors, and the resources available to address them. Reliable and comprehensive data remain essential for designing effective policies and interventions. In an era of rapid technological advancement and increasing data availability, leveraging secure, interoperable platforms and advanced analytics is critical to ensure that health decisions are timely, accurate, and impactful.

The findings in this report will guide the development of future national strategies and contribute to Qatar's international reporting obligations, allowing for global comparisons and monitoring of progress toward international health commitments. They reflect our continued dedication to transparency, accountability, and evidence-based planning.

I extend my sincere appreciation to all those who contributed to the preparation of this report, including the teams involved in data collection, validation, and analysis. While significant progress has been made, there is still much work ahead to enhance data quality, expand coverage, and integrate innovative technologies for health information management. With the commitment and professionalism of our teams, I am confident that we will continue to strengthen our health system and deliver tailored, effective solutions to meet the evolving needs of our population.

Together, let us continue our journey toward a healthier, more resilient Qatar.

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Acronyms and Abbreviations

UN: United Nations

SDGs: Sustainable Development Goals

PSA: Planning and Statistics Authority

ASMR: Age Specific Mortality Rate

ASFR: Age Specific Fertility Rate

TFR: Total Fertility Rate

ICD-10: International Classification of Diseases, Tenth Revision

GCC: Gulf Cooperation Council

OECD: Organization of Economic Co-operation and Development

EU28: European Union 28 Member States

WHO: World Health Organization

NCD: Non-Communicable Diseases

WHO EMRO: World Health Organization Eastern Mediterranean Regional Office

SBP: Systolic Blood Pressure

DBP: Diastolic Blood Pressure

BMI: Body Mass Index

AMR: Adult Mortality Rate

g/dL: Grams per Deciliter

sq.km: Square Kilometer

GYTS: Global Youth Tobacco Survey

Definitions:[1]

1. **Live Birth:** Live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which after such separation breathes or shows any other evidence of life such as: beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is detached; regardless of gestational age.
2. **Crude Birth Rate:** The number of live births during a particular year per 1000 mid-year total population.
3. **General Fertility Rate:** The number of live births per 1000 mid-year female population of childbearing age (15-49).
4. **Age specific fertility rate:** The annual number of live births per 1000 women of a specified age
5. **Total fertility rate**: It is obtained by summing the age-specific fertility rates for single years of age over the childbearing span and it is computed on a "per woman" basis. It states the total number of children an average woman would bear during her lifetime if she were to bear children throughout her reproductive years at rates specified by the schedule of age-specific fertility rate for the particular year or time interval. It assumes that this hypothetical woman does not die before the end of her childbearing age (i.e. age 50).
6. **Crude Death Rate:** The total number of deaths at a certain area during a specific year (or annual average of an interval period) divided by the mid-year (or mid-period) estimated population living in that area during that year (or period).
7. **Infant Mortality Rate:** Number of infant deaths aged less than one year in a specific year, per 1000 live births during the same year.
8. **Neonatal Mortality Rate:** Number of infant deaths aged less than 28 days in a specific year, per 1000 live births during the same year.
9. **Maternal Mortality Rate:** The annual number of deaths of women from pregnancy related causes divided by the number of births per 100.000 live births.
10. **Child Mortality Rate:** The child mortality rate is the probability of dying per 1,000 live-births) between the first and the fifth birth dates.

[1] For more details refer to the following link (Topics Listing (NPC.gov.qa))

11. **Age-Specific Mortality Rate:** Age -specific death rate (ASDRs) can be defined as the rate between number of deaths in a particular age group and total number of population of the age group.

Introduction:

The main purpose of this report is to learn about the health of the population, contributing factors to health risks and outcomes and assessing the available resources to improve the health status of the country. Public health is a complex and multifaceted field that encompasses a wide range of factors influencing the well-being and health outcomes of populations. From the moment of birth to the delivery of essential healthcare services, various determinants play a crucial role in shaping the overall health status of individuals and communities. This report delves into critical aspects of public health, exploring key indicators and trends that shed light on the dynamics of population health. Through a comprehensive examination of birth outcomes, fertility rates, life expectancy, mortality patterns, morbidity profiles, health risk factors, healthcare workforce dynamics, and service delivery mechanisms, this report aims to provide a comprehensive analysis of the factors that contribute to the health and well-being of populations. By delving into these interconnected themes, we seek to gain a deeper understanding of the challenges and opportunities in promoting public health and advancing the overall health outcomes of the population and providing valuable insights and figures for policymakers, healthcare professionals, and stakeholders to improve overall population health and inform evidence-based decision-making.

In the first chapter, the report provides an overall description of the socio-economic factors of the population as well as the demographic characteristics of the citizens and residents in the country.

The second chapter, the report focuses on birth, analyzing birth rates, patterns, and trends within the population. It explores the implications of these factors on population dynamics and provides a foundation for understanding the overall health of the population. Also, it delves into fertility and study their impact on population growth. It explores trends and changes in fertility rates.

Moving forward, the third chapter explores life expectancy and mortality by cause of death. It investigates the factors influencing life expectancy and analyzes mortality rates, providing valuable insights into the health outcomes and challenges faced by the population.

The fourth chapter addresses morbidity, specifically focusing on non-communicable diseases (NCDs) and communicable diseases (CDCs). It examines the prevalence of these diseases within the population and explores the healthcare systems' response to managing and preventing them.

The fifth chapter investigates various health risk factors that impact population health. These factors include low birth weight, breastfeeding practices, anemia, malnutrition, physical inactivity, and tobacco use. By understanding the prevalence and implications of these risk factors, the report aims to identify areas for targeted interventions and policies.

The sixth chapter describes the distribution of the health workforce, analyzing the availability, distribution, and capacity of healthcare professionals. It explores the challenges faced in recruiting and retaining healthcare workers.

Finally, the last chapter examines service delivery, investigating the accessibility and quality of healthcare services within the population. It explores different models of service delivery and highlights innovative approaches to enhance healthcare access and delivery.

Executive Summary:

An accurate and up-to-date population-level health data at the national level is critical to meet the major health priorities of the country. This report provides an overview of the health assessment for Qatar focusing on the following areas:

Population Characteristics: Qatar has a 0% population below the international poverty line. The Qatari population pyramid shows a growing population, while the non-Qatari pyramid has a high percentage of males aged 20-45 due to immigration.

Birth and Fertility Rates: The crude birth rate slightly decreased from 9 per 1,000 in 2022 to 8.9 per 1,000 population in 2023. Qatari women have a higher total fertility rate (2.4 in 2023) compared to non-Qatari women (1.4 in 2023).

Life Expectancy: Qatar is among the highest life expectancy in the MENA region at 81.9 years in 2023.

Mortality: The crude death rate decreased from 90.2 deaths per 100,000 in 2022 to 83.3 in 2023. Diseases of the circulatory system, external causes of deaths, neoplasms and the diseases of the respiratory system are the leading causes of death.

Under 5- and 1-year mortality: The under-5 mortality rate decreased from 11.1 deaths per 1,000 live births in 2001 to 7.0 deaths per 1,000 in 2023. The same trend was also observed for infant mortality, which decreased from 9.2 per 1,000 live births in 2001 down to 5.1 per 1,000 live births in 2023.

Maternal deaths: Qatar has a very low maternal mortality deaths with only 1 death in 2023, meeting the global SDG 3 goal.

Non-Communicable Diseases: Cancer incidence rates increased from 2020 to 2021, which may be attributed to a significant rise in screening activities. Breast cancer remained the most commonly diagnosed cancer among females, while colorectal cancer was the most prevalent among males.

Communicable Diseases: Tuberculosis incidence remains stable at 29.7 per 100,000 in 2022 and 2023. New HIV cases increased from 101 cases in 2022 to 119 cases in 2023.

Risk factors: The proportion of low birth weight for infants in Qatar has slightly increased from 2022 to 2023. The total proportion of exclusively breastfed infants under 6 months of age in Qatar increased from 37.9% in 2022 to 38.7% in 2023. In 2023, 100% of residents had access to improved drinking water and sanitation.

Health workforce and service delivery: The number of healthcare professionals and facilities as well as the number of primary health care facilities increased from 2022 to 2023.

1. Context

1.1 Socio-Economic

Socioeconomic status, a combination of economic and sociological measures, is used to compare individuals in a population on the basis of income, education and occupation. It is a widely recognized determinant of health status (Flaskerud & Carol, 2012). Universal education and eradication of poverty are both global priorities under the UN SDGs (United Nations [UN], 2015) (GOAL 1 "No Poverty" and GOAL 4 "Quality Education").

Literacy rate, net primary school enrolment and percentage of the population below the international poverty line are examples of socioeconomic determinants of a country or population. Literacy rate refers to the number of literate people in a given age group as a percentage of the total population of its respective age group. Net primary school enrolment corresponds to the number of children enrolled in primary school of a specific age group that officially corresponds to primary schooling, divided by the total population of the same age group. Both these indicators refer to the education level of a particular country as well as access to education (UN, 2009).

In Qatar, in 2023, youth literacy rate among adolescents and young adults aged 15 to 24 years was 99.8 (Table 1.1.1). Table 1.1.1 also shows the net primary school enrolment among male and female in Qatar for the year 2023. The net primary school enrolment was 90.9 for males and 92.0 for females per 100 school-age children (Table 1.1.1).

The population below the international poverty line represents the part of the population living in poverty, defined as having an income of less than 2.15$ a day (World Bank, 2022). In Qatar, 0% of the population was living below the international poverty line in 2023 (Table 1.1.1). This has been reinforced by Law No. 17 of 2020 on Setting the Minimum Wage for Workers and Domestic Workers.[2]

Socioeconomic factors result in different exposure to risk factors of developing diseases and play a role in determining the health status of a population of a country.

Review of the literature showed that adults with higher educational attainment tend to live longer and healthier lives than their less educated peers, with significant and growing disparities in life expectancy and overall health outcomes (Zajacova & Lawrence, 2018).

[2] Statement from the Ministry of Administrative Development, Labour and Social Affairs on New Minimum Wage and Labour Mobility Law - Government Communications Office

Table 1.1.1: Literacy rate ages 15 to 24 years, Net primary school enrolment ratio and Population below the international poverty line, by gender 2022-2023

Year	Youth Literacy rate (15-24 years)			Net primary school enrolment (Ratio per 100 school-age children)			Population below the international poverty line
	Male	Female	Both sexes	Male	Female	Both sexes	
2022	99.0	100.0	99.4	86.8	88.1	87.5	0%
2023	99.7	100.0	99.8	90.9	92.0	91.4	0%

Source: Ministry of Development and Planning Statistics

1.2 Demography

Demographic characteristics of a population impact its health needs and drive the allocation of healthcare resources. Studying the size, age structure, gender ratio, spatial distribution and temporal changes of the population as related to birth, migration, growth, and death are all important determinants for system planning as individuals have varying health needs in the different stages of life (Jahan et al., 2014).

Qatar has had the world's fastest growing population over the 2010-2015 period, according to estimations from the World Population Prospects: the 2017 Revision (United Nation,2017). According to the report, the average annual rate of population changes in Qatar during 2010-2015 was 6.6, closely followed by Oman (6.5), Lebanon (6), Kuwait (5.4) and Jordan (4.9). The Qatar's average annual population growth rate from 2016 to 2023 was 2.90%, indicating moderate growth. In comparison, Jordan's growth rate was lower at 2.26%, while Kuwait's rate was similar at 2.95%. Lebanon, however, had a negative growth rate of -1.43%, showing a decline in its population over the same period (World Population Prospects, 2023).

In 2017, Qatar's population was 2,724,606 and reached 2,799,202 in 2019. With a growth rate of 1.2% from 2019, the population increased to 2,833,679 in 2020. However, between 2020 and 2021, the population decreased by 3.1%, reaching 2,748,162 individuals. This marked the first decline in population in more than a decade. In 2022, the population rebounded with a growth rate of 6.5%, reaching 2,932,241 (Table 1.2.1). The upward trend continued in 2023, with a population of 3,063,005, reflecting a 4.4% growth rate (Figure 1.2.8).

The population pyramid for the State of Qatar has a unique shape (Figure 1.2.1, Figure 1.2.2, and Figure 1.2.3). It is largely driven by disproportionate share of working age males in the population with expatriates making up a large proportion of the total population.

The Qatari population pyramid (Figure 1.2.3) shows a growing population pyramid with a large percentage of people in the younger age groups. The expatriate population pyramid (Figure 1.2.4) reflects a high proportion of non-Qatari male, mainly aged 20 to 50.

A similar population pyramid shape is found in other countries of the GCC such as UAE and Oman (UN, World population prospects 2024).

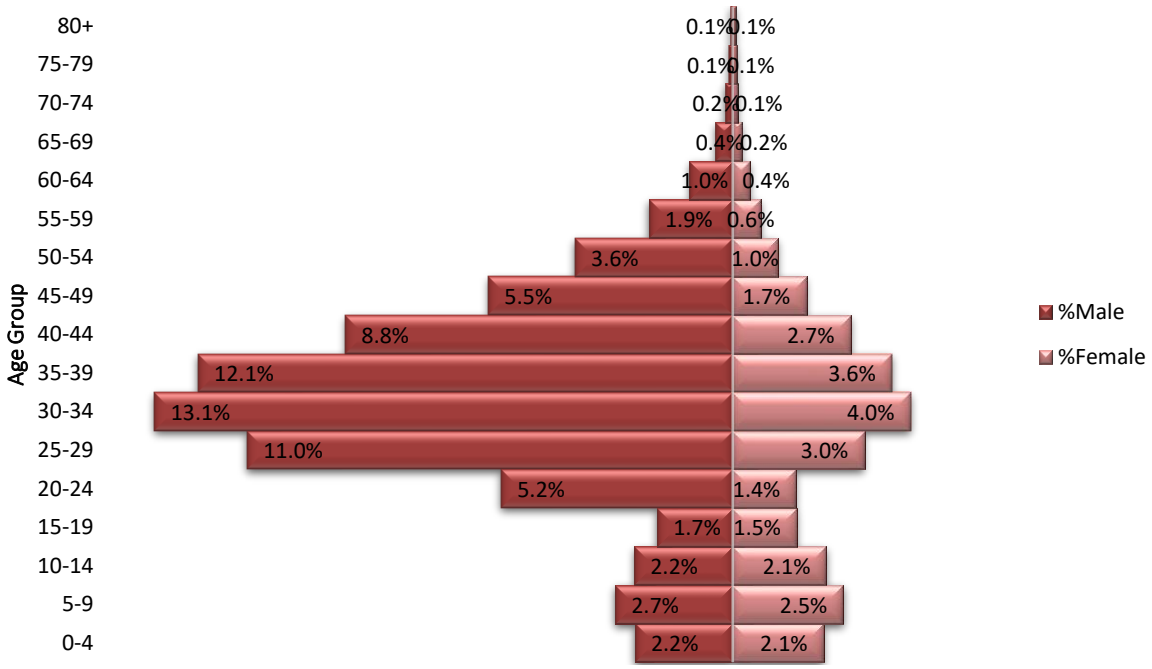
Qatar's population pyramid is the result of a large influx of working-age expatriates combined with a high fertility rate among the Qatari female population (2.8 births per Qatari woman in 2022 which slightly decreased to 2.4 births in 2023, Table 2.3.1). In 2023, Qatar's demographics profile showed that 14.1% of the population was aged 15 or less and 84.5% of the population was aged 15-64 and 1.4% of the population was aged 65 and above (Figure 1.2.6, Figure 1.2.7).

Table 1.2.1: Total population, by age group, gender, and year, 2022 to 2023

Age	2022			2023		
	Male	Female	Total	Male	Female	Total
0	15,721	14,765	30,486	16,127	15,078	31,205
1-4	64,963	60,534	125,497	58,018	55,374	113,392
5-9	78,047	73,669	151,716	78,732	74,994	153,726
10-14	65,378	62,414	127,792	68,286	65,159	133,445
15-19	50,155	42,876	93,031	56,605	45,366	101,971
20-24	153,893	42,394	196,287	178,616	45,996	224,612
25-29	322,939	87,590	410,529	329,496	93,450	422,946
30-34	384,602	118,382	502,984	375,049	123,211	498,260
35-39	355,591	105,957	461,548	370,531	116,381	486,912
40-44	257,648	78,477	336,125	278,010	86,088	364,098
45-49	162,375	49,060	211,435	172,155	54,234	226,389
50-54	104,819	30,141	134,960	109,695	32,488	142,183
55-59	55,650	18,613	74,263	59,913	20,087	80,000
60-64	28,628	11,749	40,377	29,865	12,403	42,268
65-69	11,382	6,119	17,501	14,114	7,136	21,250
70-74	5,120	3,468	8,588	6,084	4,202	10,286
75-79	2,638	2,805	5,443	3,474	2,905	6,379
80+	1,787	1,892	3,679	1,776	1,907	3,683
Total	2,121,336	810,905	2,932,241	2,206,546	856,459	3,063,005

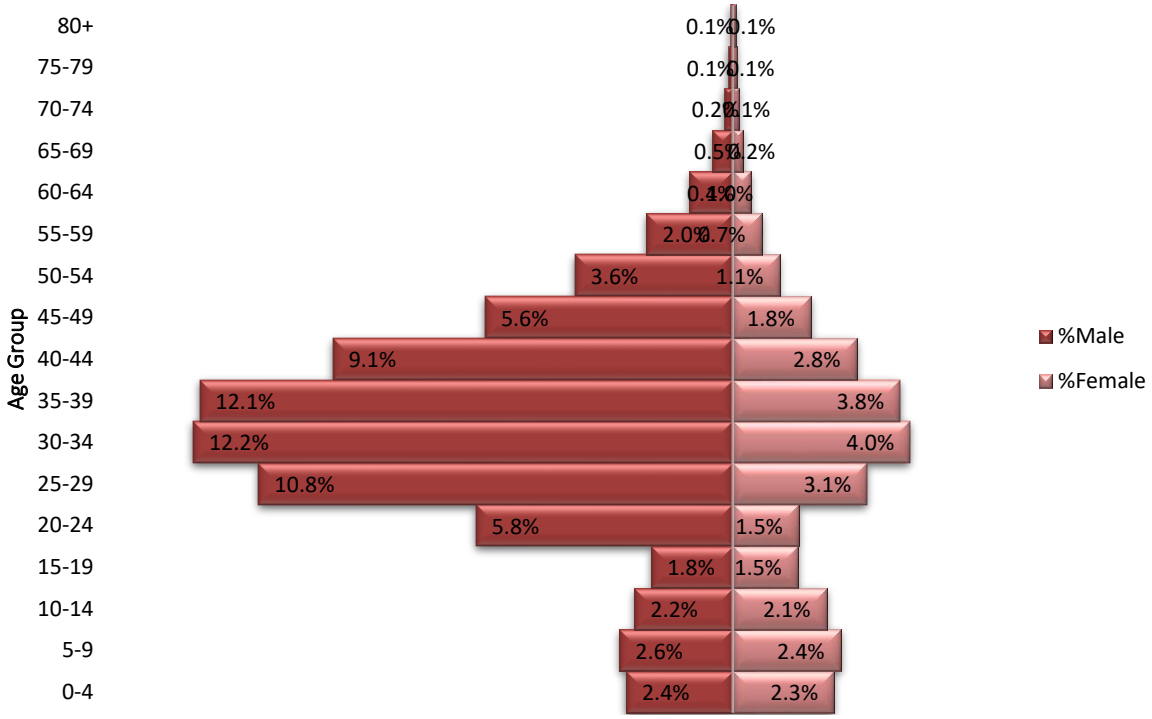
Source: Planning and Statistics Authority

Figure 1.2.1: Population pyramid for all population, by age group and gender, 2022



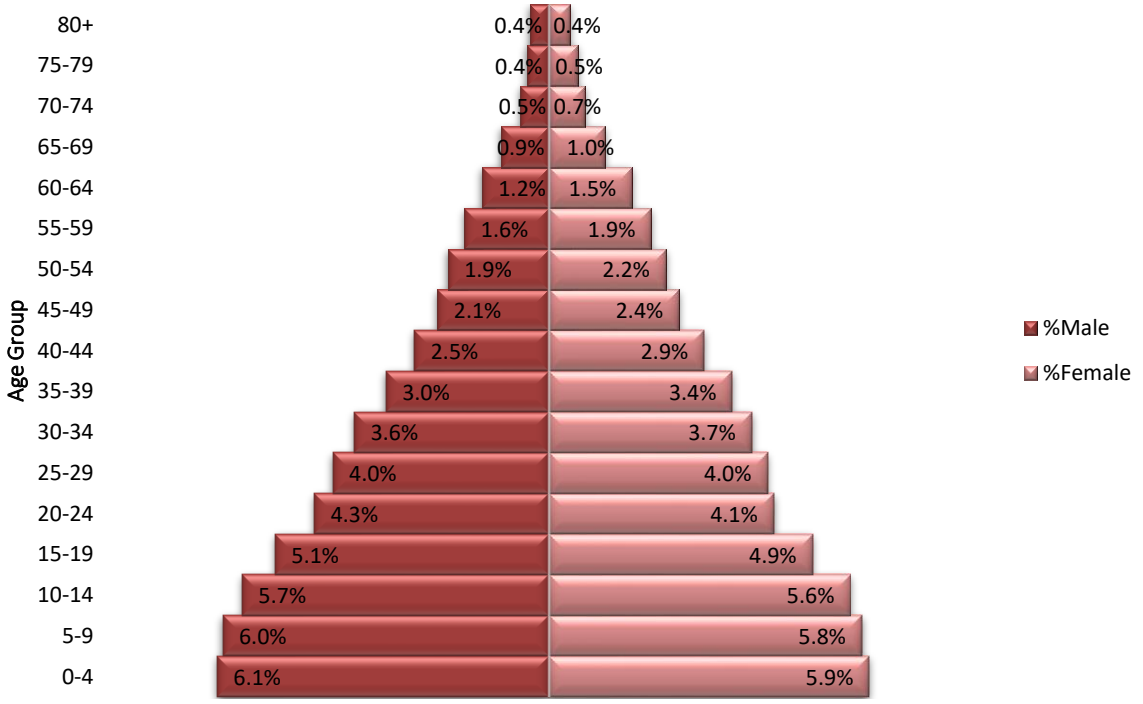
Source: Planning and Statistics Authority

Figure 1.2.2: Population pyramid for all population, by age group and gender, 2023



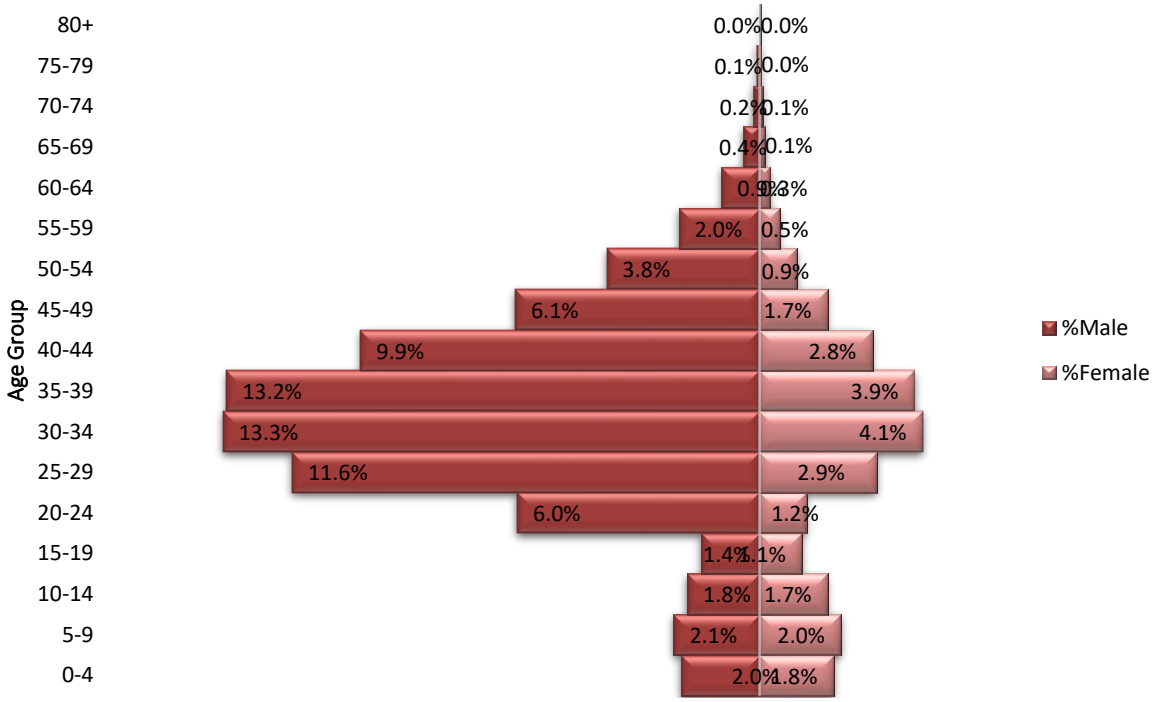
Source: Planning and Statistics Authority

Figure 1.2.3: Population pyramid of Qatari nationals, by age group and gender, 2023



Source: Planning and Statistics Authority

Figure 1.2.4: Population pyramid of non-Qatari residents, by age group and gender, 2023

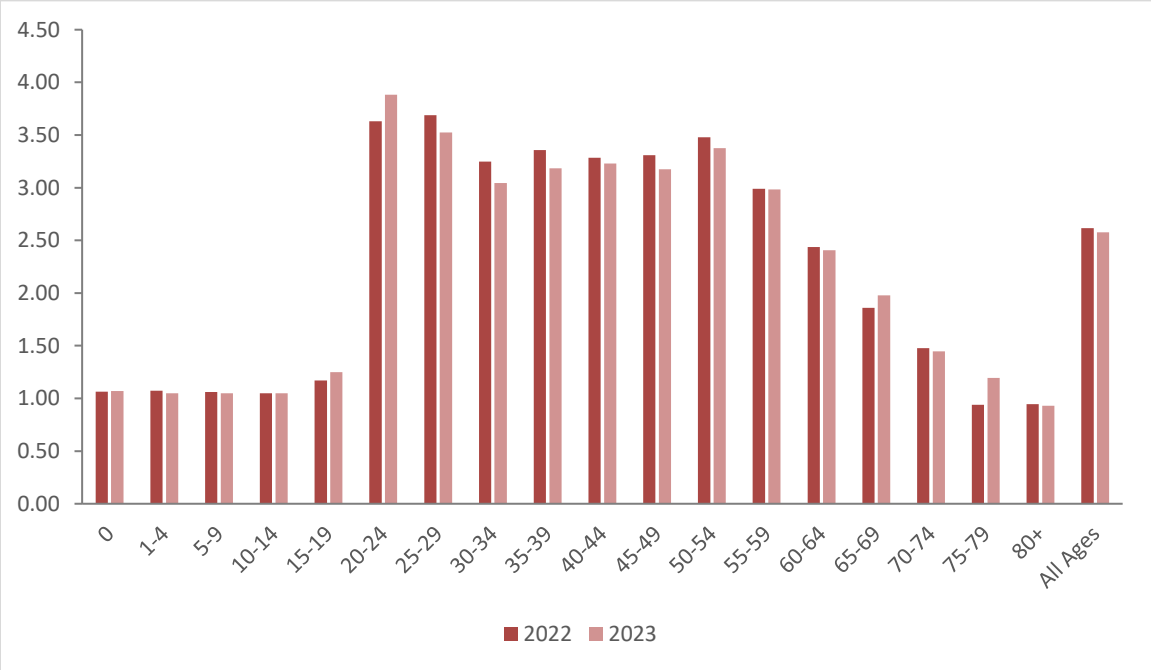


Source: Planning and Statistics Authority

The population gender ratio (number of males per 100 females) is a useful indicator for assessing health needs, the prevalence of gender related behaviors and other determinants (Phillips, 2011). Certain behaviors are more prominent in one gender compared to the other, for instance, dangerous driving of young males leading to road traffic injuries (Croisant, Haque Laz, Rahman & Berenson, 2013).

In 2023, Qatar's gender ratio (M/F) was high in the 20-64 years age group with values ranging between 2.4 and 3.9 over the past 2 years period (Figure 1.2.5). In 2023, Qatar is estimated to have the highest population gender ratio (males per 100 females) in the world and this is mainly due to the high proportion of non-Qatari working-age males (United Nation, 2024). In fact, all the countries of the GCC are estimated to have a position among top 7 highest gender ratio countries in the worldwide (United Nation,2024).

Figure 1.2.5: Gender ratio, by age group and year, 2022 to 2023



Source: Planning and Statistics Authority

Note: Ratio is males to females. For example, X males to 1 female.

Dependency ratio is a measure of the pressure on the working population (defined as people aged 15 to 64 years), to support the dependent population (defined as people aged less than 15 years and aged 65 and above). Higher dependency ratio refers to more financial stress on the "productive" group of people whereas low dependency ratio is interpreted as having sufficient working people providing economic support to the dependent population (OECD, 2007).

Table 1.2.2 shows the total dependency ratio, calculated by dividing the number of dependents over the number of the working population group. It shows that the dependency ratio of the workforce in Qatar, which was 19.12 in 2022 decreased to 18.28 in 2023. After several years of increase, a dependency ratio in Qatar showed a decline between 2022 and 2023. Historically, the dependency ratio was 17.35% in 2017, rising to 17.78% in 2018 and further increasing to 18.19% in 2019. In 2020, the ratio reached 20.48%, and in 2021, it slightly increased to 20.84%. However, the ratio decreased to 19.12% in 2022 and further declined to 18.28% in 2023.

The low values are explained by the disproportional increase in the working group population, 15-64 years old, compared to the dependent groups (group of people aged less than 15 years and the group of people aged above 65 years) (Table 1.2.3). Over the two years 2022-2023, whereas the number of dependents under 15 years have decreased by 3,723, for the dependents over the age of 65 years, this number has increased by 6,387.

Despite this, the decrease in the dependency ratio can be explained by the increase in the population of non-dependents, which is reflected in the decrease of the total dependency ratio from 19.12% in 2022 to 18.28% in 2023

Table 1.2.2: Dependency ratio, by year, 2022-2023

Years	2022	2023
Total Dependency ratio	19.12%	18.28%

Source: Planning and Statistics Authority

Table 1.2.3: Dependent (<15 years and >65 Years) and non-dependent (15 to 64 years) age groups of the State of Qatar population, by year, 2022-2023

Age *Years*	2022	2023
Less than 15	435,491	431,768
15-64 years	2,461,539	2,589,639
65 years and above	35,211	41,598

Source: Planning and Statistics Authority

The total dependency ratio can be separated further into child dependency ratio and aged dependency ratio.

In Qatar, in 2023, Qatari children age < 15 years (making 35.06% of the Qatari population) dependency ratio was 58.25% of the workforce whereas the non-Qatari children (making 11.44% of the non-Qatari population) dependency ratio was 13.05% of the workforce (Table 1.2.4, Figure 1.2.6 and 1.2.7). The total child dependency ratio was 16.67% with the age group of children aged less than 15 years of age making 14.10% of the total population of the State of Qatar (Table 1.2.4, Figure 1.2.6 and 1.2.7).

In Qatar, in 2023, Qatari elderly (making 4.75% of the Qatari population) dependency ratio was 7.90% of the workforce as opposed to the non-Qatari elderly (making 0.93% of the non-Qatari

population) dependency ratio was 1.06% of the workforce (Table 1.2.4, Figure 1.2.6 and 1.2.7). The total aged dependency ratio was 1.61% with the age group of elderly above 65 years of age making 1.36% of the total population of the State of Qatar (Table 1.2.4, Figure 1.2.6 and 1.2.7).

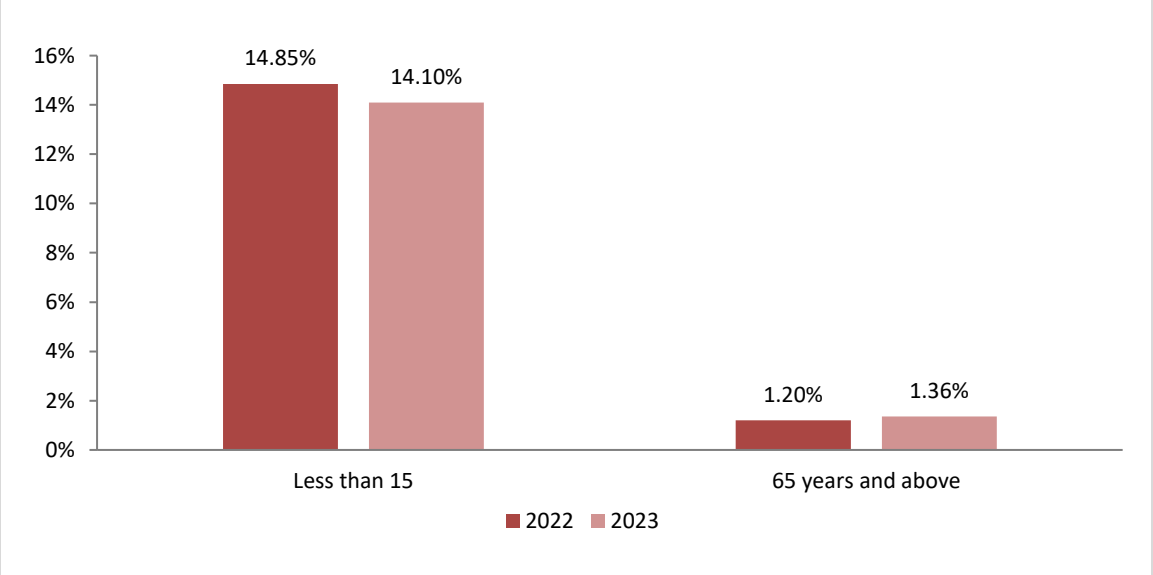
The World Bank estimates a global dependency ratio of 55% of the workforce population in 2023 (World Bank, 2024). The relatively low dependency ratio of Qatar (18.28% in 2023) is explained by the influx of young working-age expatriates making the large proportion of young adults, as previously shown in the population pyramid of non-Qatari citizens in Figure 1.2.4. However, among Qatari, in the age group less than 15 years, the child dependency ratio was 58.25% of the workforce population. It is significantly higher than Qatar's total dependency ratio and high compared to the elderly dependency ratio and the non-Qatari child dependency ratio.

Table 1.2.4: Population proportion and dependency ratio for age groups <15 and 65+ years, by nationality, 2023

Age	Qatari		Non-Qatari		Total	
	Population proportion	**Dependency Ratio**	**Population proportion**	**Dependency Ratio**	**Population proportion**	**Dependency Ratio**
Less than 15 years	35.06%	58.25%	11.44%	13.05%	14.10%	16.67%
65 years and above	4.75%	7.90%	0.93%	1.06%	1.36%	1.61%

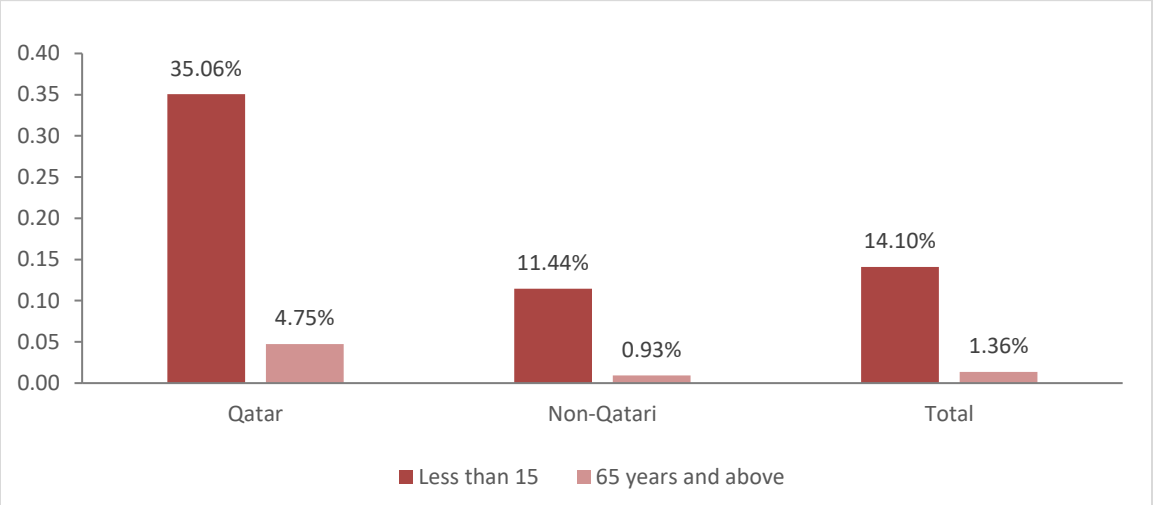
Source: Planning and Statistics Authority

Figure 1.2.6: Percent of population in the age groups of 15 years and under and 65 years and over in the State of Qatar, by year, 2022-2023



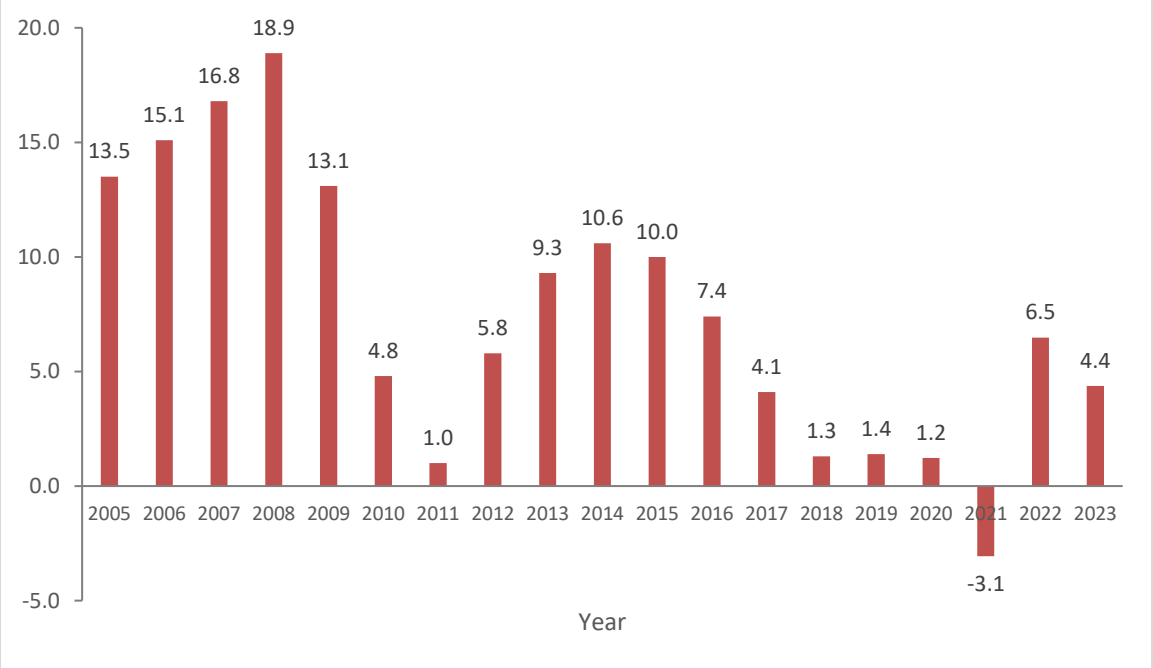
Source: Planning and Statistics Authority

Figure 1.2.7: Percentage of population in the 15 years and under and 65 years and over age groups, by nationality, 2023



Source: Planning and Statistics Authority

Figure 1.2.8: Annual population growth rate, by year, 2005 to 2023



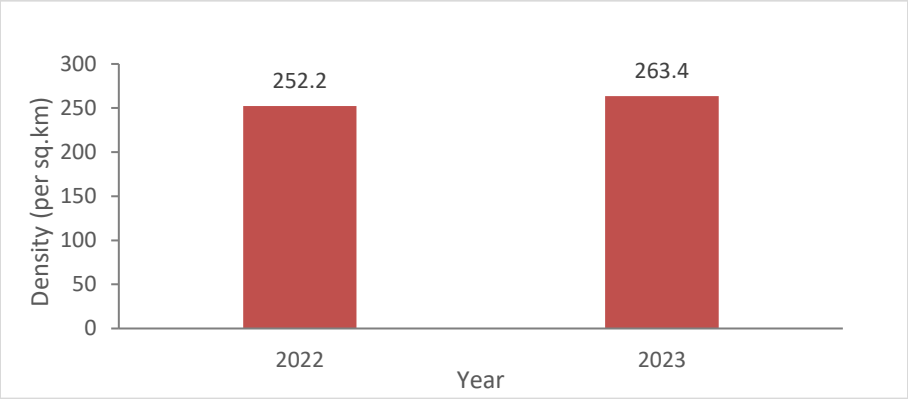
Source: *Qatar Social Statistics 2005-2023,* Planning and Statistics Authority, 2023

1.3 Population Density

Population density refers to the number of people living in a unit of area such as square kilometers.

In Qatar, the population density has been increasing in recent years. In 2022, the population density was 252.2 individuals per square kilometer. This continued to rise in 2023, reaching 263.4 individuals per square kilometer, likely due to population growth and ongoing urban development projects attracting more residents (Figure 1.3.1).

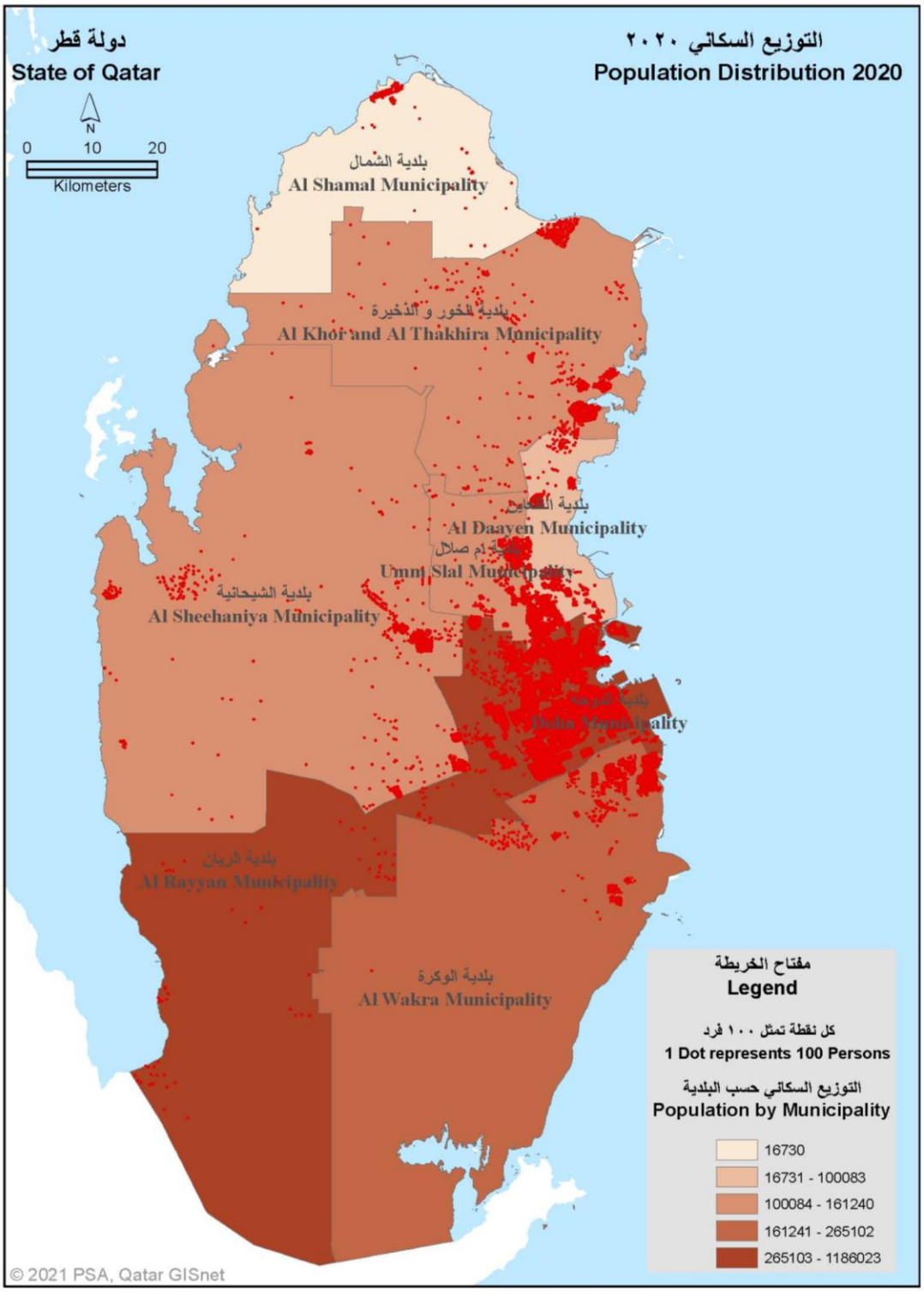
Figure 1.3.1: Population Density per square kilometer, by year, 2022-2023



Source: Planning and Statistics Authority

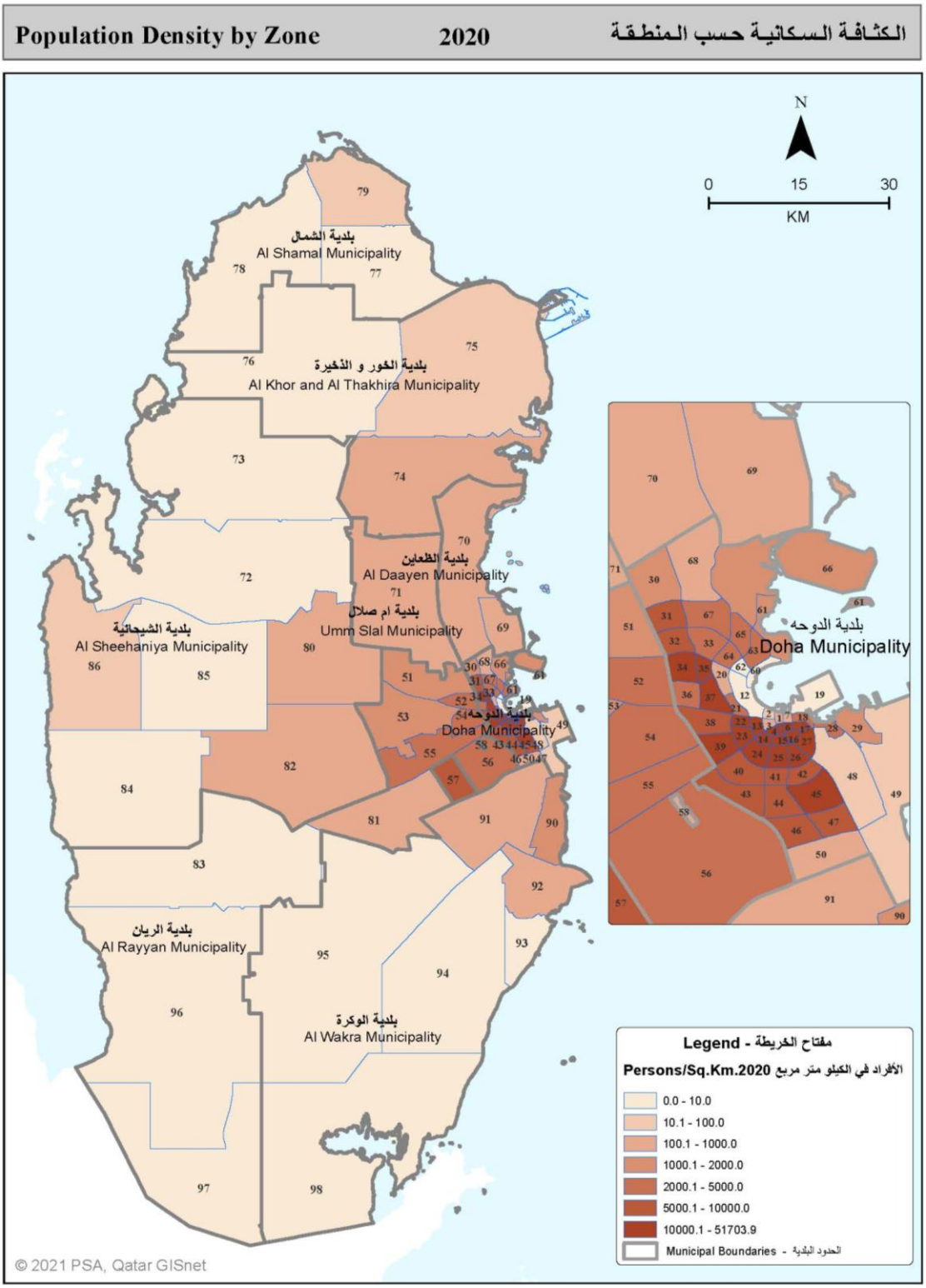
It is clearly shown that the Doha municipality and surrounding zone is the densest area with zones reaching densities of 10,000.1 to 51,703.9 persons per sq.km (Figure 1.3.2 and 1.3.3).

Figure 1.3.2: Population density map by municipality and population dot distribution, 2020



Source: Planning and Statistics Authority

Figure 1.3.3: Population density map by zone, 2020



Source: Planning and Statistics Authority

2. Births, Fertility and Live births

2.1 Births

Live Births and crude birth rate are commonly used parameters in describing a country's fertility rate of natural increase and reflect the needs for maternal and child services.

The State of Qatar has seen a slow increase in number of live births over year 2022-2023 (Table 2.1.1). It was 27,906 in 2017 and decreased to 26,338 births in 2021 (Figure 2.1.1). In the year 2022, the number of live births further decreased to 26,316 (Table 2.1.1). However, in the year 2023, the number of overall live births increased by 1,006 births (From 26,316 in 2022 to 27,322 in 2023) (Table 2.1.1). By nationality, over the period of two-year (2022-2023), the greatest change in live births was observed in the non-Qatari population. In 2022, the Qatari population recorded 7,154 live births (3,638 males and 3,516 females), while the non-Qatari population had 19,162 live births (9,758 males and 9,404 females). In 2023, live births in the Qatari population decreased to 6,974 (3,518 males and 3,456 females), whereas the non-Qatari population saw an increase to 20,348 births (10,523 males and 9,825 females) (Table 2.1.1). The numbers of live births in Qatar are still more than double than the 2004 figure, increasing from 13,190 live births in 2004 to 27,322 live births in 2023 (Figure 2.1.1).

While the absolute number of live births increased between 2022 and 2023, the overall crude birth rate remained stable for the year 2022 at 9.0 births per 1,000 population and decreased for the year 2023 to reach 8.9 births per 1,000 population (Table 2.1.2, Figure 2.1.2). In 2022, Qatari appeared to have a significant higher crude birth rate compared to the non-Qatari (21.2 against 7.4). During the year 2023, the overall crude birth rate decreased to 8.9 per 1,000 population. Similarly, Crude birth rate for Qatari and non-Qatari population decreased to 20.2 and 7.5 per 1,000 population respectively (Table 2.1.2, Figure 2.1.2).

Table 2.1.1: Number of live births, by gender*, nationality, and year, 2022 to 2023

Year	Male			Female			Both sexes		
	Qatari	Non-Qatari	Total	Qatari	Non-Qatari	Total	Qatari	Non-Qatari	Total
2022	3,638	9,758	13,396	3,516	9,404	12,920	7,154	19,162	26,316
2023	3,518	10,523	14,041	3,456	9,825	13,281	6,974	20,348	27,322

Source: Ministry of Public Health and Planning and Statistics Authority

*In 2021, there was one case of live birth with unknown gender

In Qatar, the overall sex ratio among live births has seen some variation over the years but has mainly remained stable. The sex ratio was 106.8 boys per 100 girls in 2021, and in 2022, this sex ratio decreased to 103.7 boys per 100 girls, with 103.5 in the Qatari population and 103.8 in the non-Qatari population. However, in 2023, the overall sex ratio increased to 105.7 boys per 100

girls, with a decrease to 101.8 in the Qatari population and a rise to 107.1 in the non-Qatari population (Table 2.1.2).

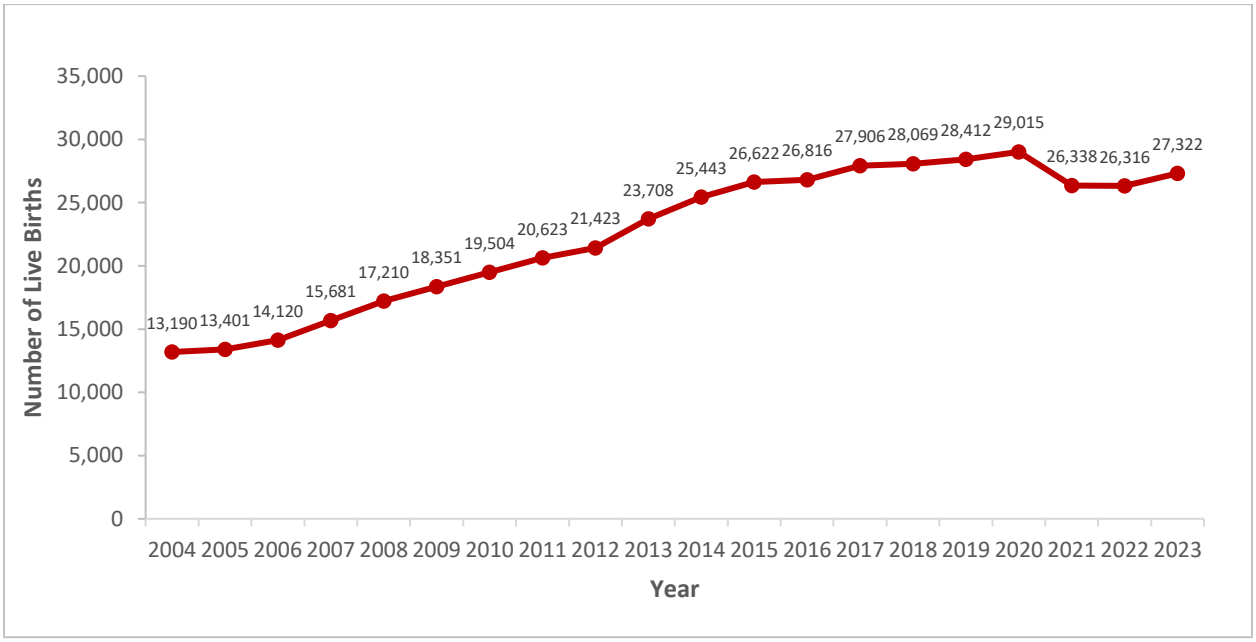
Table 2.1.2: Sex ratio of live births and crude birth rate per 1,000, by nationality and year, 2022 to 2023

Year	Sex ratio			Crude Birth Rate		
	Qatari	Non-Qatari	Total	Qatari	Non-Qatari	Total
2022	103.5	103.8	103.7	21.2	7.4	9.0
2023	101.8	107.1	105.7	20.2	7.5	8.9

Source: Ministry of Public Health and Planning and Statistics Authority

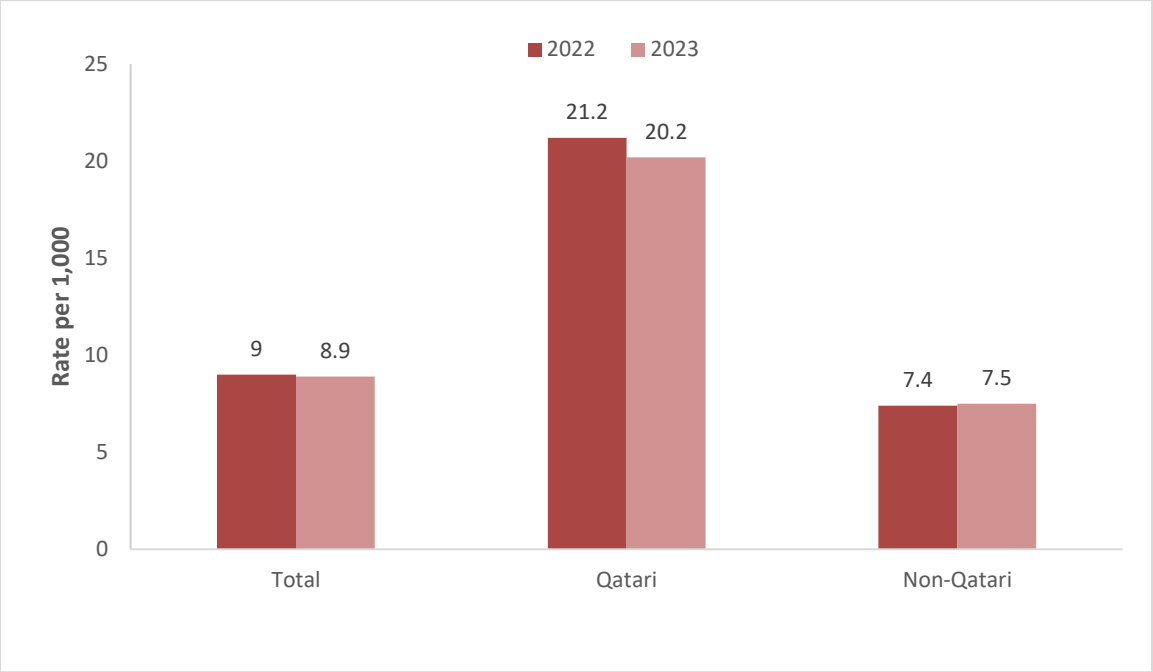
Note: Sex ratio is males to females per 100 population (M/F * 100); Crude birth rate is per 1,000 population (Number of births/total population * 1,000)

Figure 2.1.1: Annual live births, by year, 2004-2023



Source: Ministry of Public Health and Planning and Statistics Authority

Figure 2.1.2: Crude birth rate per 1,000 population, by nationality, 2022-2023



Source: Ministry of Public Health and Planning and Statistics Authority

2.2 Maternal age at birth

Maternal age distribution provides important information for health services planning. For instance, the prevalence of advanced maternal age, defined as woman who is 35 years of age or older at time of delivery, is important when considering planning of prenatal screening and at-risk pregnancies services. Teenage pregnancies are also a significant issue requiring specific health policy responses (Saloojee & Coovadia, 2015).

In Qatar, over the 2-year period (2022-23), majority of births occurred in women in the 25-29 and 30-34-years age group (Table 2.2.1).

Figure 2.2.1 shows that in 2023, nearly 31% of Qatari births occurred in women aged 25–29 years, while 27.2% of non-Qatari births occurred in the same age group. A higher proportion of Qatari births occurred in the 20–24 age group (12.9%) compared to non-Qatari births in the same age group (9.1%) (Figure 2.2.1). In contrast, the proportion of births in the 30–34 age group was higher among non-Qatari women (35.4%) than among Qatari women (29.7%). This may indicate that Qatari women tend to start childbearing at slightly younger ages compared to non-Qatari women.

At older age groups, a similar pattern is observed, with 21.7% of non-Qatari births occurring in the 35–39 age group, compared to 19.2% for Qatari women. The percentage of births in the 40–44 age group was slightly higher for Qatari women (6.5%) compared to non-Qatari women (5.1%).

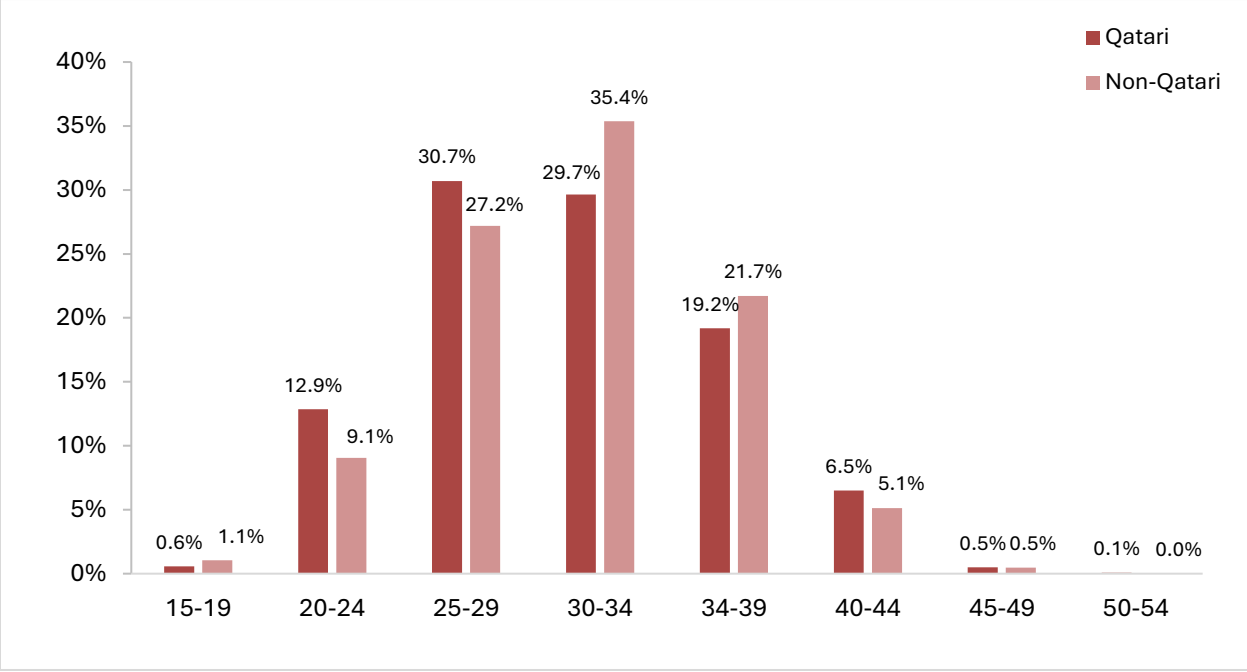
Births in the extreme age groups (15–19 and 45+) remained low, with teenage pregnancies accounting for 0.6% of Qatari births and 1.1% of non-Qatari births, while births among women aged 45–49 were 0.5% for both populations for the year 2023. The data suggests that Qatari women tend to have children at younger ages compared to their non-Qatari counterparts, though non-Qatari women show a higher tendency for childbearing in the later reproductive years.

Table 2.2.1: Number of births by maternal age at birth, by age group and year, 2022 to 2023

Age of Mother	2022		2023	
	Births	Population in age group	Births	Population in age group
15-19	183	42,876	253	45,366
20-24	2773	42,394	2739	45,996
25-29	7366	87,590	7673	93,450
30-34	9104	118,382	9264	123,211
34-39	5383	105,957	5758	116,381
40-44	1407	78,477	1497	86,088
45-49	92	49,060	127	54,234
50-54	4	30,141	11	32,488

Source: Ministry of Public Health

Figure 2.2.1: Percentage of births by women of maternal age, by age group and nationality, 2023



Source: Ministry of Public Health

*Missing births for specific mother age were redistributed (36 cases in 2020 and 60 cases in 2021)

2.3 Fertility rates

Age specific fertility rates (ASFR) and total fertility rates (TFR) are important maternal health indicators of a country. By considering the age structure of the population, these parameters offer a standardized way to analyze and compare fertility levels across countries and population groups over time (Payne, 2004).

In 2022 and 2023, the Total Fertility Rate (TFR) among Qatari women was 2.8 and 2.4 children per woman aged 15 to 49, respectively. This was higher than the TFR for non-Qatari women, which was 1.3 and 1.4 children per woman in the same age group in 2022 and 2023, respectively (Table 2.3.1). Over the years, Qatari women consistently had a higher TFR than non-Qatari women, with the national TFR remaining stable at 1.5 children per woman in both 2022 and 2023 (Table 2.3.1).

The comparison of age-specific fertility rates (ASFR) shows notable trends for both Qatari and non-Qatari women (Table 2.3.1). From 2022 to 2023, the ASFR for Qatari women in the 20-24 age group decreased from 69.4 to 51.6 births per 1,000 women, while for non-Qatari women, it remained relatively stable, decreasing slightly from 63.4 to 63.1. The ASFR for Qatari women in the 25-29 age group decreased significantly from 164.1 to 125.4 births per 1,000 women, while for non-Qatari women, it increased slightly from 69.1 to 74.6. For women in the 30-34 age group, the ASFR for Qatari women remained stable (159.4 to 158.6), while for non-Qatari women, it slightly increased from 66.9 to 69.2.

In the 15-19 age group, the ASFR for Qatari women decreased from 2.1 to 1.6 births per 1,000 women, while for non-Qatari women, it increased from 5.7 to 7.9 births per 1,000 women. This shift indicates a significant decrease in teenage pregnancies among Qatari women and an increase among non-Qatari women during this period.

In the older age groups (34-39, 40-44, and 45-49), Qatari women showed a decline in ASFR, while for non-Qatari women, the fertility rate was relatively stable or showed slight increases. The ASFR for non-Qatari women in the 40-44 age group increased slightly from 13.5 to 14.3 births per 1,000 women, while for Qatari women, it decreased from 48.8 to 41.3 births per 1,000 women.

The total fertility rate for Qatari women decreased in 2023 (2.4) compared to 2022 (2.8), reflecting a decline in fertility across the age groups, especially in the younger and middle-aged groups. Meanwhile, the non-Qatari TFR showed a small increase, rising from 1.3 to 1.4.

According to the World Bank, the total fertility rate globally was estimated to be 2.2 births per woman in 2023 (World Bank, 2023). This value is higher than the 2023 Qatar's total fertility rate of 1.5 births per woman but slightly lower than the 2023 total fertility rate of 2.4 births per woman among Qatari.

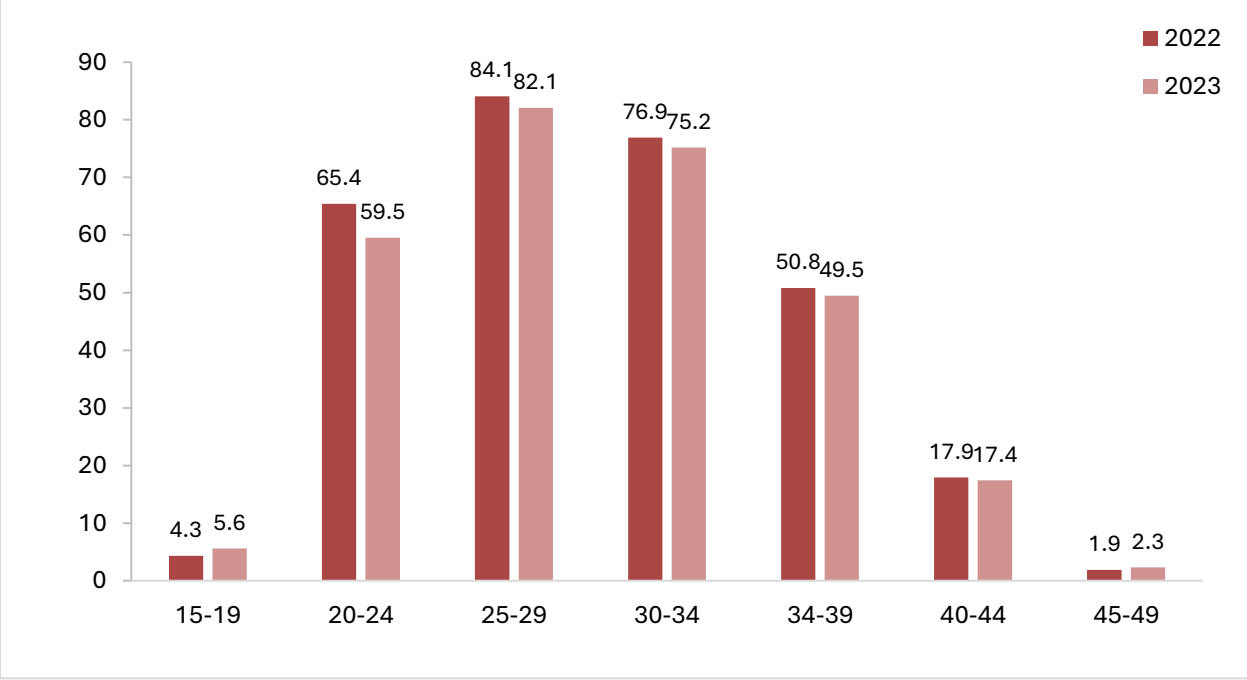
Table 2.3.1: Age specific fertility rates for women of maternal age, by age groups, nationality and year, 2022 to 2023

Unit	Age	Qatari		Non-Qatari		Total	
		2022	**2023**	**2022**	**2023**	**2022**	**2023**
Number of births per 1,000 women	15-19	2.1	1.6	5.7	7.9	4.3	5.6
	20-24	69.4	51.6	63.4	63.1	65.4	59.5
	25-29	164.1	125.4	69.1	74.6	84.1	82.1
	30-34	159.4	158.6	66.9	69.2	76.9	75.2
	34-39	112.8	98.4	43.2	44.0	50.8	49.5
	40-44	48.8	41.3	13.5	14.3	17.9	17.4
	45-49	3.8	4.3	1.5	2.0	1.9	2.3
	Total Fertility Rate (15 to 49 years)	**2.8**	**2.4**	**1.3**	**1.4**	**1.5**	**1.5**

Source: Ministry of Public Health and Planning and Statistics Authority

There are many factors which could influence the fertility rate of a population. Social determinants generally associated with increased fertility include maternal support, socioeconomic status as well as social norms among others (Schaffnit & Sear, 2014) (Payne, 2004).

Figure 2.3.1: Age specific fertility rates for women of maternal age, by age groups and year, 2022 to 2023



Source: Ministry of Public Health

2.4 Life expectancy

Life expectancy is a widely accepted indicator used to estimate the average number of years a person is expected to live and reflects the overall health status of a population over time (OECD, 2017).

Total life expectancy at birth among Qatari nationals was 78.2 years in 2022 and 80.5 years in 2023. Life expectancy for Qatari males was 76.6 years in 2022 and 79.0 years in 2023. For Qatari females, life expectancy was higher at 79.7 years in 2022 and 81.8 years in 2023 (Table 2.4.1).

Life expectancy at 65 for Qatari nationals was 17.5 years in 2022 and 19 years in 2023 (Table 2.4.2). Among Qatari males, life expectancy at 65 increased from 16.9 years in 2022 to 18.6 years in 2023, while for Qatari females, it rose from 18.1 years in 2022 to 19.4 years in 2023 (Table 2.4.2).

For non-Qatari nationals, total life expectancy at birth was 81.0 years in 2022 and 80.8 years in 2023. Life expectancy for non-Qatari males was 80.7 years in 2022 and remained the same in 2023. For non-Qatari females, life expectancy was 81.4 years in 2022 and decreased slightly to 81.0 years in 2023 (Table 2.4.1).

Life expectancy at 65 for non-Qatari nationals was 18.2 years in 2022 and 18.0 years in 2023 (Table 2.4.2). Non-Qatari males had a life expectancy at 65 of 18.0 years in 2022 and remained unchanged in 2023, while non-Qatari females decreased from 18.3 years in 2022 to 17.8 years in 2023 (Table 2.4.2).

According to the World Bank, over the past decades, GCC countries have achieved significant improvements in life expectancy at birth. In 2022, Qatar continued to have the highest life expectancy among GCC countries, reaching 82.0 years, which is higher than the GCC average. Among the GCC nations, life expectancy in Kuwait (80.3 years) and Bahrain and the UAE (79.2 years each) was relatively high, while Saudi Arabia (77.9 years) and Oman (73.9 years) had lower life expectancy figures.

Qatar's life expectancy at birth in 2022 was also slightly higher than the European Union average of 80.7 years and significantly above the global average of 72.9 years (World Bank, 2023). These figures highlight Qatar’s strong healthcare system and improvements in public health initiatives.

Many factors play a role in determining a country’s life expectancy. Life expectancy at birth is believed to be the result of complex interactions between the social determinants of health and socioeconomic conditions, including socioeconomic status, education level, access to clean water and improvement in sanitation (OECD/EU, 2018). It is also related to access to health services and effectiveness of public health action as well as the progress of medical science in different domain, including the availability and coverage of vaccination programs (Centers for Disease Control and Prevention [CDC], 1999).

Table 2.4.1: Life Expectancy at Birth by nationality, gender, and year, 2022 to 2023

Year	Qatari			Non-Qatari			Total		
	Male	Female	All	Male	Female	All	Male	Female	All
2022	76.6	79.7	78.2	80.7	81.4	81.0	80.2	81.0	80.5
2023	79.0	81.8	80.5	80.7	81.0	80.8	81.2	81.8	81.4

Source: Ministry of Public Health

Table 2.4.2: Life Expectancy at 65, by nationality, gender, and year, 2022 to 2023

Year	Qatari			Non-Qatari			Total		
	Male	Female	All	Male	Female	All	Male	Female	All
2022	16.9	18.1	17.5	18.0	18.3	18.2	17.8	18.3	18.1
2023	18.6	19.4	19.0	18.0	17.8	18.0	18.8	18.8	18.8

Source: Ministry of Public Health

3. Mortality

3.1 Descriptive analysis of mortality

Mortality data and causes of deaths specific to the population of Qatar can provide insight on Qatar's disease profile and drive evidence-based policy making and public health interventions. Many indicators of mortality are widely used and recognized in public health policy development (OECD, 2017).

In Qatar, the number of deaths for all causes slightly declined in 2022 and 2023 compared to the peak during the COVID-19 pandemic in 2020–2021. In 2022, a total of 2,645 deaths were recorded, and in 2023, the number further decreased to 2,553 deaths (Table 3.1.1). This reflects a continued stabilization of mortality following the pandemic-related surge in 2020–21.

The decline from 2,741 deaths in 2021 to 2,645 in 2022, and subsequently to 2,553 in 2023, suggests a return toward pre-pandemic mortality levels. The figures also show a slight year-on-year decrease of 3.5% from 2022 to 2023.

Table 3.1.1 also presents the distribution of deaths by gender and nationality. In both years, the number of deaths among non-Qataris remained significantly higher than among Qataris, reflecting the larger expatriate population. Notably, male deaths accounted for a larger proportion of total deaths compared to females in both national and non-national groups.

It is important to note that the mortality data published in this document is sourced from the database of the Qatar Ministry of Public Health (MoPH). Ministry of Public Health Qatar reports include only those deaths that occur within the State of Qatar. In contrast, the Qatar Ministry of Development Planning and Statistics also includes deaths of Qatari nationals that occur abroad.

Over the years, the crude death rate in Qatar has shown a general declining trend. As reported previously, it was 74.5 deaths per 100,000 population in 2019. However, the crude death rate rose sharply to 96.5 in 2020 and further to 99.7 in 2021, coinciding with the COVID-19 pandemic

and its complications. In the post-pandemic years, the crude death rate began to decline again, falling to 90.2 in 2022 and then to 83.3 in 2023 (Figure 3.1.1 and Figure 3.1.2). This downward trend indicates a return to pre-pandemic mortality levels and reflects improvements in public health and healthcare system recovery following the pandemic period.

The crude mortality rate is a very broad indicator of a country's health status. Its interpretation is largely limited by the age distribution of the population that, as in the case of Qatar, is dynamic and relatively young. For instance, for comparative purposes, the crude death rate in the EU in 2023 with a very different population age distribution, has been estimated to be around 1100 per 100,000 (World Bank, 2023).

Table 3.1.1: Number of deaths for all causes, by gender, nationality, and year, 2022 to 2023

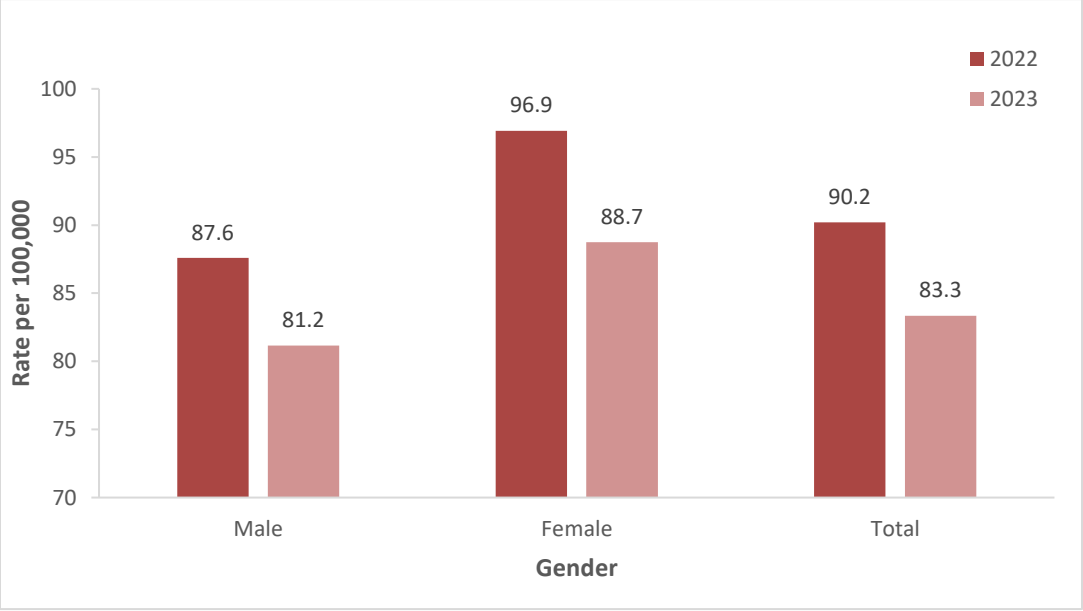
Year	Male			Female			Both sexes		
	Qatari	Non-Qatari	Total	Qatari	Non-Qatari	Total	Qatari	Non-Qatari	Total
2022	439	1417	1856	360	426	786	799	1846*	2645
2023	352	1,439	1,791	295	465	760	647	1906**	2,553

Source: Ministry of Public Health

Note: Deaths of Qatari citizens and residents outside of the State of Qatar are not included.

* In year 2022, three deaths among non-Qatari people reported with sex not specified.
**In year 2023, two deaths among non-Qatari people reported with sex not specified.

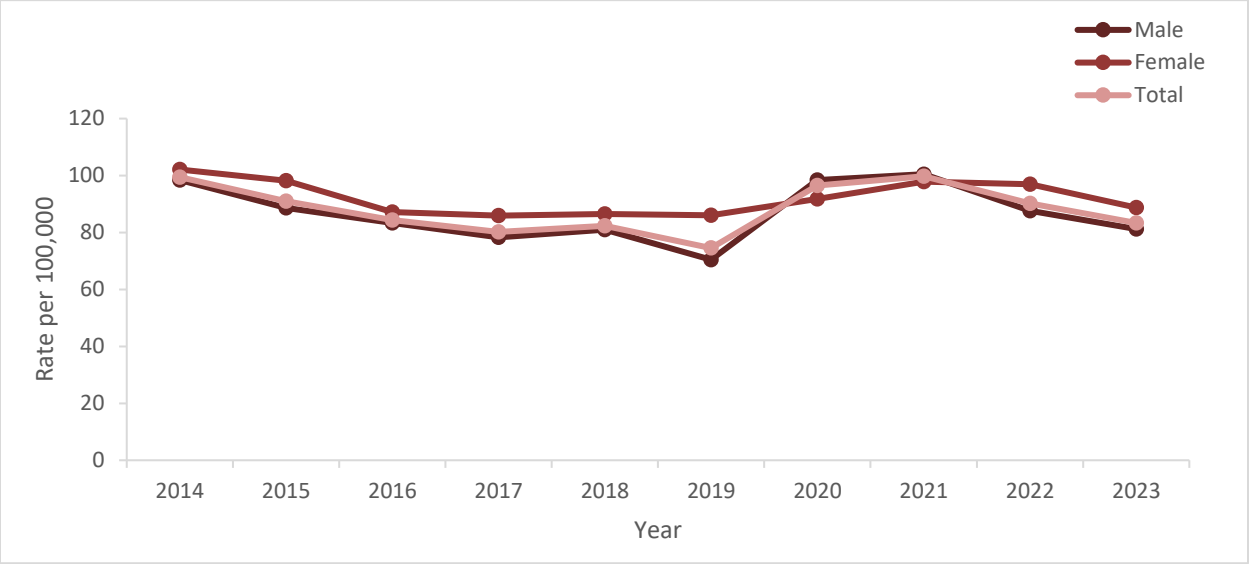
Figure 3.1.1: Crude death rates per 100,000, by year and gender, 2022 to 2023



Source: Ministry of Public Health

Note: Deaths of Qatari citizens and residents outside of the State of Qatar are not included.

Figure 3.1.2: Crude death rates per 100,000, by gender and year, 2014 to 2023



Source: Ministry of Public Health

Note: Deaths of Qatari citizens and residents outside of the State of Qatar are not included.

Table 3.1.2: Deaths from all causes, by gender, age group, and year, 2022 to 2023

Age	2022			2023		
	Male	Female	Both sexes	Male	Female	Both sexes
0	83	84	170*	87	61	150*
1-4	13	24	37	29	11	40
5-9	9	4	13	19	14	33
10-14	14	6	20	8	10	18
15-19	48	12	60	27	6	33
20-24	67	8	75	68	12	80
25-29	115	16	131	90	11	101
30-34	133	18	151	117	25	142
35-39	151	26	177	150	32	182
40-44	146	24	170	169	31	200
45-49	136	31	167	147	34	181
50-54	163	33	196	157	45	202
55-59	153	42	195	129	40	169
60-64	125	57	182	126	47	173
65-69	117	70	187	115	55	170
70-74	95	73	168	95	62	157
75-79	79	80	159	75	74	149
80+	209	178	387	183	190	373
Total	1856	786	**2645**	1791	760	**2553**

Source: Ministry of Public Health

*In 2022, there were 3 cases with unknown gender, and in 2023, 2 cases -all under 1 year of age.

Age specific mortality rate (ASMR) allows for a more meaningful interpretation of mortality patterns within and across populations. Some types of age-specific mortality rates, such as infant mortality rate (Figure 3.1.3) are indicators used internationally to compare the effectiveness of the healthcare and public health system across nations (OECD, 2017).

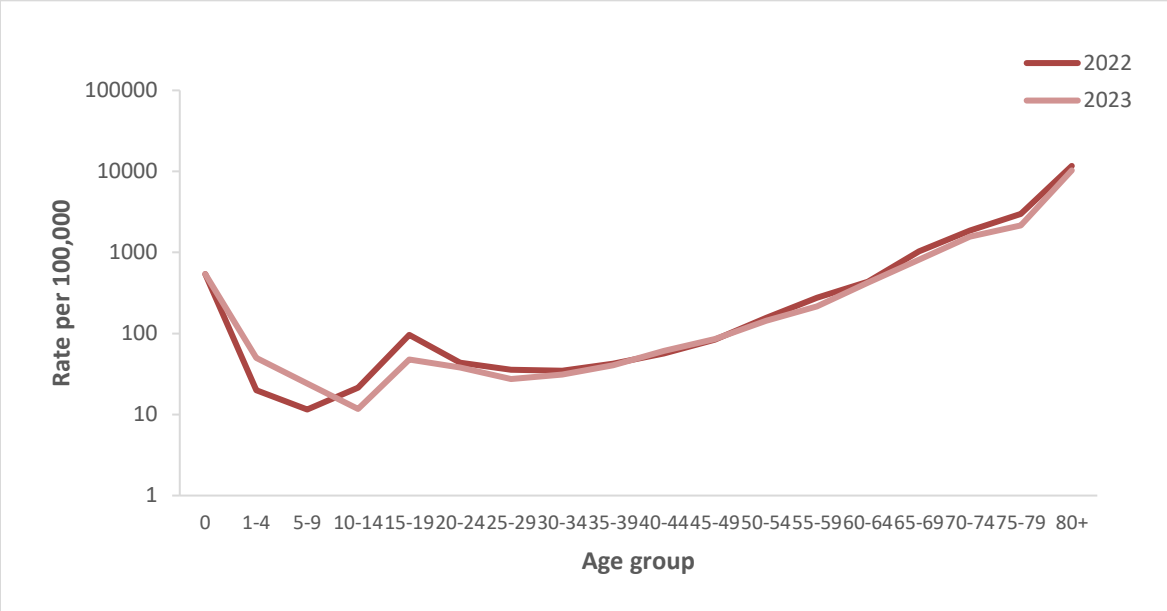
Between the years 2022 and 2023, the age-specific mortality rate (ASMR) per 100,000 among males and females followed the same trend observed in recent years, with increased mortality at the extremes of age (0-1 and 65+), creating a J-shaped curve in the ASMR (Figures 3.1.3, 3.1.4). This pattern is consistent even when stratified by nationality, with a similar trend of higher mortality at the extremes of age, further illustrated by the J-shaped curve (Figures 3.1.5, 3.1.6).

In the ASMR data for males in 2023 (Figure 3.1.5), it is evident that, except for the age groups 1-4, 5-9, 55-59, 70-74 and 75+ age groups, Qatari males generally exhibit higher mortality rates than non-Qatari males across all the 5-year age groups. In the 45-49 age group, the ASMR for Qatari males was 225.80 per 100,000, compared to 79.36 for non-Qatari males. This pattern is consistent with the "healthy worker" effect, where non-Qatari males, primarily in the workforce, tend to have lower mortality rates due to their employment-related health characteristics, especially in the younger and middle age groups (Chowdhury et al., 2017).

This same trend is observed among females (Figure 3.1.6). Except for these age groups (1-4,45-49,50-54,55-59, 60-64, 70-74,75-79 and 80+) Qatari females exhibit a higher ASMR compared to non-Qatari females. In 2023, Qatari females in the 25-29 age group had an ASMR of 28.79, while non-Qatari females in the same group had 8.80. This could be influenced by pregnancy-related complications, lower physical activity and higher obesity rates, which merit further investigation.

The age-specific mortality rate in male working-age groups generally remains higher than in their female counterparts. In the 35-39 age group in 2023, the ASMR for males was 40.48 per 100,000, compared to 27.50 per 100,000 for females (Figures 3.1.3, 3.1.4, 3.1.5, 3.1.6). This indicates that mortality in males, particularly in the middle-aged working population, continues to be higher compared to females, suggesting that social, health, and occupational factors may play a role in these disparities.

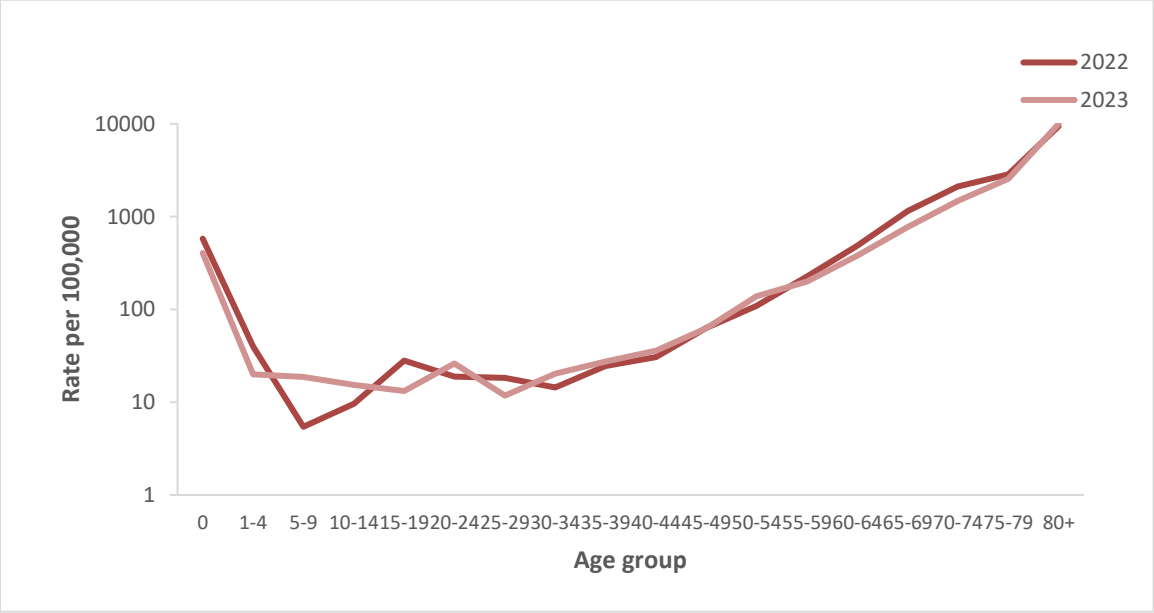
Figure 3.1.3: Age specific mortality rates per 100,000 among males, by age group and year, 2022 to 2023



Source: Ministry of Public Health

Note: Figure in logarithmic scale - The logarithmic scale base 10 on the y-axis was used to better illustrate the significant variations in mortality rates between age groups.

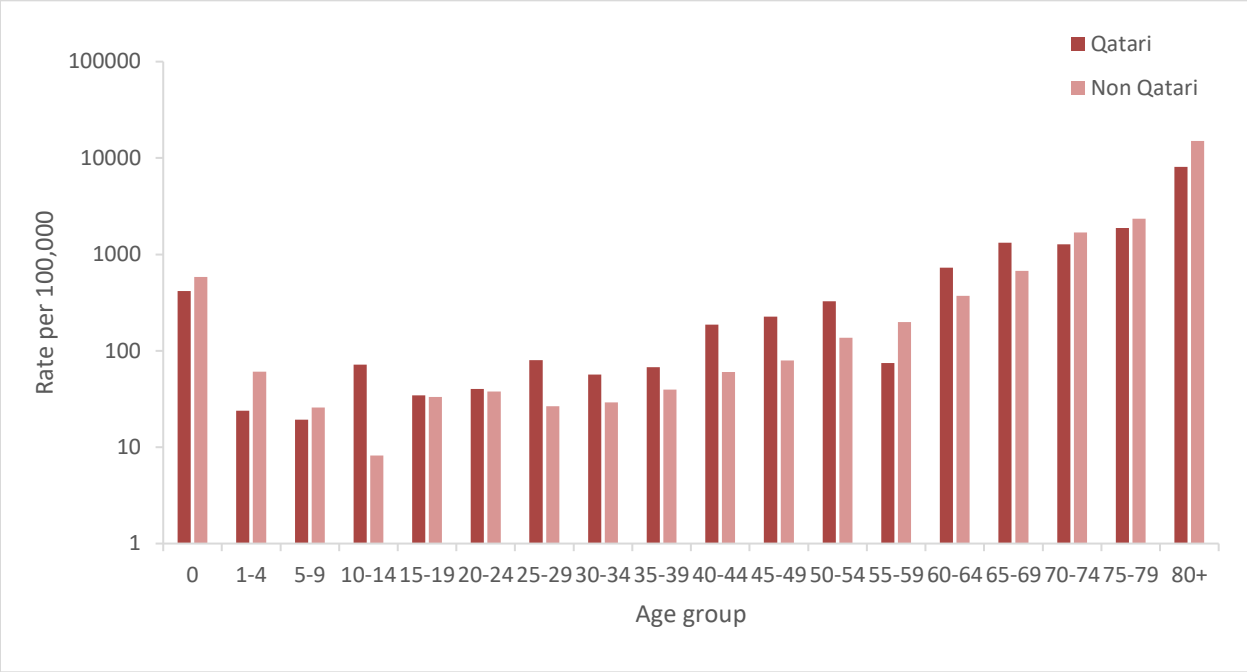
Figure 3.1.4: Age specific mortality rates per 100,000 among females, by age group and year, 2022 to 2023



Source: Ministry of Public Health

Note: Figure in logarithmic scale - The logarithmic scale base 10 on the y-axis was used to better illustrate the significant variations in mortality rates between age groups.

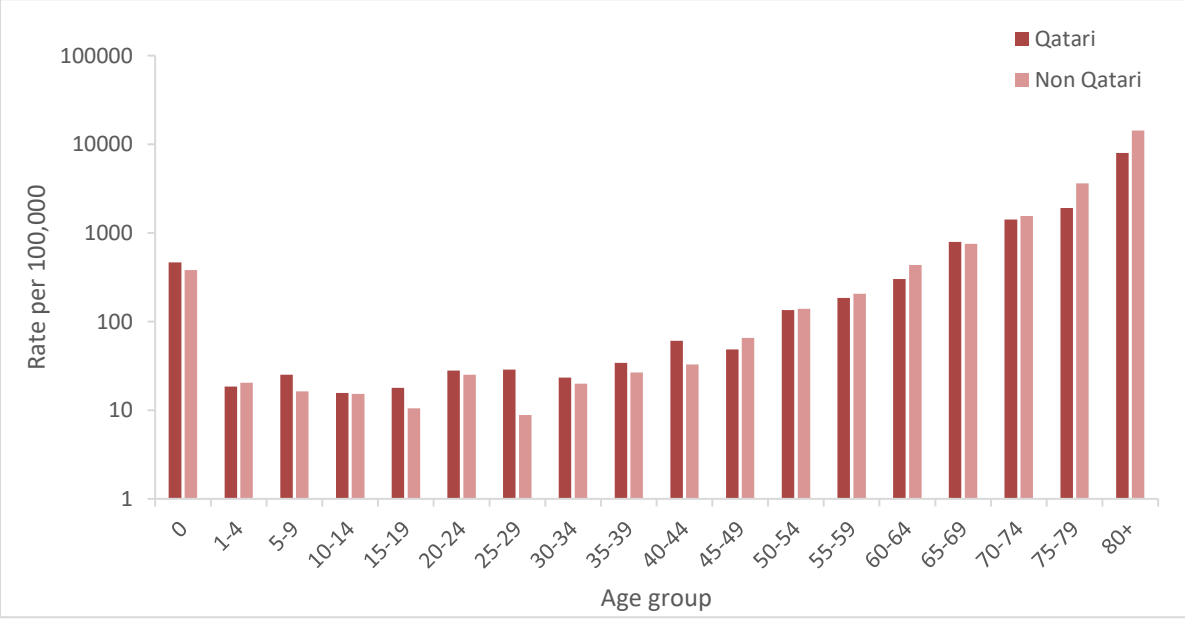
Figure 3.1.5: Age specific mortality rates per 100,000 among males, by age group and nationality, 2023



Source: Ministry of Public Health

Note: Figure in logarithmic scale - The logarithmic scale base 10 on the y -axis was used to better illustrate the significant variations in mortality rates between age groups.

Figure 3.1.6: Age specific mortality rates per 100,000 among females, by age group and nationality, 2023



Source: Ministry of Public Health

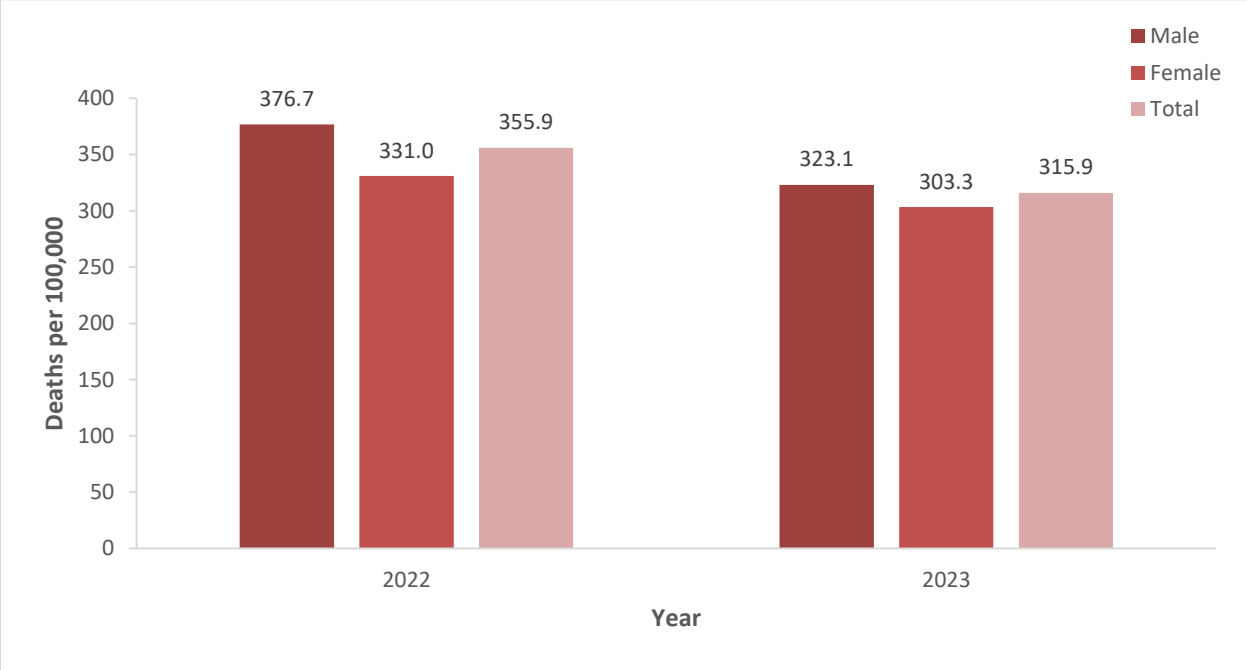
Note: Figure in logarithmic scale - The logarithmic scale base 10 on the y -axis was used to better illustrate the significant variations in mortality rates between age groups.

Standardized mortality rates. Comparison with region (EMRO) and other developed countries

The standardized mortality rate (SMR) is the death rate of a population adjusted to a standard age distribution. The SMR is used to eliminate the distortion caused by different underlying age distributions in different populations and SMR thus facilitates comparison between countries. In this report, we used the new WHO World Population Standard which is especially defined to reflect the average age structure of the world's population expected from the year 2000 to 2025 (Ahmed et al, 2001).

In Qatar, in 2022, the total SMR was 355.9 deaths per 100,000 population. Amongst this with 367.7 deaths, the SMR was higher for males than females who had 331.0 deaths per 100,000 population. The same pattern was seen in 2023. The total SMR was 315.9 deaths per 100,000 population. Gender wise, the SMR was again higher for males 323.1 deaths per 100,000 population compared to female 303.3 deaths per 100,000 population (Figure 3.1.7).

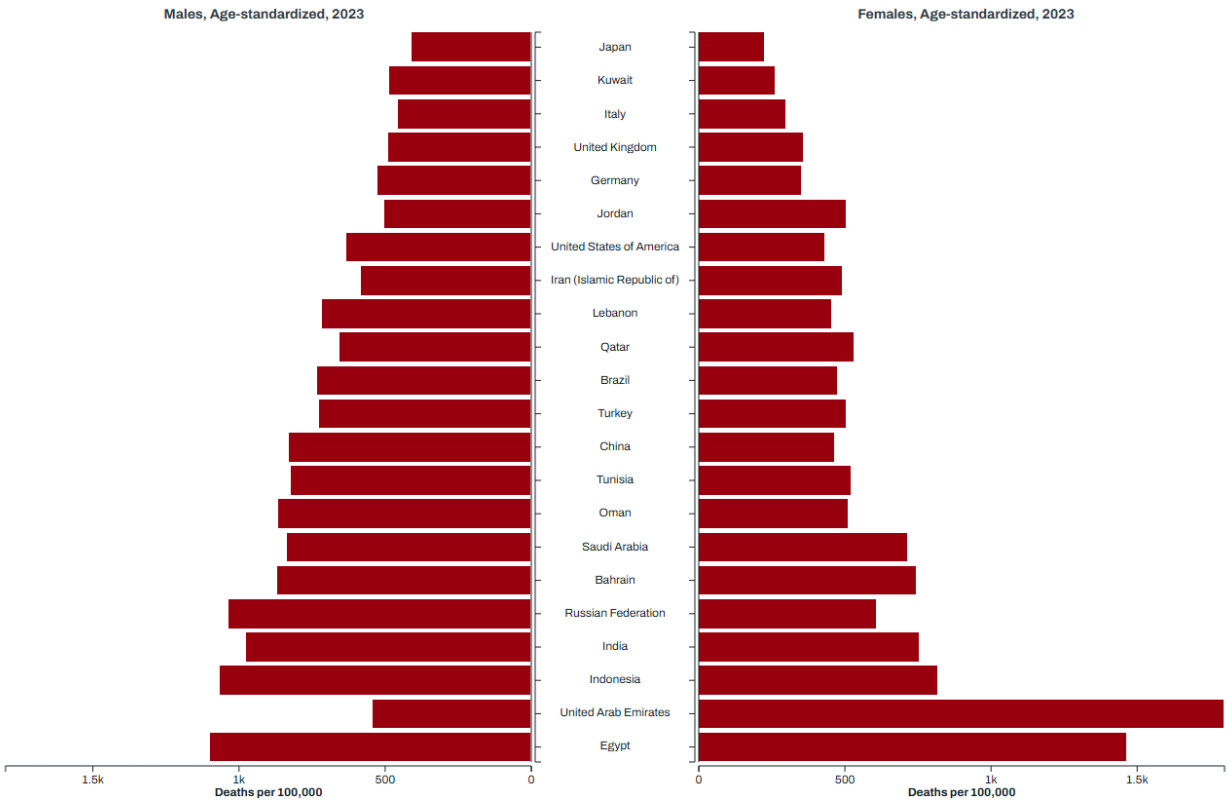
Figure 3.1.7: Standardized mortality rates by gender, 2022-2023



Source: Ministry of Public Health

According to the Institute for Health Metrics and Evaluation and in comparison, to the EMRO region and the developed countries for the year 2022, Qatar was amongst the countries with a low SMR, and it was lowest among the gulf countries after Kuwait. Figure 3.1.8 shows the gender specific distribution of SMR ratio across many countries.

Figure 3.1.8: Standardized mortality rates by gender and country in 2023



3.2 Mortality by causes

Table 3.2.1 enumerates the number of deaths classified according to the ICD-10 chapters of diseases. In Qatar, diseases of the circulatory system (such as ischemic heart diseases, strokes, and other circulatory diseases), the external causes of morbidity and mortality and Neoplasms were the top three causes of mortality in males during both 2022 and 2023 (Table 3.2.1). However, respiratory system diseases ranked as the fourth leading cause of death among men in both 2022 and 2023.

In 2022, diseases of the circulatory system were the leading cause of death among females, followed closely by neoplasms, while respiratory system diseases ranked as the third most common cause. Death due to diseases of the endocrine, nutrition and metabolic diseases and the diseases of the external causes of morbidity and mortality were the fourth and fifth biggest causes of death in females in the year 2022. However, in 2023, there were the same pattern as in the year 2022 except the fifth biggest cause of death in female was Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified. (Table 3.2.1).

In the OECD countries and overall, at the global level, diseases of the circulatory system remain the main cause of death followed by cancer (OECD, 2023).

Table 3.2.1: Number of deaths, by underlying cause of death chapter (ICD-10), gender and year, 2022 to 2023

Chapter	Cause of death chapter	Males		Females	
		2022	2023	2022	2023
I	**Certain infectious and parasitic diseases**	33	35	36	20
II	**Neoplasms**	174	210	136	157
III	**Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism**	4	7	5	7
IV	**Endocrine, nutritional, and metabolic diseases**	79	103	56	51
V	**Mental and behavioral disorders**	0	1	0	3
VI	**Diseases of the nervous system**	32	39	23	41
VII	**Diseases of the eye and adnexa**	0	0	0	0
VIII	**Diseases of the ear and mastoid process**	0	0	0	0
IX	**Diseases of the circulatory system**	745	693	200	195
X	**Diseases of the respiratory system**	119	132	78	89
XI	**Diseases of the digestive system**	34	48	23	18
XII	**Diseases of the skin and subcutaneous tissue**	1	2	2	4
XIII	**Diseases of the musculoskeletal system and connective tissue**	0	7	2	4
XIV	**Diseases of the genitourinary system**	76	21	42	25
XV	**Pregnancy, childbirth, and the puerperium**	0	0	2	1
XVI	**Certain conditions originating in the perinatal period**	39	50	41	23
XVII	**Congenital malformations, deformations, and chromosomal abnormalities**	33	30	28	27
XVIII	**Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified**	24	44	31	50
XX	**External causes of morbidity and mortality**	402	356	45	38
XXII	**Codes for special purposes**	61	11	36	7
	Total deaths	**1856**	**1789**	**786**	**760**

Source: Ministry of Public Health

Notes:

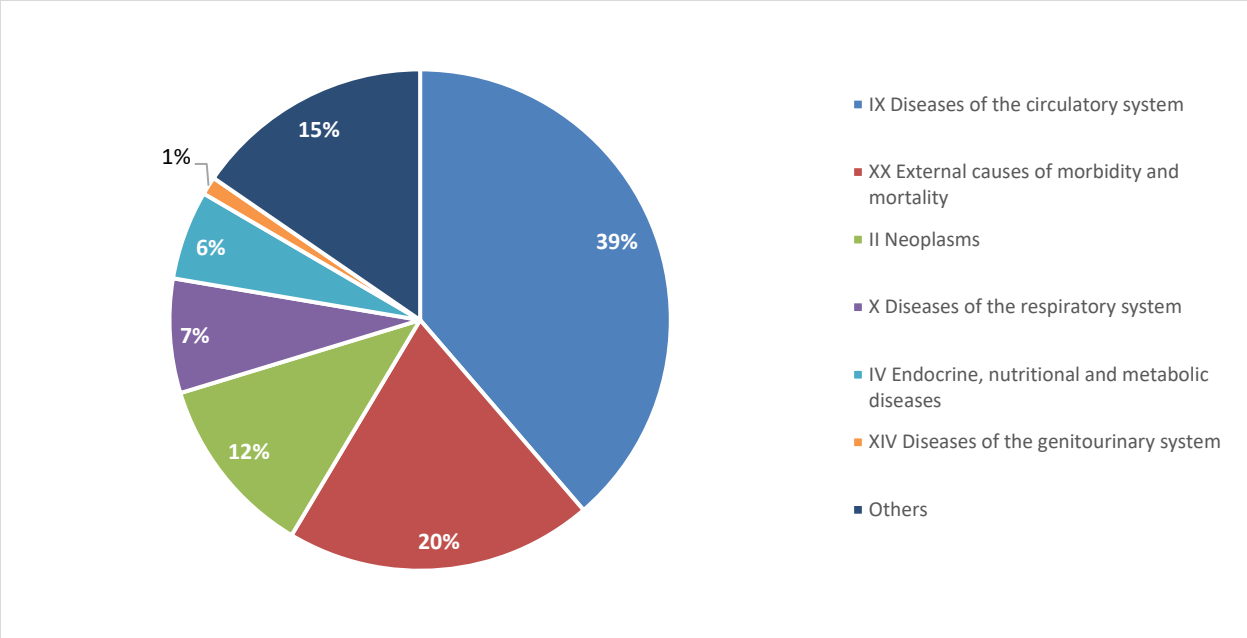
Chapters XIX (Injury, poisoning and certain other consequences of external causes-2 cases) and XXI (Factors influencing health status and contact with health services) were excluded from this analysis, as they pertain to causes of morbidity or non-mortality-related events.

- In 2022, there were 3 cases reported under Chapter XVII with unknown gender.
- In 2023, there was 1 case with unknown gender in Chapter XVII, and 1 case in Chapter XX.

The figure 3.2.1 summarizes the most common causes of death in 2023 and breaks it down as per the WHO ICD-10 classification of diseases.

In 2023, diseases of the circulatory system were the leading cause of death among males, accounting for almost 40% of all male deaths (Figure 3.2.1). This was followed by external causes of morbidity and mortality (20%), neoplasms (12%), and diseases of the respiratory system (7%). Endocrine, nutritional, and metabolic diseases, including diabetes, contributed to 6% of male deaths. Codes for special purposes accounted for 1% and other causes contribute 15%.

Figure 3.2.1. Percentage of deaths in males, by the top six chapters of cause of death, 2023

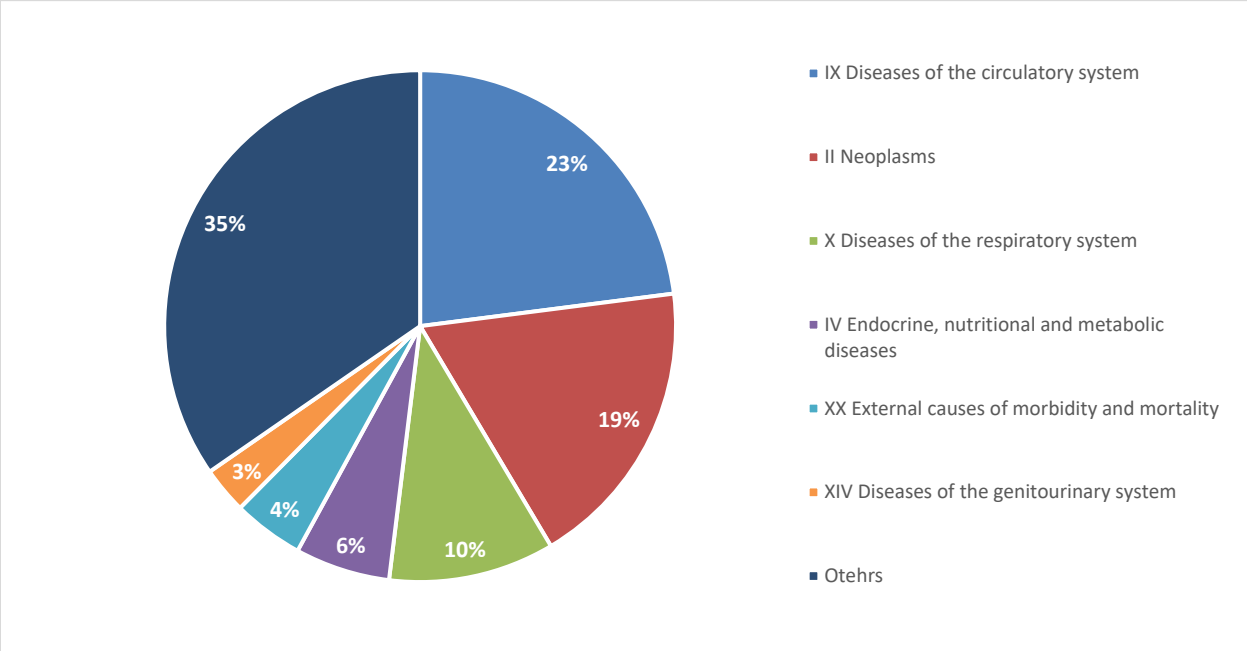


Source: Ministry of Public Health

Notes: N=1,791; Excludes unknown causes

Among females in 2023, diseases of the circulatory system were also the top cause of death, comprising 23% of all female deaths (Figure 3.2.2). This was followed by neoplasms (19%), diseases of the respiratory system (10%), and endocrine, nutritional, and metabolic diseases (6%). External causes of morbidity and mortality made up 4%, while diseases of the genitourinary system accounted for 3%. The remaining 35% were attributed to other causes.

Figure 3.2.2: Percentage of deaths in females, by the top six chapters of cause of death, 2023



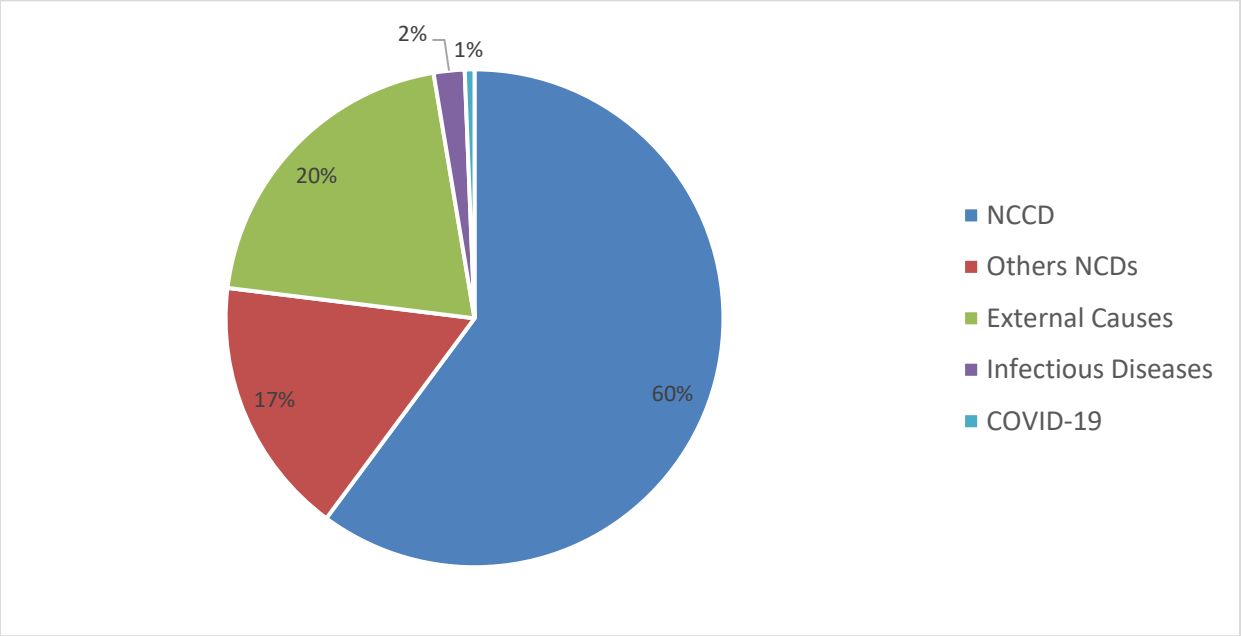
Source: Ministry of Public Health

Notes: N=849; Excludes unknown causes

Figures 3.2.3 and 3.2.4 present the percentage distribution of deaths among males and females in 2023 by major cause categories. For both sexes, non-communicable chronic diseases (NCCD) were the predominant cause, accounting for 60% of male deaths and 59% of female deaths. Among males, external causes represented 20%, followed by other NCDs at 17%, infectious diseases at 2%, and COVID-19 at 1%.

In contrast, females had a higher proportion of deaths from other NCDs (32%) and a lower share from external causes (5%), while infectious diseases and COVID-19 contributed 3% and 1%, respectively. These patterns highlight the significant burden of chronic conditions, with notable gender differences in the contribution of external causes and other NCDs.

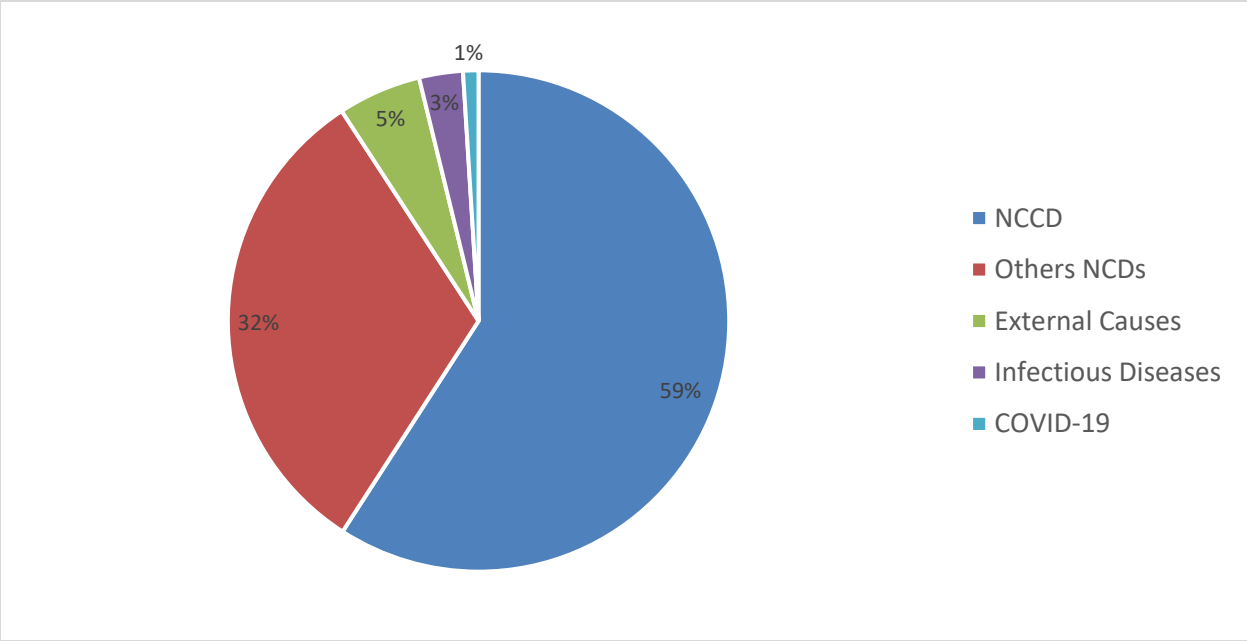
Figure 3.2.3: Percentage of deaths in males by non-communicable chronic diseases, infectious diseases and external causes, 2023



Source: Ministry of Public Health

Notes: Non-communicable chronic diseases based on cardiovascular disease (I00-I99), cancers (C00-C97), diabetes (E10-E14), chronic respiratory disease (J30-J98); Excludes unknown causes

Figure 3.2.4: Percentage of deaths in females by non-communicable chronic diseases, infectious diseases, and external causes, 2023



Source: Ministry of Public Health

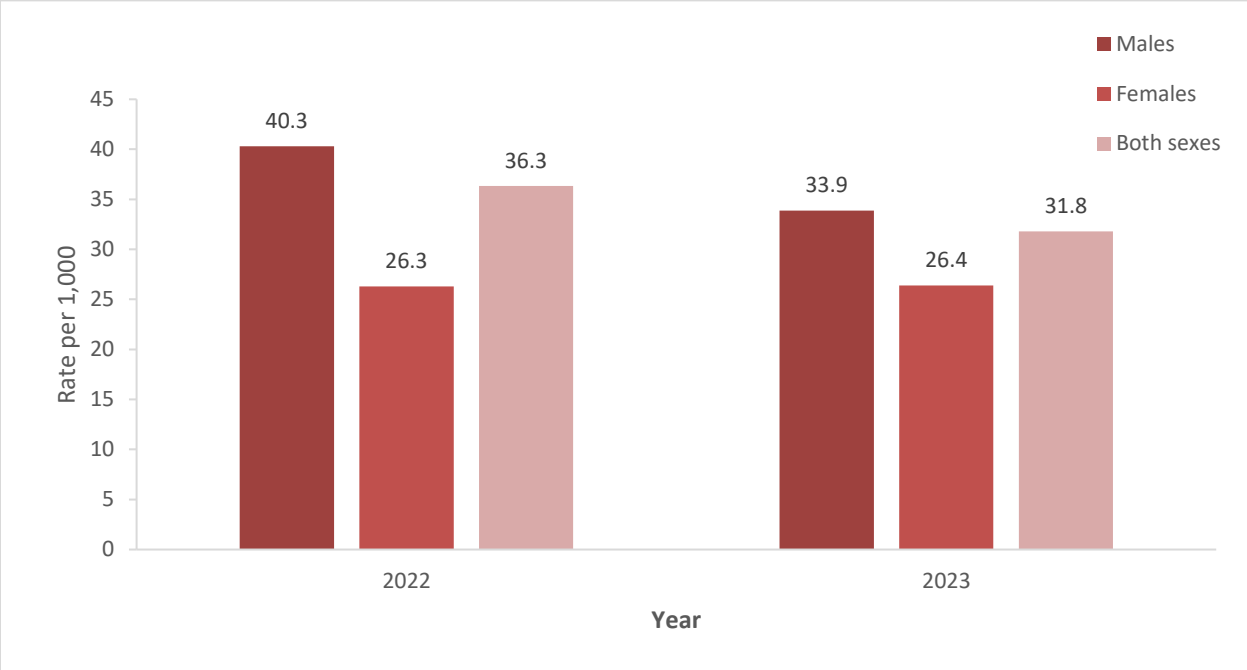
Notes: Non-communicable chronic diseases based on cardiovascular disease (I00-I99), cancers (C00-C97), diabetes (E10-E14), chronic respiratory disease (J30-J98); Excludes unknown causes

3.3 Mortality by age groups

Adult mortality between 15 and 60 years of age (probability of dying between 15 and 60 years per 1000 population) is a widely used indicator to assess the burden of disease (mainly NCD) in the most economically productive age group (Wang et al., 2017).

The adult mortality rate (AMR) declined from 36.3 deaths per 1,000 population in 2022 to 31.8 deaths per 1,000 in 2023 (Figure 3.3.1). Among males, AMR decreased from 40.3 in 2022 to 33.9 in 2023, while the rate among females remained relatively stable at 26.3 and 26.4, respectively. Overall, this reduction indicates an improvement in adult survival, particularly among men.
According to the World Bank, globally, male adult mortality rate was 176 per 1000 and female adult mortality rate was 113 per 1000 in 2023 (World Bank, 2023)

Figure 3.3.1: Adult mortality rate per 1,000 between 15 and 60 years old, by gender and year, 2022 to 2023



Source: Ministry of Public Health

Under-5 and infant mortality reflect the effect of socioeconomic conditions on the health of mothers and newborns, as well as the effectiveness of health systems, particularly in addressing any life-threatening problem during the neonatal period (i.e., during the first four weeks). This indicator is internationally recognized as an overall measure of the health status of a population and of the effectiveness of health services (OECD/EU, 2018).

Table 3.3.1: Number of deaths for children under 5 years of age, by age at death, gender, and year, 2022 to 2023

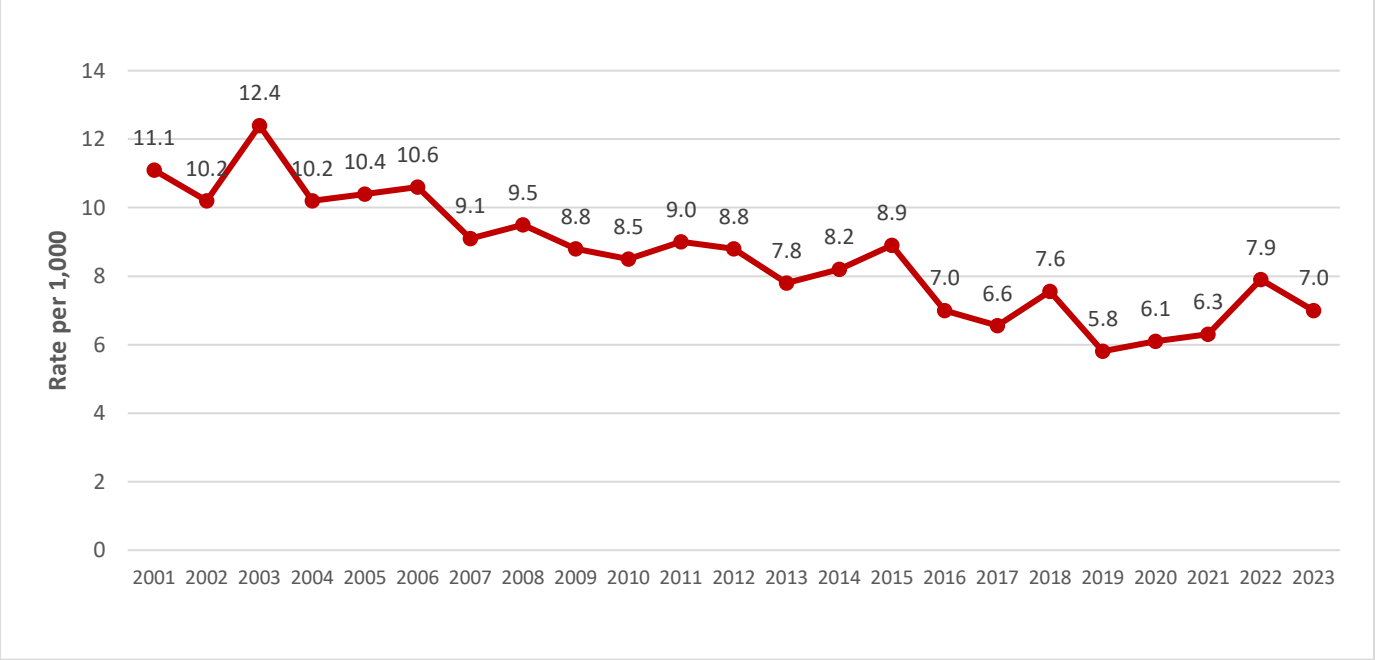
Age	2022			2023		
	Male	Female	Both sexes	Male	Female	Both sexes
Early Neonatal (0-6 days)	38	49	87	51	30	83*
Late Neonatal (7-27 days)	16	12	28	10	11	21
Post Neonatal (28 days-1 year)	29	23	52	20	15	35
Total Infant Mortality	*83*	*84*	*167*	*81*	*56*	*150***
1-4 years	**13**	**24**	**37**	**29**	**11**	**40**
Total Under 5 Mortality	*96*	*108*	*204*	*110*	*67*	*190*

Source: Ministry of Public Health

Note: In 2023, *2 cases were reported with unspecified sex and ** 11 cases were reported with unspecified days within the 0–1 year age group. These cases were included in the total for both sexes due to unspecified sex.

Under-5 mortality in Qatar has followed a general downward trend over the past two decades, declining from 11.1 deaths per 1,000 live births in 2001 to 7.0 deaths per 1,000 in 2023—a 36.9% overall reduction (Figure 3.3.2). After reaching a low of 5.8 in 2019, the rate fluctuated slightly, increasing to 6.1 in 2020, 6.3 in 2021, peaking at 7.9 in 2022, and then declining again to 7.0 in 2023. Despite short-term variations, the long-term trend indicates substantial progress in reducing child mortality in Qatar. Gender-wise breakdown of the under 5 mortality is given in Table 3.3.1.

Figure 3.3.2: Under 5 mortality rates per 1,000 live births, by year, 2001 to 2023



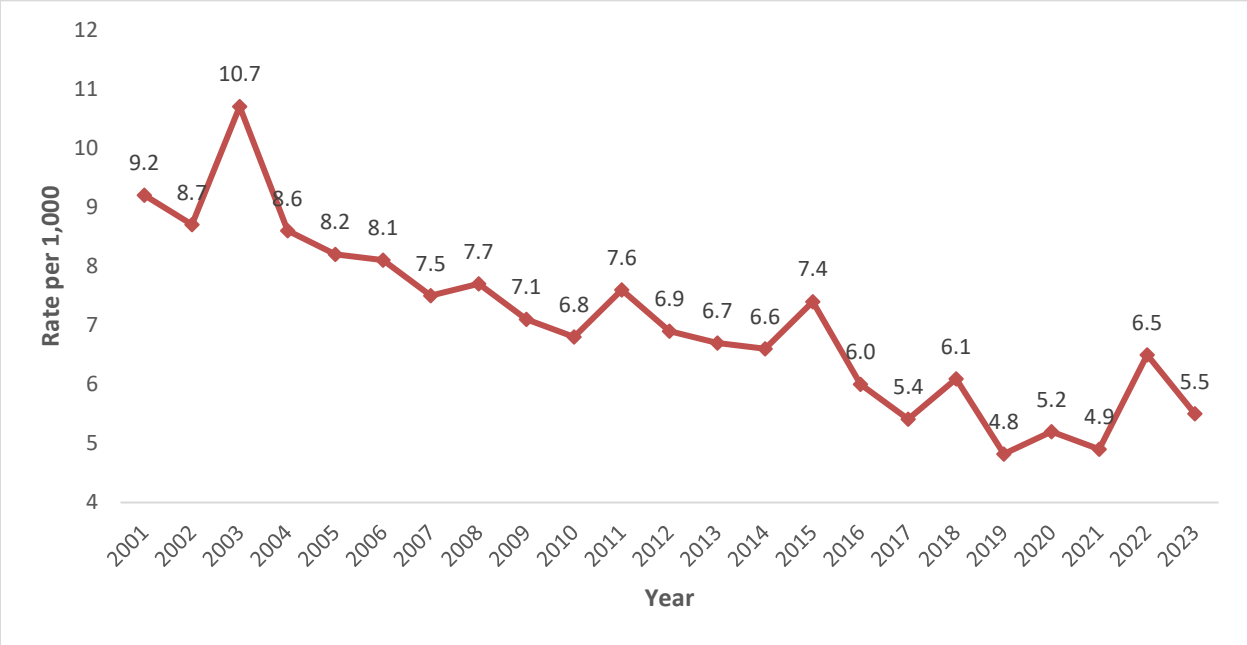
Source: Ministry of Public Health

Infant mortality rate is also low in Qatar. Data since 2001 in Qatar shows a consistent and a significant decreasing trend in infant mortality rate from 9.2 down to the current value of 5.1 per 1,000 live births in year 2023 with an overall decrease of about 44.5% (Figure 3.3.3).

A number of countries, including GCC and European countries, have achieved notable progress in reducing infant mortality rates over the past few decades (World Bank, 2023). For instance, the EU average went down from over 10 deaths per 1,000 live births in 1990 to 3.2 deaths in 2023. However, the downward trend in infant mortality has halted in recent years, at least partly because of increasing numbers of low-birth-weight infants (OECD/EU, 2018).

Qatar's infant mortality rate is second of the lowest values in the WHO EMRO region and comparable to those observed in the GCC countries ranging from 4 in United Arab Emirates to 7.2 in Bahrain (United Nation, 2025).

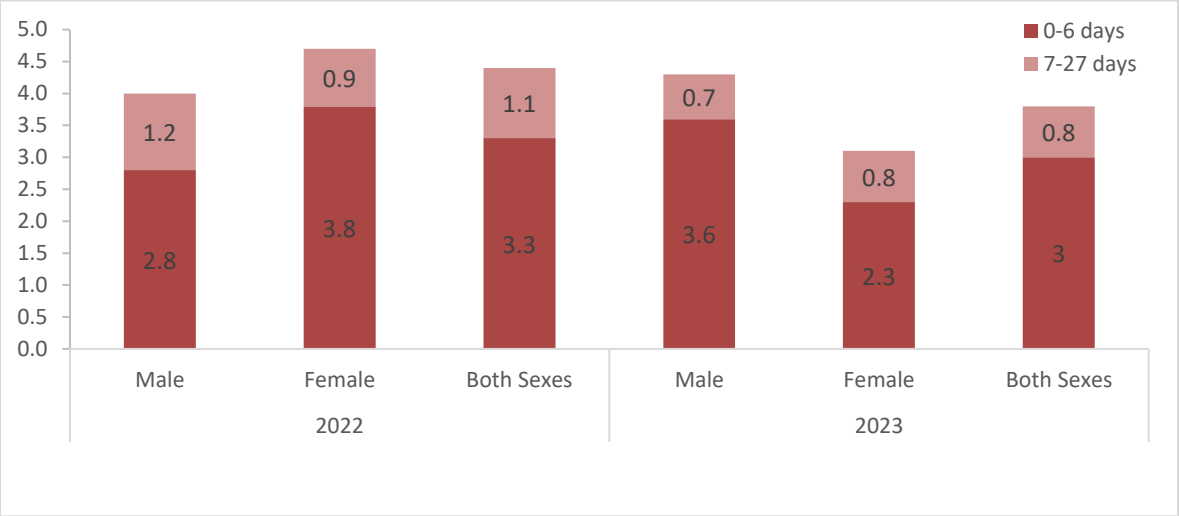
Figure 3.3.3: Infant mortality rate per 1,000 live births, by year, 2001 to 2023



Source: Ministry of Public Health

During 2022 and 2023, more than half of the deaths during the first year of life occurred during the first month (i.e. neonatal mortality) (Table 3.3.1 and Figure 3.3.4). This compares to a ratio of two thirds in most EU countries. The main causes of death during the first month are congenital anomalies, prematurity and other conditions arising during pregnancy. For deaths beyond one month (post neonatal mortality), there tends to be a greater range of causes – the most common being sudden infant death syndrome (SIDS), birth defects, infections, and accidents (OECD/EU, 2018).

Figure 3.3.4: Early neonatal (0 to 6 days) and late neonatal (7 to 27 days) mortality rates per 1,000 live births, by gender and year, 2022 to 2023



Source: Ministry of Public Health

3.4 Stillbirths

The term stillbirths refer to the loss of a baby before or during delivery. Based on the WHO definition used for international comparison, a stillbirth represents a baby who dies after 28 weeks of pregnancy, but before or during birth (WHO, 2006). Improved health systems and advanced prenatal care are effective ways to prevent stillbirths from occurring. The stillbirth rate is influenced by both prenatal conditions (such as congenital anomalies) and the quality of care before and during pregnancy (WHO, 2006).

In accordance with Qatari law, a stillbirth is defined as the birth of a baby showing no signs of life after 28 completed weeks of gestation (Al Meezan - Qatary Legal Portal | Articles | 10)

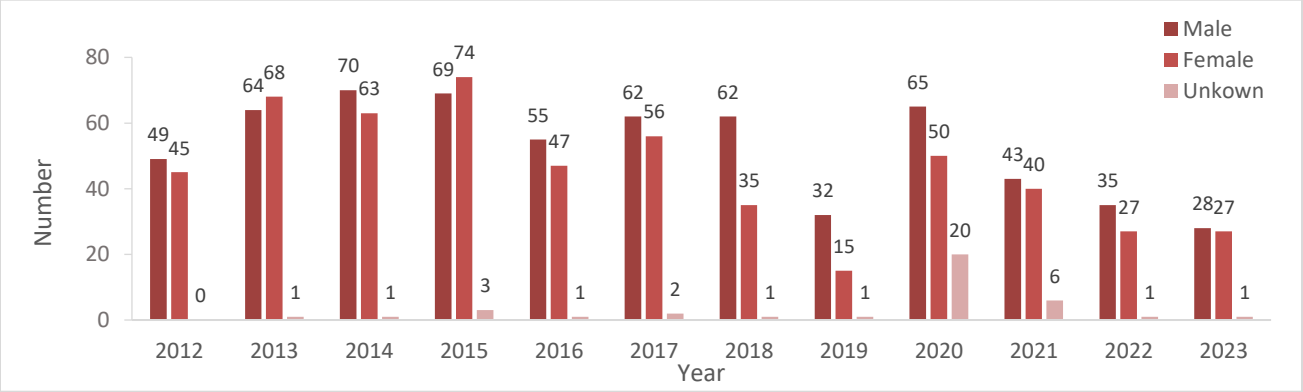
In Qatar, over the past 12 years, there has been a consistently higher number of male stillbirths compared to female stillbirths. The only exceptions were in 2013 and 2015, where the number of female stillbirths (68 and 74, respectively) exceeded that of male stillbirths (64 and 69, respectively) (Figure 3.4.1).

This trend of higher male stillbirths continued in 2022 and 2023, with 8 and 1 more male stillbirths recorded in each year, respectively (Figure 3.4.1).
Overall, the stillbirth rate in Qatar has shown a significant decline since 2020, dropping from 4.6 stillbirths per 1,000 total births in 2020 to 2.0 stillbirths per 1,000 in 2023 — the lowest recorded stillbirth rate in the past 19 years (Figure 3.4.2). Qatar has already achieved the World Health Assembly target of reducing stillbirths to 12 or fewer per 1,000 total births by 2030. In

comparison, the global stillbirth rate was estimated at 14.3 per 1,000 total births in 2023 (UNICEF, 2023).

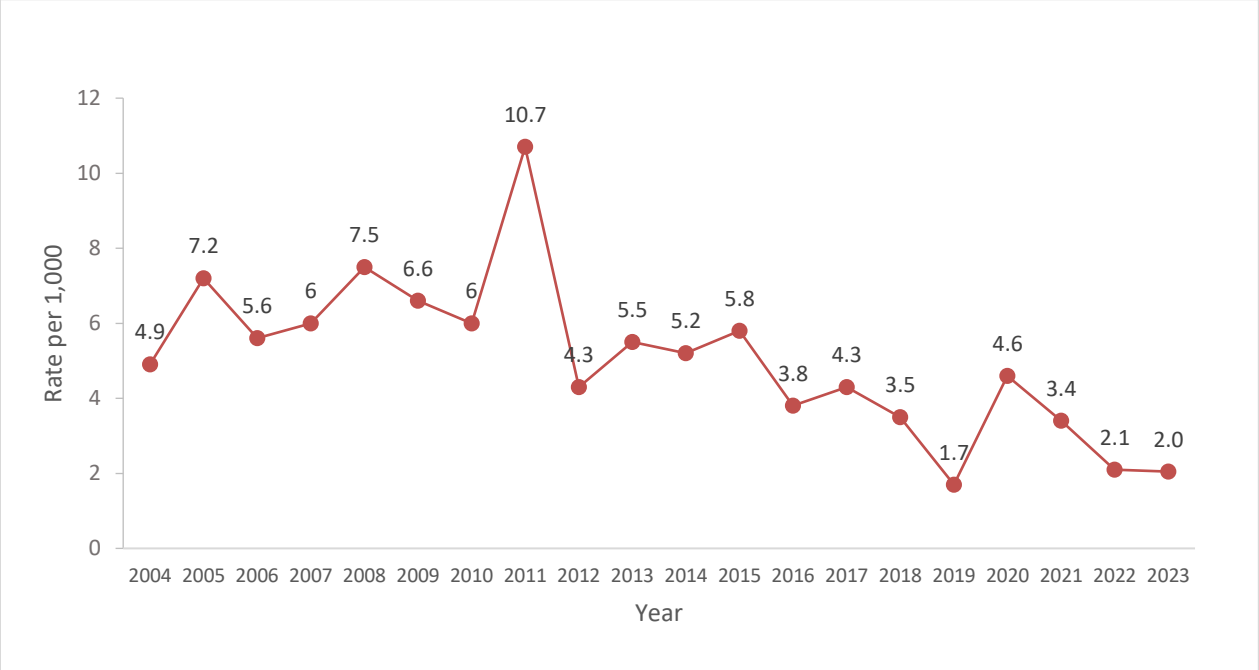
Stillbirth rates have been on the decrease worldwide. Improved antenatal care and public health interventions targeted to promote health behaviors contributed to the decrease in stillbirths worldwide (Frøen et al., 2016) Timely access to cesarean sections and essential obstetric care, along with measures to prevent and control infections, are among the most effective interventions for significantly lowering stillbirth rates globally (McClure et al., 2014). Known risk factors for stillbirths include placental problems, hypertension during pregnancy (preeclampsia or pregnancy induced hypertension), and smoking (Lawn et al., 2016).

Figure 3.4.1: Number of still births, by gender and year, 2012 to 2023



Source: Ministry of Public Health

Figure 3.4.2: Still birth rate per 1,000 live births, by year, 2004 to 2023



Source: Ministry of Public Health

3.5 Maternal mortality

Maternal mortality is defined by the WHO as a female death occurring during pregnancy or by 6 weeks (42 days) after end of pregnancy and due to any cause related to the pregnancy or its management (excluding accidental causes) (Khan, Wojdyla, Say, Gulmezoglu &Van Look, 2006). Like many indicators of mortality, maternal mortality is an important indicator of health system performance.
Number of maternal deaths are very low in Qatar with 2 deaths in 2021 (Table 3.5.1)

Table 3.5.1: Number of maternal deaths, by nationality and year, 2022 to 2023

Year	Number of maternal deaths - Qatari	Number of maternal deaths - non-Qatari	Total number of maternal deaths	Number of Live births - Qatari	Number of Live births non-Qatari	Total number of live births
2022	0	2	2	7,154	19,162	26,316
2023	0	1	1	6,974	20,348	27,322

Source: Ministry of Public Health, Ministry of Development and Planning

Overall, in Qatar, there has been a decreasing trend of maternal mortality ratio from 2007 (31.9 maternal deaths per 100,000 live births) to 3.7 deaths per 100,000 live births in 2023 (Figure 3.5.1). However, in 2021, maternal mortality increased to 7.6 deaths per 100,000 live births and remained the same till 2022 (Figure 3.5.1). Between 2022 and 2023, the number of maternal deaths increased by one death, but the maternal mortality ratio decreased by more than double as the total live births increased by 1066 (Table 3.5.1). Because of the rarity of the event, the ratio can fluctuate over time even for small changes in the number of deaths (Figure 3.5.1 and Table 3.5.1).

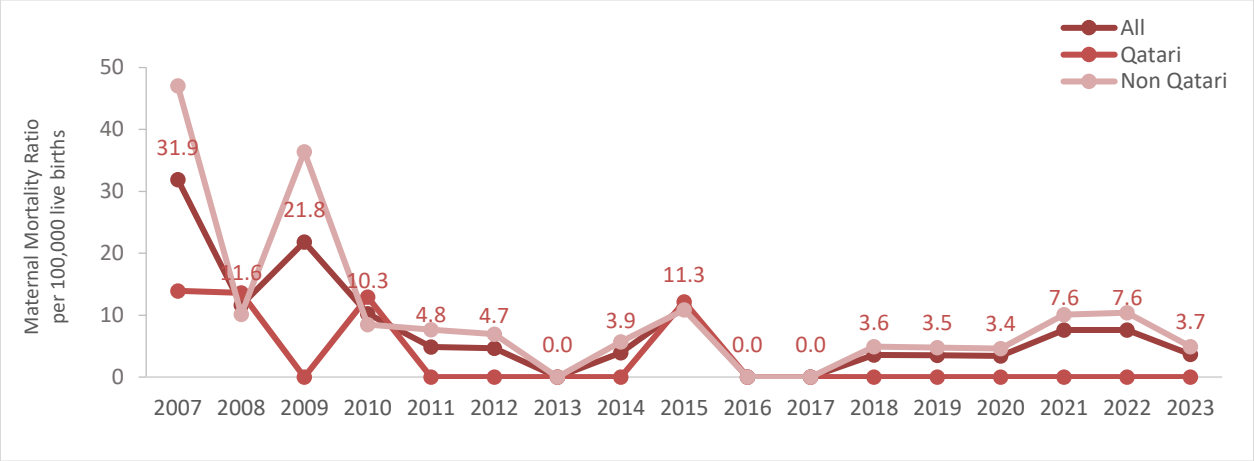
In order to compensate for yearly fluctuation and stabilize the yearly rate a three-year moving average of maternal mortality ratio was used to improve data analysis and interpretation. Over the past decade, there has been a significant decrease in the 3-year moving average of maternal mortality ratio, from 21.8 deaths per 100,000 in 2008 to 6.2 and 6.3 deaths per 100,000 in 2021 and 2022 respectively. Since 2017, the three years moving average shows a gradual increase in the maternal mortality ratio, from 1.2 to 7.6 deaths per 100,000 (Figure 3.5.2). However, on a year-to-year basis, although there were no deaths in 2017, at least one maternal death was reported every year thereafter untill 2023, except in 2021 and 2022, which each recorded two maternal deaths.

Because of the very low maternal mortality ratio, Qatar has already met the global SDG 3 goal 3.1 of reducing the maternal mortality ratio to less than 70 per 100,000 live births by 2030.

In 2023, the global maternal mortality ratio (MMR) saw a significant reduction of 40%, decreasing from 328 to 197 maternal deaths per 100,000 live births, based on estimates from UN inter-agency sources. (UNICEF, 2023).

The low mortality ratio seen in Qatar is largely attributed to the advances in its healthcare system and improvement in maternal health, antenatal care, neonatal and postnatal care services and to the public health interventions targeted at promoting healthy behaviors and healthy habits before and during pregnancy.

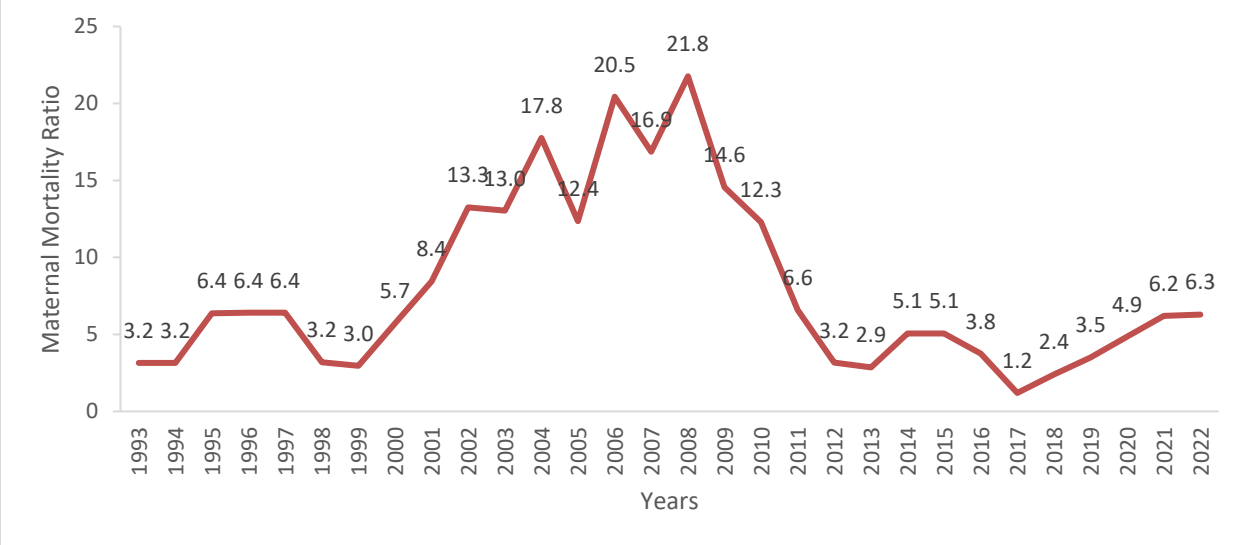
Figure 3.5.1: Maternal mortality ratio, by nationality and year, 2007 to 2023



Source: Ministry of Public Health

Note: Ratio calculation

Figure 3.5.2: Three years moving average of maternal mortality ratio, by year, 1993 to 2022



Source: Ministry of Public Health

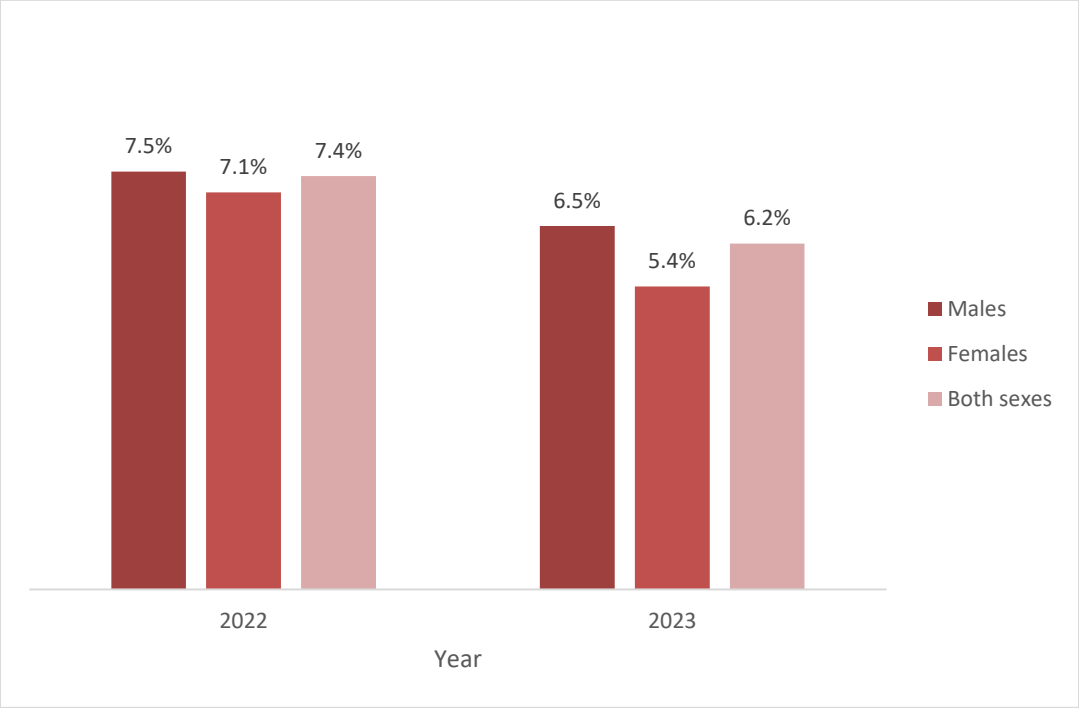
Note: Three year moving average calculation – Year B = (Year A + Year B + Year C)/3

3.6 Mortality by main cause and age

Probability of dying between 30 and 70 years of age from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases refers to the probability that a 30-year-old individual will die before reaching age 70 from the 4 main NCDs. It relates to the contribution of the 4 NCDs on the burden of mortality in an economically productive and working population (WHO, 2018).

Figure 3.6.1 illustrates the probability of dying between ages 30 and 70 from major non-communicable diseases—cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases—for 2022 and 2023. In 2022, the probability was 7.5% for males, 7.1% for females, and 7.4% overall. By 2023, these figures declined to 6.5% for males, 5.4% for females, and 6.2% overall, indicating a significant reduction in premature mortality.
This downward trend suggests progress toward WHO's global target of reducing premature NCD mortality by one-third by 2030, with a more pronounced improvement among females, reflecting potential gains in prevention, early detection, and treatment strategies.

Figure 3.6.1: Probability of dying between the ages of 30 and 70 years from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases, by year, 2022-2023



Source: Ministry of Public Health

3.6.1 Mortality due to cardiovascular disease

Table 3.6.1 presents the number of cardiovascular disease deaths among males and females. As previously noted, there is a substantially higher number of deaths from cardiovascular diseases

among males compared to females across all adult age groups. This difference is attributed to both the higher risk of these diseases in men and the disproportionate number of men in the middle-age groups.

Table 3.6.1: Number of cardiovascular disease related deaths (Chapter IX), by gender and age group, 2023

Age groups	Male	Female	Both sexes
0 - 4	8	3	11
5 - 9	3	1	4
10 - 14	1	1	2
15 - 19	4		4
20 - 24	8	4	12
25 - 29	15	4	19
30 - 34	35		35
35 - 39	59	8	67
40 - 44	81	9	90
45 - 49	70	8	78
50 - 54	94	14	108
55 - 59	70	11	81
60 - 64	50	12	62
65 - 69	48	17	65
70 - 74	46	24	70
75 - 79	29	21	50
80 +	72	58	130
Total	693	195	888

Source: Ministry of Public Health

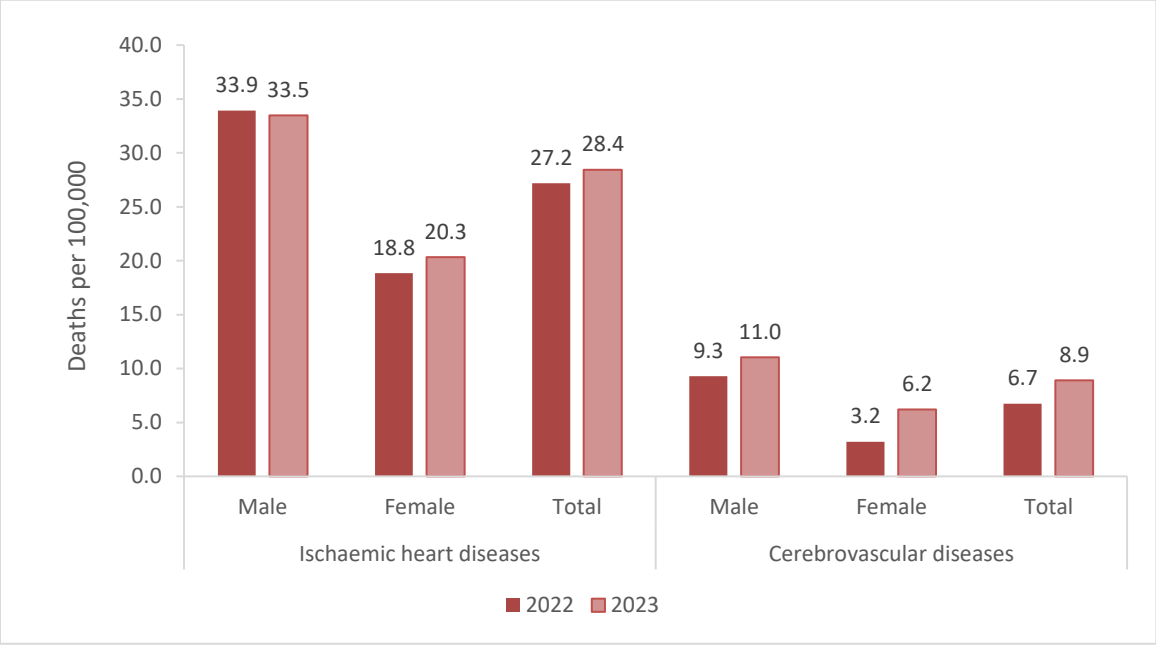
Standardized rates for ischemic heart disease and stroke. Comparison with region (EMRO) and other developed countries

Standardized mortality rates for ischemic heart disease remained high in both years (Figure 3.6.2), with a slight decrease among males (33.9 to 33.5 per 100,000) but an increase among females (18.8 to 20.3), leading to an overall rise from 27.2 to 28.4. Conversely, cerebrovascular disease mortality increased for both sexes, particularly among females, where rates nearly doubled from 3.2 to 6.2, while males rose from 9.3 to 11.0, resulting in an overall increase from 6.7 to 8.9. These patterns highlight persistent gender disparities and a concerning upward trend in cerebrovascular mortality, emphasizing the need for targeted cardiovascular prevention and control strategies.

According to estimates from the Institute for Health Metrics and Evaluation, in 2023, Qatar's age-standardized mortality rate for ischemic heart disease was ranked in the mid-range overall and among the lower rates in the Gulf region for both males and females (Figure 3.6.3). While

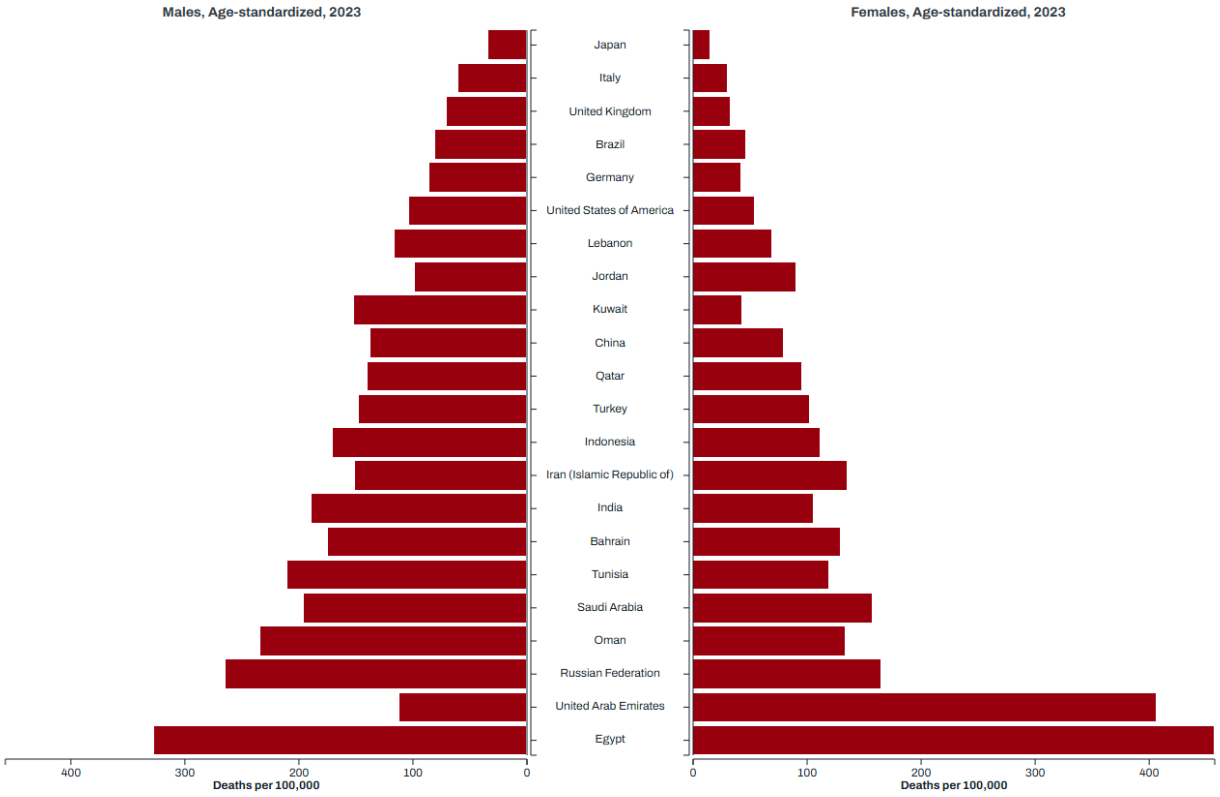
Qatar performed better than countries such as Oman, Saudi Arabia, and the United Arab Emirates, its rates were slightly higher than those observed in Kuwait and Bahrain.

Figure 3.6.2: Standardized mortality rates for ischemic heart disease and cardiovascular disease by gender, 2022-2023



Source: Ministry of Public Health

Figure 3.6.3: Standardized mortality rates for ischemic heart disease among EMRO region and developed countries by gender in 2023



3.6.2 Mortality due to Malignant cancer

Cancer-related mortality shows a varied pattern between males and females. The risk of developing and dying from most cancers increases with age, a trend observed in both sexes (Table 3.6.2).

Table 3.6.2: Malignant Cancer related mortality, by gender and age group, 2023

Age groups	Males	Females	Both sexes
0-4	6	3	9
5-9	2	2	4
10-14	2	0	2
15-19	2	0	2
20-24	0	0	0
25-29	6	0	6
30-34	4	1	5
35-39	3	13	16
40-44	14	10	24
45-49	17	13	30
50-54	17	18	35
55-59	21	14	35

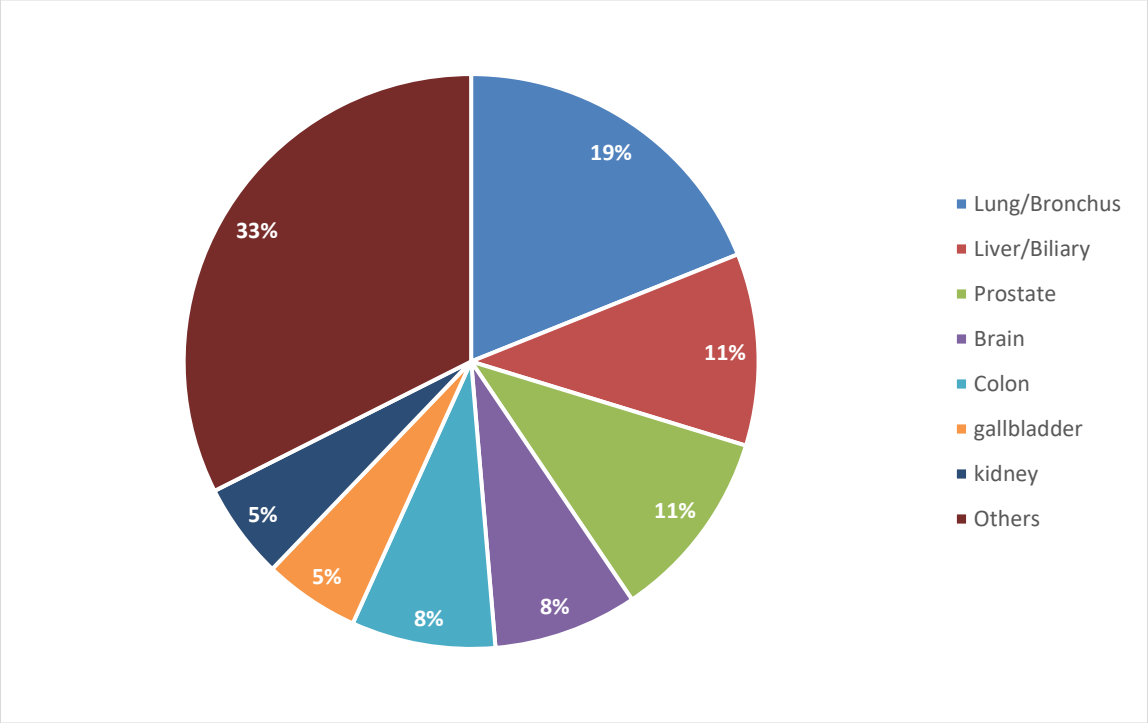
60-64	32	16	48
65-69	25	12	37
70-74	16	7	23
75-79	14	16	30
80+	19	14	33
Total	200	139	339

Source: Ministry of Public Health

The main contributors of cancer-related deaths among Qatari males in 2023 were Lung (19%), followed by Liver and Prostate (11%), Brain and colon cancers (8%) (Figure 3.6.2, Table 3.6.3). The main causes of cancer mortality among non-Qatari males in 2023 were liver/biliary cancers (11%). This was followed by lung/bronchus cancer (10%), Stomach and Pancreas (9%), Prostate (7%) (Figure 3.6.3, Table 3.6.3).

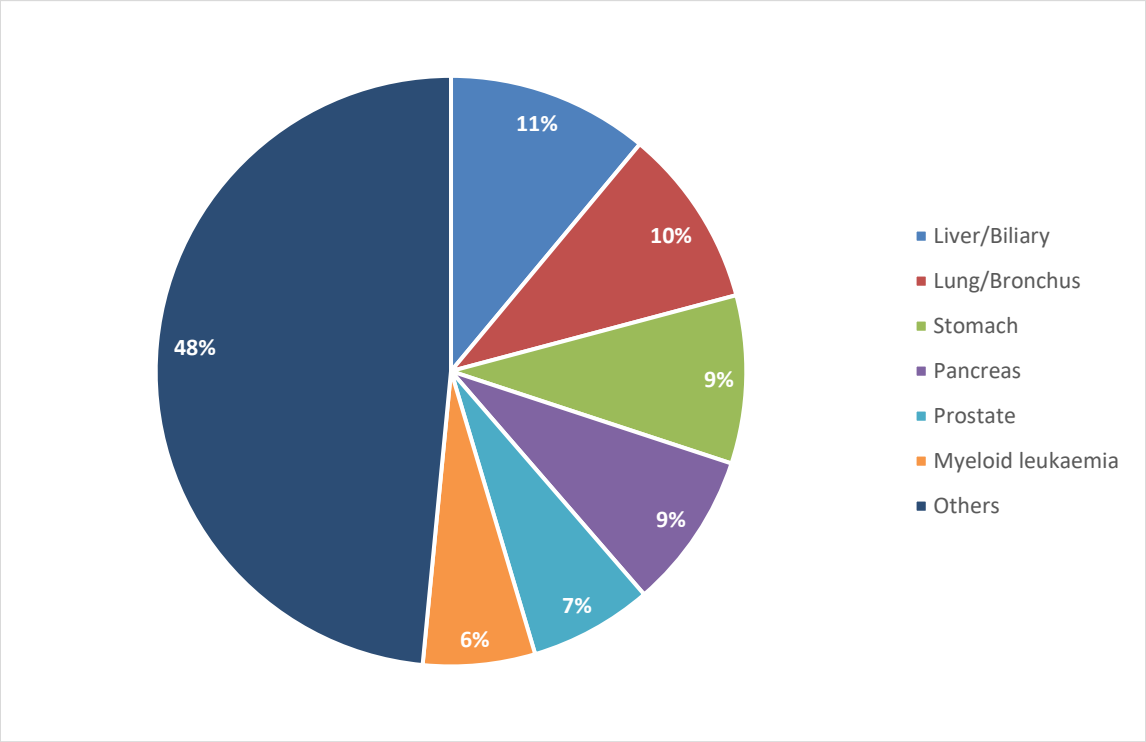
The main causes of cancer mortality among males (both Qatari and non-Qatari) in Qatar are largely similar to those observed in industrialized countries, such as those in the European Union. In 2016, among EU countries, like in Qatar, lung cancer is the most common cause of cancer-related deaths associated to 25% of cancer mortality among males.

Figure 3.6.2: Percentage of deaths by cancer in Qatari males, by top 7 causes, 2023



Source: Ministry of Public Health

Figure 3.6.3: Percentage of deaths by cancer in non-Qatari males, by top 6 causes, 2023



Source: Ministry of Public Health

The main contributors of cancer-related deaths among Qatari females in 2023 were breast and pancreas cancers (16%), followed by lung and Liver/biliary cancers (9%) (Figure 3.6.4, Table 3.7.3). The main causes of cancer mortality among non-Qatari females in 2023 were breast cancers (18%) followed by Lungs and Bronchus and female genital organs (9%), and pancreas, colon and liver (6% each). (Figure 3.6.5, Table 3.6.3).

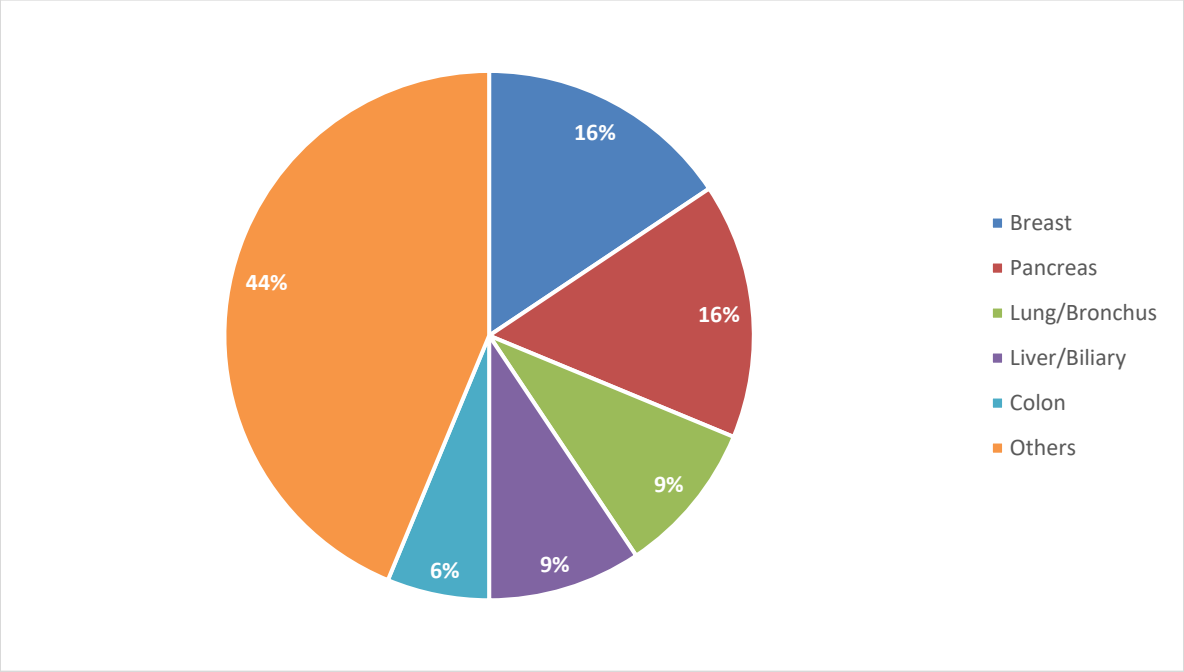
The main cause of cancer mortality among females (Qatari and non-Qatari) in Qatar is also similar like that observed in EU countries. The main causes of cancer mortality among females (Qatari and non-Qatari) in Qatar differ slightly from those observed in EU countries, unlike in previous years. In 2023, lung cancer was the leading cause of cancer-related deaths among women in EU countries (16.8%), followed by breast cancer (17.7%), colorectal cancer (10.9%) and pancreas cancer (8.3%) (OECD, 2023).

In contrast, breast cancer was the leading cause of cancer mortality among both Qatari (16%) and non-Qatari women (18%). Among Qatari females, lung cancer (9.0%) was the third leading cause of death and it was the third leading cause of death for non-Qatari women.

The difference in cancer related mortality between Qatar and the EU countries could be the result of different lifestyles, environmental factors, infectious diseases prevalence and genetics

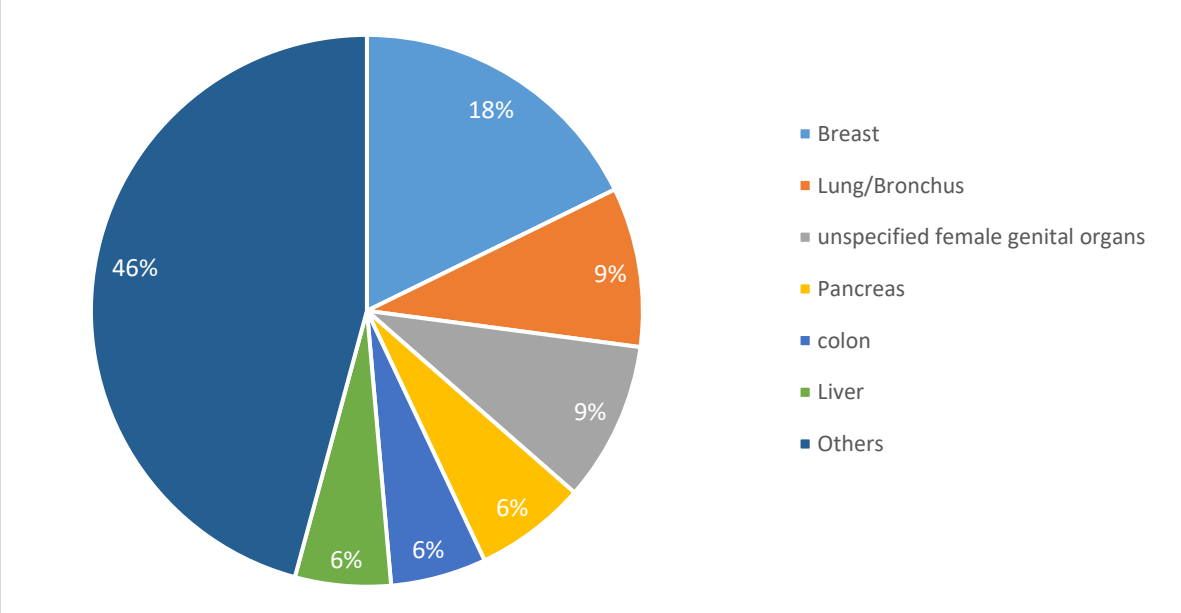
in the populations. In particular, the low frequency of cancer related deaths in females in Qatar could be explained by the low prevalence of smoking in women (Table 5.5)

Figure 3.6.4: Percentage of deaths by cancer in Qatari females, by top 6 causes, 2023



Source: Ministry of Public Health

Figure 3.7.5: Percentage of deaths by cancer in non-Qatari females, by top 5 causes, 2023



Source: Ministry of Public Health

Table 3.6.3: Malignant Cancer related mortality, by nationality and gender and by top 6 causes, 2023

Qatari				Non-Qatari			
Male		**Female**		**Male**		**Female**	
Lung/Bronchus	7	Breast	5	Liver/Biliary	18	Breast	19
Liver/Biliary	4	Pancreas	5	Lung/Bronchus	16	Lung/Bronchus	10
Prostate	4	Liver/Biliary	3	Stomach	15	Female Genital Organs	10
Brain	3	Lung/Bronchus	3	Pancreas	14	Pancreas	7
Colon	3	Colon	2	Prostate	11	Colon	6
Gallbladder	2	Others	14	Myeloid Leukemia	10	Liver	6
Kidney	2	**Total**	**32**	Others	79	Others	49
Others	12			**Total**	**163**	**Total**	**107**
Total	**37**						

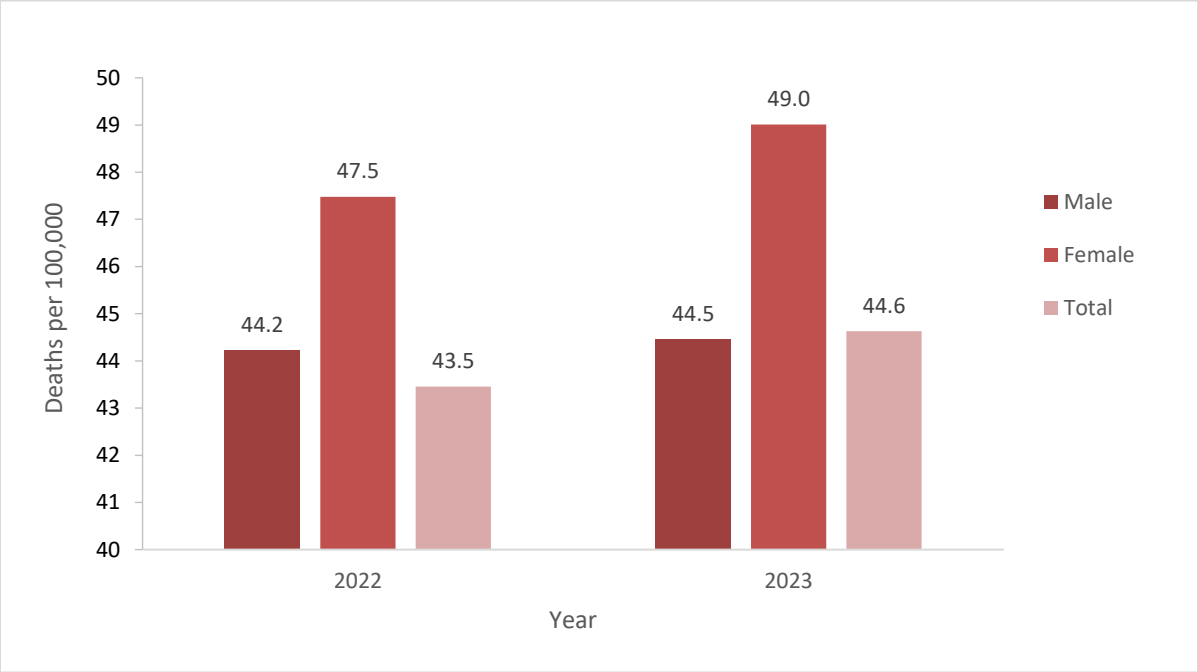
Source: Ministry of Public Health

Standardized rates for all cancers-Comparison with region (EMRO) and other developed countries

Based on Figure 3.6.6, in 2022, the SMR for all cancers was higher in females compared to males (47.5 vs. 44.2 per 100,000). However, in 2023, the SMR for all cancers increased in both males and females. The values in 2023 remained higher for females, with an SMR of 49.0 compared to 44.5 per 100,000 in males (Figure 3.6.6).

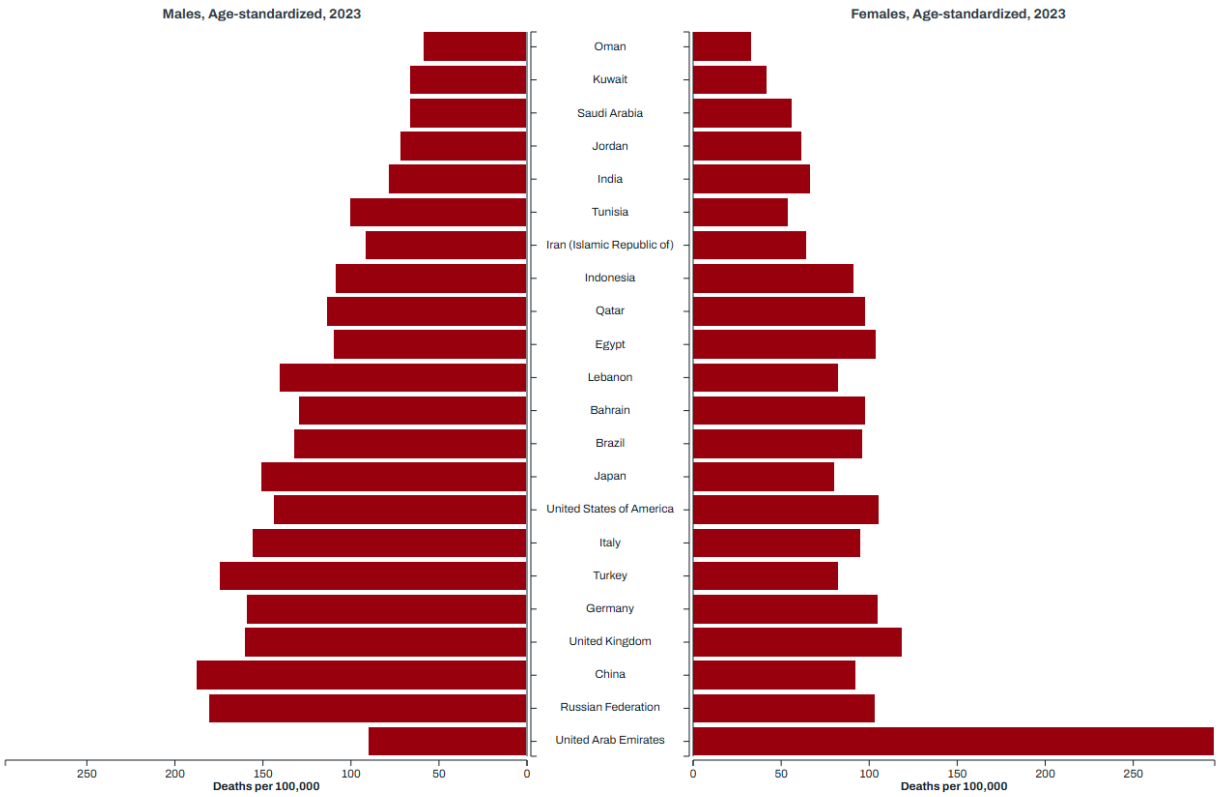
According to estimates from the Institute for Health Metrics and Evaluation, in 2023, Qatar age-standardized mortality rate for all cancers was moderate compared to other Gulf countries. Qatar ranked higher than Kuwait and Oman, which reported the lowest cancer mortality rates in the region, but lower than Saudi Arabia and the United Arab Emirates, where rates were among the highest (Figure 3.6.7).

Figure 3.6.6: Standardized mortality rates for all cancers by gender, 2022-2023



Source: Ministry of Public Health

Figure 3.6.7: Standardized mortality rates for all cancers among EMRO region and developed countries by gender in 2023



3.6.3 Mortality due to diabetes

Diabetes related mortality in Qatar showed a mixed trend during 2022 and 2023. In 2022, 114 deaths were related to diabetes which remains exactly same in 2023 to 114 diabetes-related deaths. Across the two years close to two-third of the diabetes related deaths were reported in male patients though this needs to be correlated with the total number of diabetes by gender and their disease complexity (Table 3.6.4).

Table 3.6.4: Number of diabetes-related deaths, by gender, age group and year, 2022 to 2023

Age groups	2022			2023		
	Males	Females	Both sexes	Males	Females	Both sexes
0-24	1		1			
25-29		1	1			
30-34		1	1		1	1
35-39	1		1	2		2
40-44	6		6	3		3
45-49	6	2	8	6	2	8
50-54	3	3	6	7	3	10
55-59	5	1	6	12	1	13

60-64	12	5	17	13	5	18
65-69	8	4	12	11	5	16
70-74	6	7	13	9	3	12
75-79	6	6	12	7	4	11
80+	13	17	30	8	12	20
Total	67	47	114	78	36	114

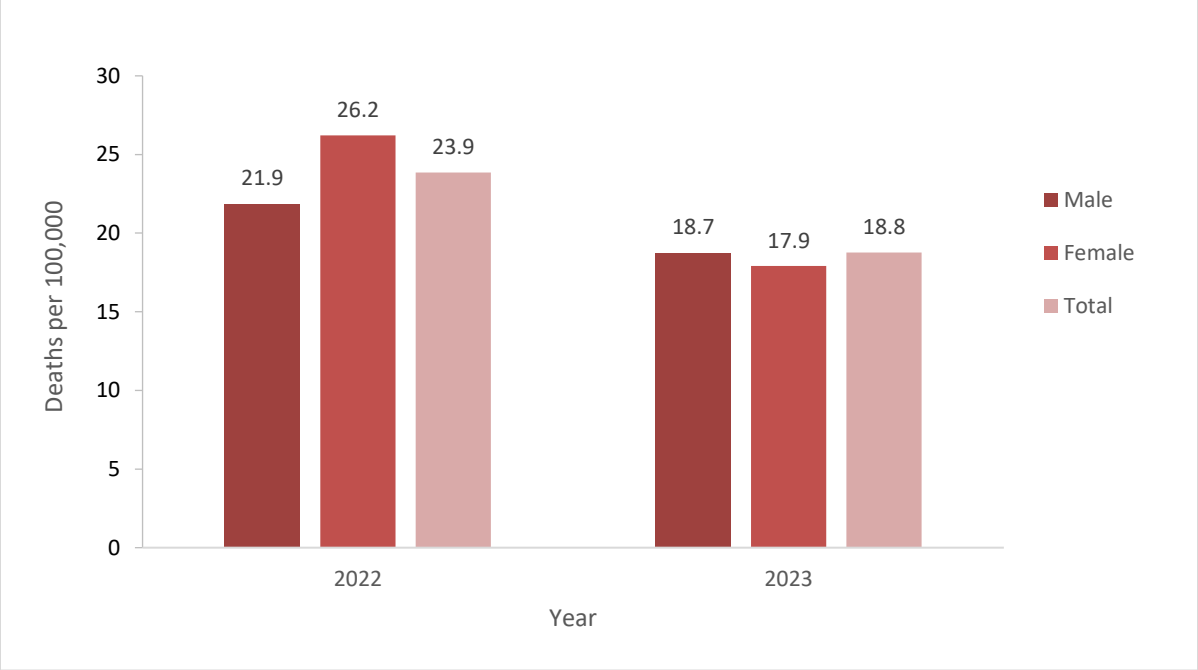
Source: Ministry of Public Health

Age standardized rates. Comparison of diabetes related death with region (EMRO) and other developed countries

The age standardized mortality rate of diabetes showed a decreasing trend from 2022 to 2023 both gender wise and for the overall population. For the overall population, from 2022 to 2023, SMR decreased from 23.9 to 18.8 per 100,000. From 2022 to 2023, for the male population, SMR changed from 21.9 to 18.7 per 100,000 and for females, from 26.2 to 17.9 per 100,000 (Figure 3.6.8).

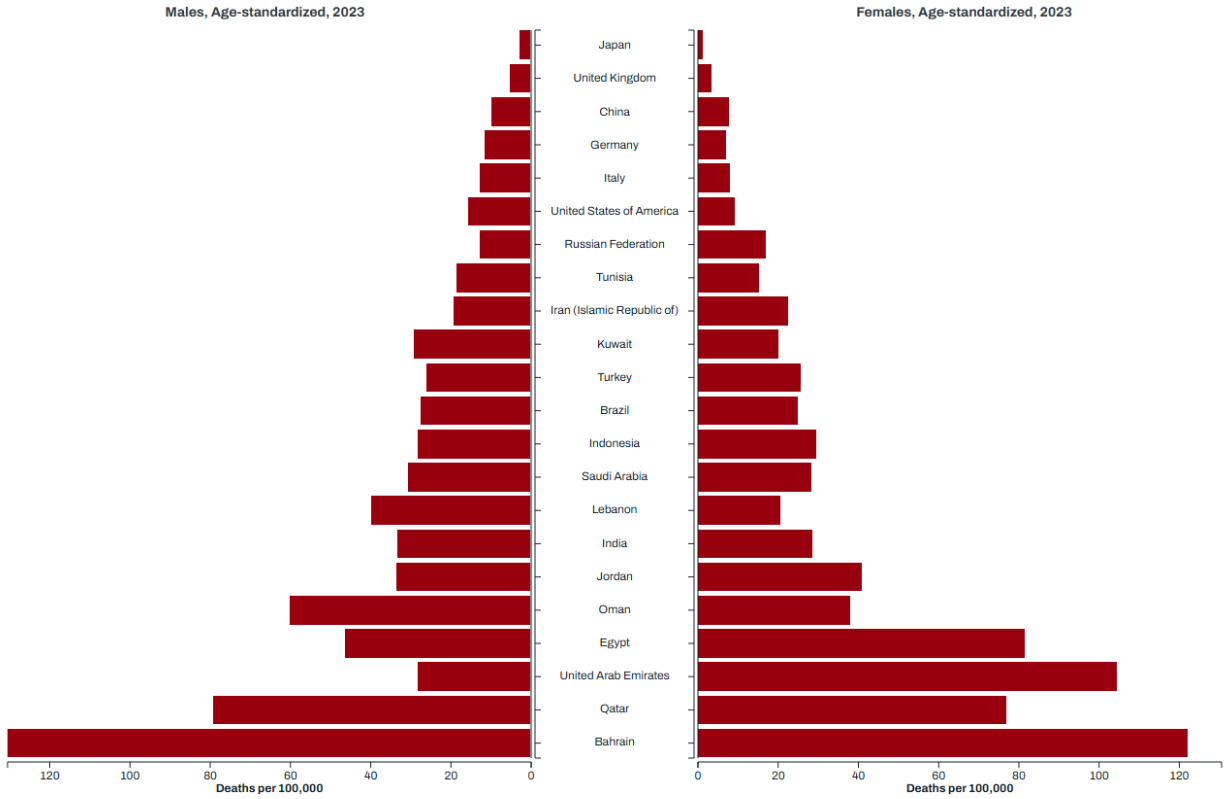
Within the EMRO region and the developed countries, Bahrain, Qatar and United Arab Emirates were the countries with the highest SMR related to diabetes (Figure 3.6.9).

Figure 3.6.8: Standardized mortality rates for diabetes by gender, 2022 – 2023



Source: Ministry of Public Health

Figure 3.6.9: Standardized mortality rates for diabetes among EMRO region and developed countries by gender in 2023



3.6.4 Mortality due to respiratory diseases

Respiratory diseases related deaths contribute to an important proportion of the NCD burden of disease (Table 3.6.5).

In 2023, respiratory disease-related deaths totaled 126, with 78 among males and 48 among females. Mortality was concentrated in older age groups, particularly those aged 80 years and above, accounting for 40 deaths (19 males and 21 females). Middle-aged groups (35–59 years) contributed a moderate share, while deaths among children under 5 years were relatively low at seven cases. Overall, the data indicate that respiratory disease mortality disproportionately affects older adults, with a slightly higher burden among males in most age categories (Table 3.6.5).

Table 3.6.5: Number of respiratory disease-related deaths, by gender and age group, 2023

Age groups	Males	Females	Both sexes
0-4	3	4	7
5-9	3	1	4
10-14		1	1
15-19		1	1

20-24	6	1	7
25-29	5	2	7
30-34	6		6
35-39	10	1	11
40-44	5	1	6
45-49	6		6
50-54	3		3
55-59	2	1	3
60-64	2	1	3
65-69	3	4	7
70-74	1	4	5
75-79	4	5	9
80+	19	21	40
Total	78	48	126

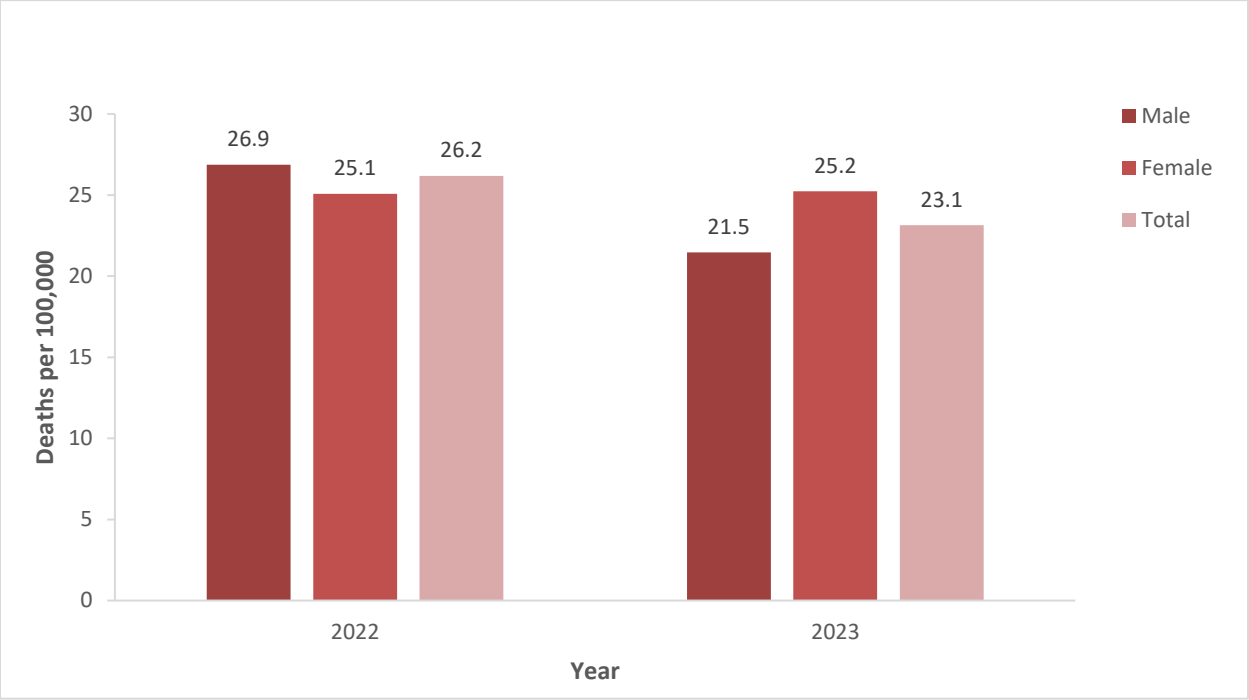
Source: Ministry of Public Health

Standardized rates. Comparison of chronic respiratory related death with region (EMRO) and other developed countries

Mortality from chronic respiratory diseases showed a decline in Qatar between 2022 and 2023, with standardized rates dropping from 26.9 to 21.5 deaths per 100,000 among males and from 25.1 to 25.2 among females, resulting in an overall decrease from 26.2 to 23.1. Despite this improvement, gender differences persist, with males experiencing higher mortality in 2022 but females slightly surpassing males in 2023 (Figure 3.6.10).

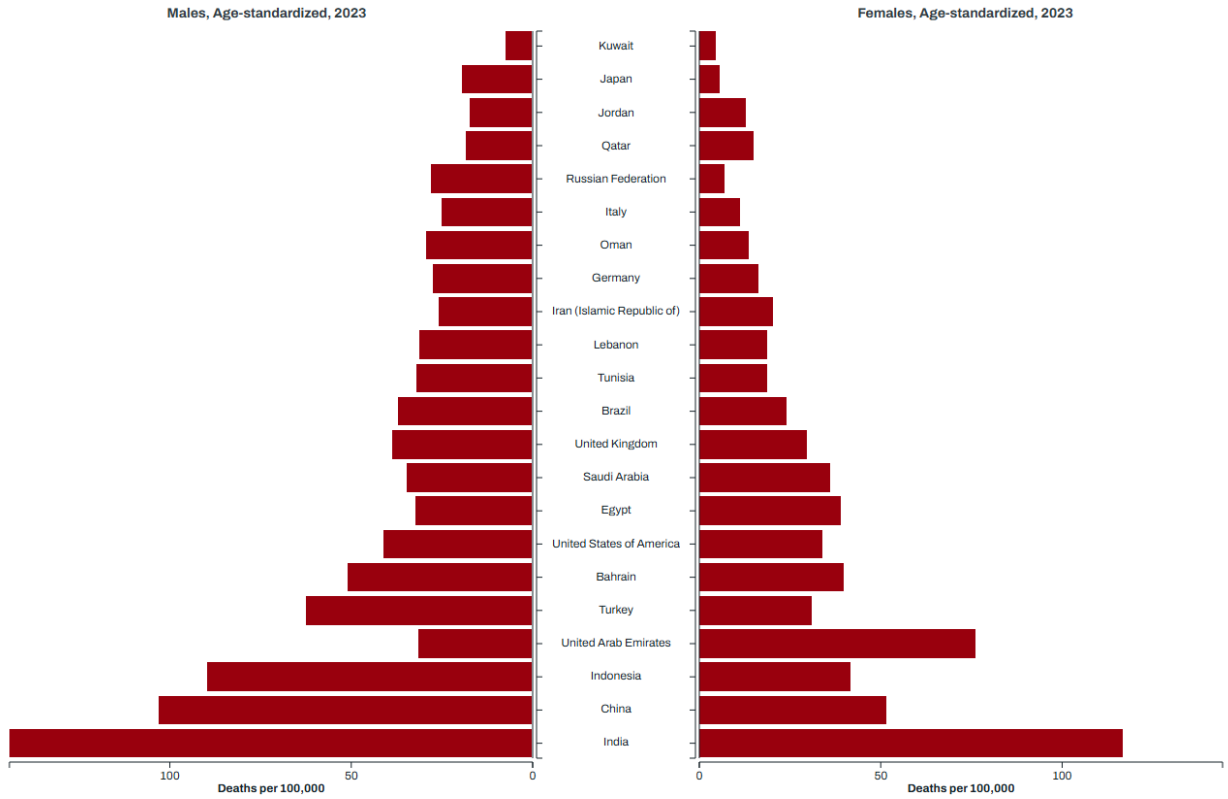
When compared internationally, Qatar ranks among countries with relatively low chronic respiratory mortality rates in the EMRO region, performing better than high-burden countries such as Egypt, Bahrain, and the United Arab Emirates, but still higher than Kuwait and Jordan (Figure 3.6.11).

Figure 3.6.10: Standardized mortality rates for chronic respiratory by gender, 2022-2023



Source: Ministry of Public Health

Figure 3.6.11: Standardized mortality rates for chronic respiratory diseases among EMRO region and developed countries by gender in 2023



3.6.5 Mortality due to road traffic Accidents

Road traffic Accidents (RTAs) are the leading cause of death for children and young adults aged 5–29 years (WHO, 2023).

In Qatar, in 2023, there was a total of 183 deaths from road traffic accidents (Table 3.6.6). This is lower than the number of deaths due to cancer (Table 3.6.3), and higher than the deaths attributable to diabetes (Table 3.6.4).

Males account for most of the deaths due to road traffic accidents (167 deaths). Only 16 deaths occurred among females. For both the genders, most of the deaths related to RTAs occurred between 15 to 49 years of age, a total of 135 out of 167 deaths in males and 10 out of 16 deaths in the females (Table 3.6.6). In terms of the absolute number of deaths, with 183 deaths, non-Qataris had more deaths due to road traffic accidents than Qatari (Figure 3.6.8).

The difference in age-specific mortality rates due to road traffic accidents was highest among the Qatari population in the 15–19 years age group, where the risk of dying from a road traffic accident was almost seven times higher than in the previous age group (10–14 years) and 3.5 times higher than in the subsequent age group (20–24 years) (Figure 3.6.7).

In the non-Qatari population, the highest difference in age-specific mortality rates was observed in adults aged 70 years and above.

Table 3.6.6: Number of deaths from road traffic accidents, by gender and age group, 2023

Age groups	Males	Females	Both sexes
0-4	5	1	6
5-9	3		3
10-14	3	1	4
15-19	17		17
20-24	22		22
25-29	21	2	23
30-34	28	5	33
35-39	20	1	21
40-44	14		14
45-49	13	2	15
50-54	10	1	11
55-59	5	1	6
60-64	2	1	3
65-69	2		2
70-74	1	1	2
75-79	1		1
80+			
Total	167	16	183

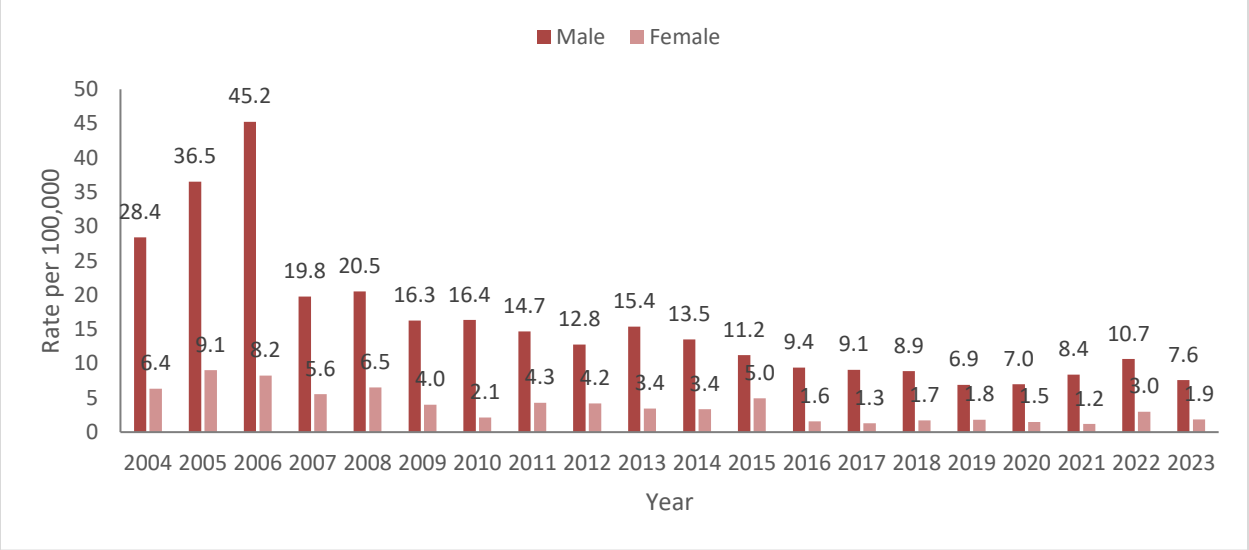
Source: Ministry of Public Health

Mortality rate for road traffic accidents was initially increasing from 2004 to 2006 up to 45.2 deaths per 100,000 among males (Figure 3.6.6). After 2006, the mortality decreases year by year down to the 2023 value of 7.6 deaths per 100,000 among males (a decrease of more than 6 times in 15 years) and 1.9 deaths per 100,000 among females (Figure 3.6.6).

Mortality from road traffic injuries in Qatar is currently lower than the average mortality rate from road traffic injuries across the OECD countries. The mortality rate from road traffic accidents was 17 deaths per 100,000 (World Bank, 2019) compared to 5.5 deaths per 100,000 in Qatar in 2019.

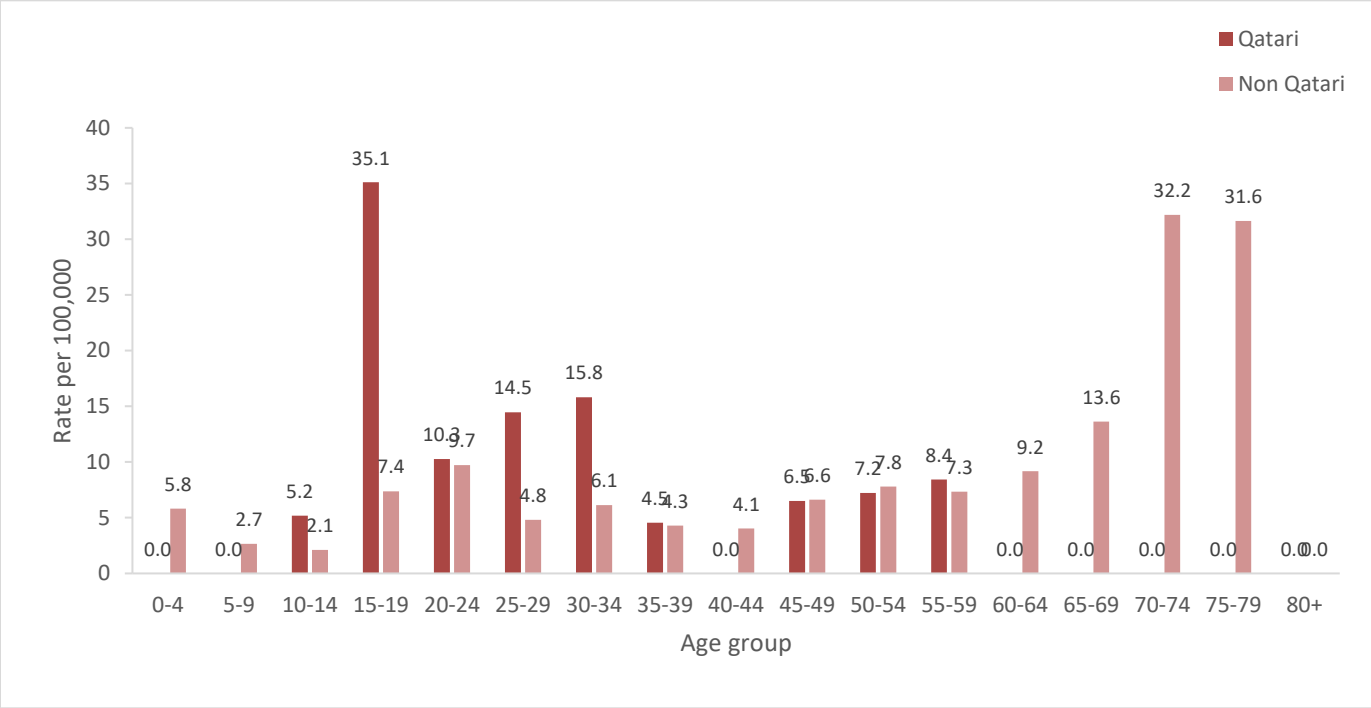
The significant decrease in mortality rate from road traffic accidents in Qatar is attributable to the reinforced public policies aimed at reducing speed driving, reckless driving, drunk-driving as well as increasing seat-belt use, helmet use for motorcycle and children restraints (Peter et al., 2004).

Figure 3.6.6: Mortality rate per 100,000 from road traffic accidents, by gender and year, 2004 to 2023



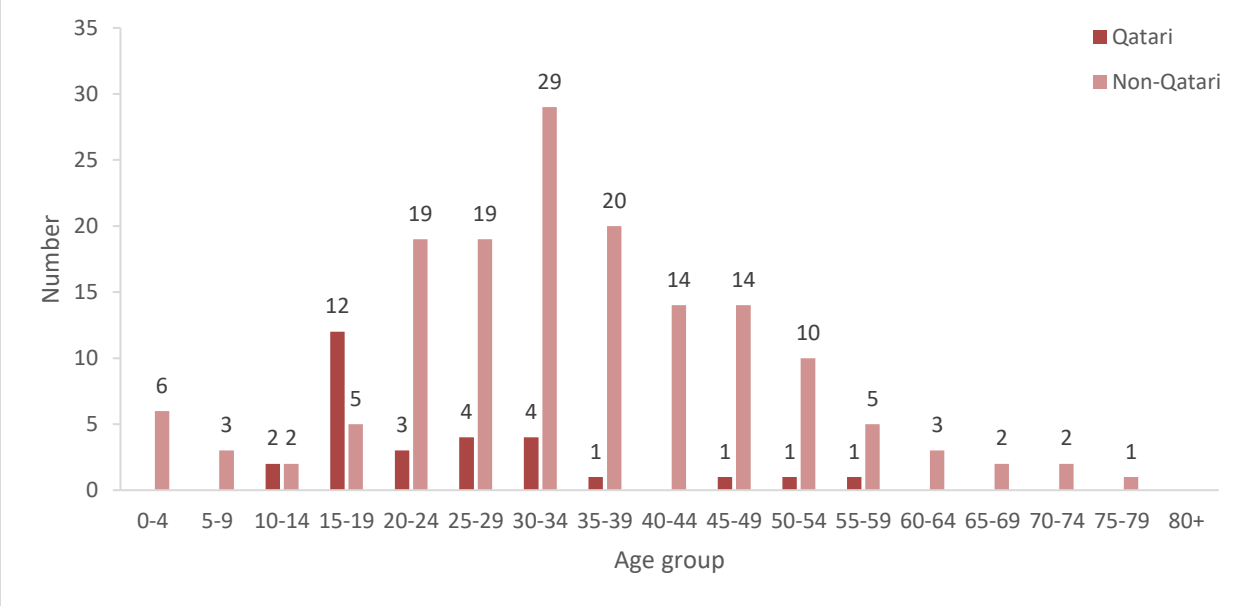
Source: Ministry of Public Health

Figure 3.6.7: Age-specific mortality rate per 100,000 from road traffic accidents, by age group and nationality, 2023



Source: Ministry of Public Health

Figure 3.6.8: Number of deaths from road traffic accidents, by age group and nationality, 2023



Source: Ministry of Public Health

3.6.6 Mortality due to intentional self-harm

Qatar's death rate from suicide is lower compared to the global death rate from suicide. According to data from World Bank (World Bank ,2025), the worldwide average death rate from suicide was found to be 9.1 deaths per 100,000 in 2021. The total death rate from suicide among OECD countries is 11.5 deaths per 100,000 population, with 18.3 and 4.8 deaths from suicide among males and females respectively in year 2023 (OECD, 2023).

Mental health disorders represent a growing proportion of the global burden of disease. Many of these diseases might lead to intentional self-harm, potentially leading to death from suicide. Social determinants of health, such as income, socioeconomic status, education, combined with mental illnesses determine a person's tendency to harm himself (OECD, 2017).

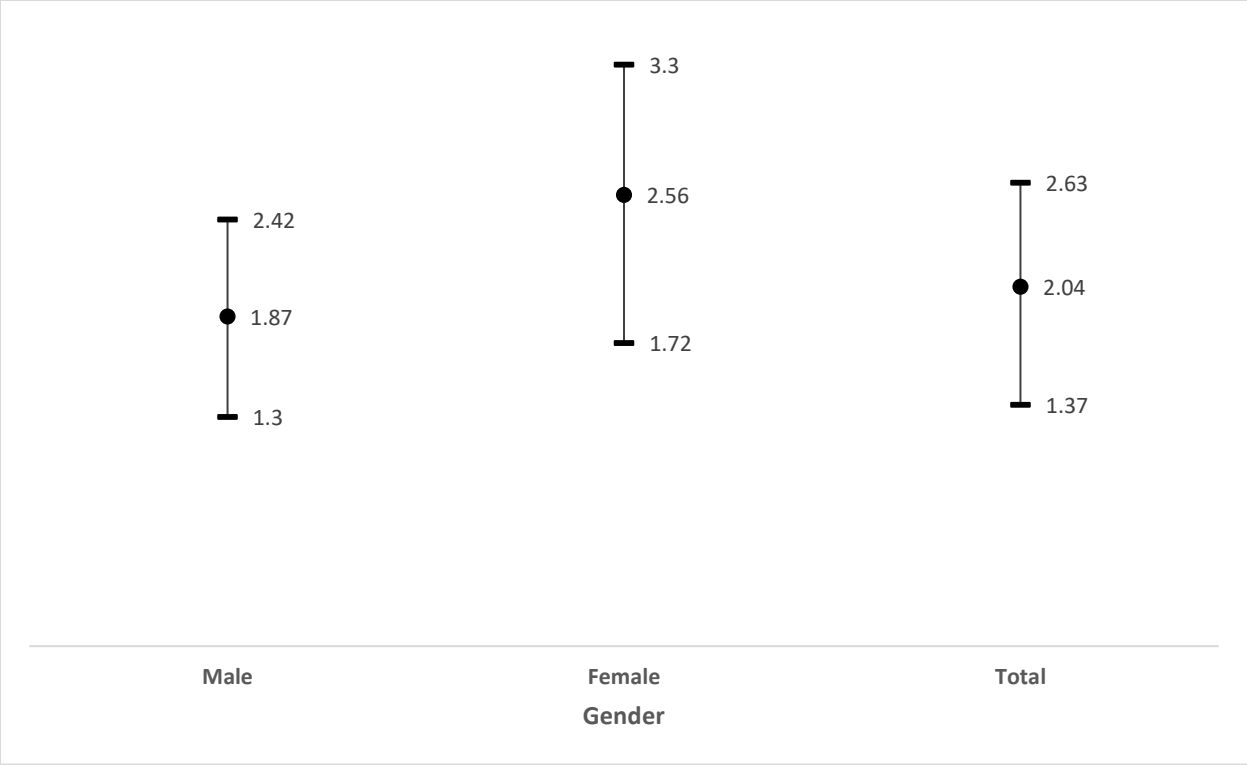
3.6.7 Mortality due to exposure to air pollutants

Exposure to air pollutants such as particulate matter with diameter less or equal to 2.5μm (PM 2.5), less or equal to 10μm (PM 10) and ozone (O_3) has been shown to increase the risk of many diseases and to increase the risk of death (Brunekreef & Holgate, 2002).

In 2021, the estimated mortality rate in Qatar was 1.87 deaths per 10,000 for males, 2.56 deaths per 10,000 for females, combined for a total 2.04 deaths per 10,000 attributable to ambient air pollution in Qatar (Figure 3.6.9).

High air pollution has been associated to several diseases, including lung cancer, respiratory disease, cardiovascular disease and neurological problems. Recently, air pollution has been recognized as a major risk factor for NCD (Prüss-Ustün et al., 2019). This public health concern should be closely monitored in all countries with public health interventions targeted to reduce the anthropogenic emission of PM2.5 and other air pollutants in order to reduce their health impact (Prüss-Ustün et al., 2019).

Figure 3.6.9: Estimated mortality rate per 10,000 attributable to ambient air pollution, by gender, 2021

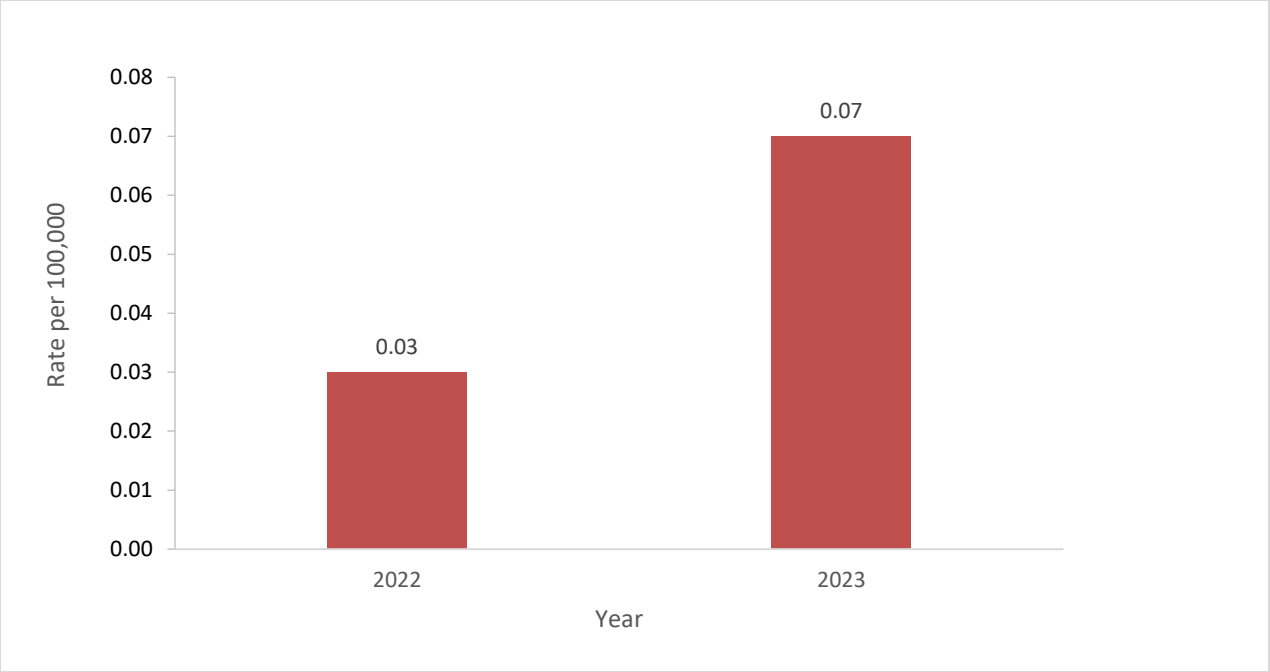


Source: Ministry of Public Health

3.6.8 Mortality attributable to unsafe water, unsafe sanitation, and lack of hygiene

Living in an unhygienic or polluted environment has been linked with increased risk of illness, morbidity, and mortality: for instance, less than 1 death per 1M have been attributed to unsafe water, unsafe sanitation and lack of hygiene during the period between 2022 and 2023 in Qatar (Figure 3.6.10). Access to clean water and sanitation are both global priorities under the UN SDGs (GOAL 6): the aim is to end open defecation (goal 6.2) and achieve universal and equitable access to safe and affordable drinking water for all (goal 6.1), by 2030.

Figure 3.6.10: Mortality rate attributable to unsafe water, unsafe sanitation, and lack of hygiene 2022-2023



3.6.9 Amenable cause specific mortality 2022-2023

Mortality rate attributable to a list of causes within selected age intervals that could be avoided in the presence of high-quality personal health care. To be considered a cause amenable to personal health care, effective interventions must exist for the diseases. The most widely used list of these causes by age has been proposed by Nolte and McKee and used in a Lancet paper (Nolte and McKee 2004, Barber et al, 2017).

The results of amenable cause specific mortality are presented in the table 3.6.7. The number of amenable cause specific deaths from 2022 to 2023 had almost the same trend by cause of death. In 2023, 50% of amenable cause specific mortality was from cardiovascular diseases, 8% was from diabetes, urogenital, blood, and endocrine diseases and 15% from neoplasms and neonatal disorders as described in the figure 3.6.11.

Table 3.6.7: Amenable cause specific mortality, by specific cause of death and age group, 2022-2023*

Cause of death		ICD 10	Amenable age range (years)	Deaths	
				2022	2023
Communicable, maternal, neonatal, and nutritional diseases					
Tuberculosis		A10-A14, A15-A19.9, B90-B90.9, K67.3, K93.0, M49.0, P37.0	0–74	3	4
Diarrhoea, lower respiratory, and other common infectious diseases					
	Diarrhoeal diseases	A00-A00.9, A02-A04.1, A04.3, A04.5-A07, A07.2-A07.4, A08-A09.9, R19.7	0–14	0	0

	Lower respiratory infections	A48.1, A70, J09-J15.8, J16-J16.9, J20-J21.9, P23.0-P23.4, U04-U04.9	0–74	8	15
	Upper respiratory infections	J01-J01.91, J04.0, J05-J05.0, J05.11, J36-J36.0	0–74	0	0
	Diphtheria	A36-A36.9	0–74	0	0
	Whooping cough	A37-A37.91	0–14	0	0
	Tetanus	A33-A35.0	0–74	0	0
	Measles	B05-B05.9	1–14	0	0
Maternal disorders		N96, N98-N98.9, O00-O07.9, O09-O16.9, O20-O26.93, O28-O36.93, O40-O48.1, O60-O77.9, O80-O92.79, O96-O99.91	0–74	2	1
Neonatal disorders		P00-P04.2, P04.5-P05.9, P07-P15.9, P19-P22.9, P24-P29.9, P36-P36.9, P38-P39.9, P50-P61.9, P70, P70.3-P72.9, P74-P78.9, P80-P81.9, P83-P84, P90-P94.9, P96, P96.3-P96.4, P96.8-P96.89	0–74	73	69
Neoplasms					
	Colon and rectum cancer	C18-C21.9, D01.0-D01.3, D12-D12.9, D37.3-D37.5	0–74	22	25
	Non-melanoma skin cancer (squamous-cell carcinoma)	C44-C44.99, D04-D04.9, D49.2	0–74	1	0
	Breast cancer	C50-C50.929, D05-D05.92, D24-D24.9, D48.6-D48.62, D49.3, N60-N60.99	0–74	39	29
	Cervical cancer	C53-C53.9, D06-D06.9, D26.0	0–74	3	4
	Uterine cancer	C54-C54.9, D07.0-D07.2, N87-N87.9	0–44	7	0
	Testicular cancer	C62-C62.92, D29.2-D29.8, D40.1-D40.8	0–74	0	0
	Hodgkin's lymphoma	C81-C81.99	0–74	2	0
	Leukaemia	C91-C95.92	0–44	7	12
Cardiovascular diseases					
	Rheumatic heart disease	I01-I01.9, I02.0, I05-I09.9	0–74	0	7
	Ischaemic heart disease	I20-I25.9	0–74	139	150

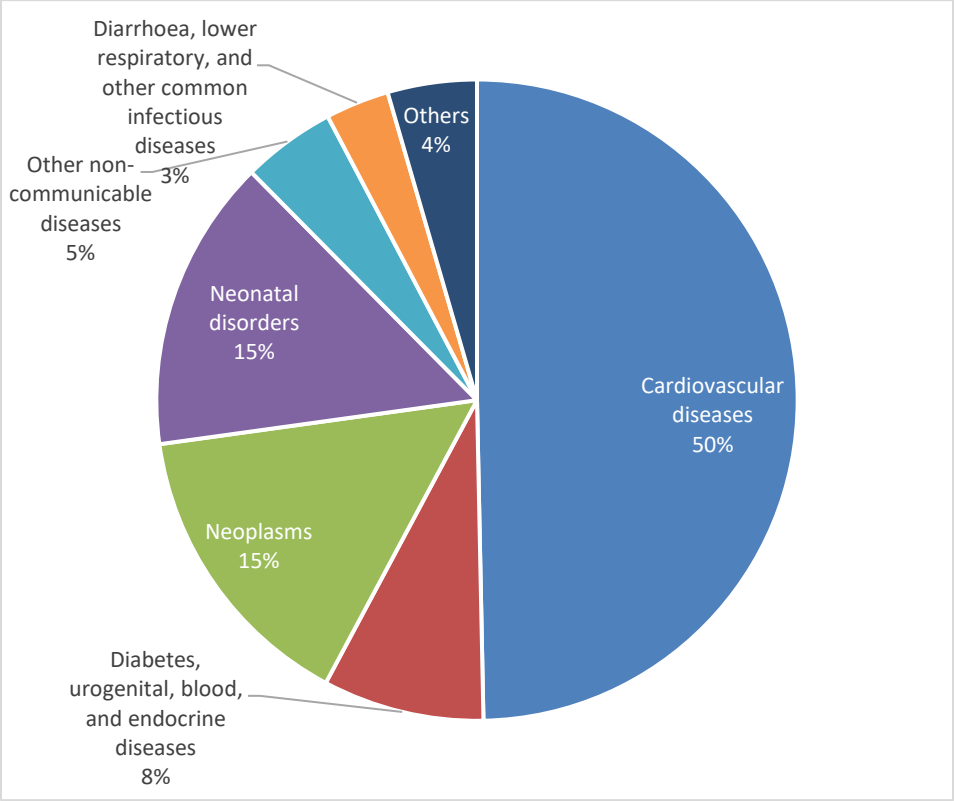
	Cerebrovascular disease	G45-G46.8, I60-I61.9, I62.0-I62.03, I63-I63.9, I65-I66.9, I67.0-I67.3, I67.5-I67.6, I68.1-I68.2, I69.0-I69.39	0–74	41	48
	Hypertensive heart disease	I11-I11.9	0–74	5	27
Chronic respiratory diseases		D86-D86.2, D86.89-D86.9, G47.3-G47.39, J30-J35.9, J37-J47.9, J60-J63.8, J65-J68.9, J70-J70.1, J70.8-J70.9, J82, J84-J84.9, J91-J92.9	1–14	1	3
Digestive diseases					
	Peptic ulcer disease	K25-K28.9, K31, K31.1-K31.6, K31.8, K31.82-K31.89	0–74	3	4
	Appendicitis	K35-K37.9, K38.3-K38.9	0–74	0	0
	Inguinal, femoral, and abdominal hernia	K40-K42.9, K44-K46.9	0–74	1	1
	Gallbladder and biliary diseases	K80-K83.9	0–74	1	2
Neurological disorders					
	Epilepsy	G40-G41.9	0–74	15	5
Diabetes, urogenital, blood, and endocrine diseases					
	Diabetes mellitus	E10-E10.11, E10.3-E11.1, E11.3-E12.1, E12.3-E13.11, E13.3-E14.1, E14.3-E14.9, P70.0-P70.2, R73-R73.9	0–49	18	14
	Chronic kidney disease	D63.1, E10.2-E10.29, E11.2-E11.29, E12.2, E13.2-E13.29, E14.2, I12-I13.9, N02-N08.8, N15.0, N18-N18.9	0–74	122	24
Other non-communicable diseases					
	Congenital heart anomalies	Q20-Q28.9	0–74	26	22
Unintentional injuries					
	Adverse effects of medical treatment	Y38.9-Y84.9, Y88-Y88.3	0–74	1	1
The age groups for which mortality is regarded as amenable to health care are listed. Causes are ordered on the basis of the GBD cause list and corresponding cause group hierarchies. GBD=Global Burden of Disease				**540**	**467**

Source: Ministry of Public Health

* In our calculation we used only the two first digits for the COD. Therefore, the ACD could be overestimated as the COD used in the article were 3 and 4 digits (very specific). However, in our database, the COD is only 2 digits (less specific).

Source: Healthcare Access and Quality Index based on mortality from causes amenable to personal health care in 195 countries and territories, 1990–2015: a novel analysis from the Global Burden of Disease Study 2015 (https://www.thelancet.com/action/showPdf?pii=S0140-6736%2817%2930818-8)

Figure 3.6.11: Amenable cause specific mortality, by specific cause of death, 2023



Source: Ministry of Public Health

4 Morbidity

The following chapter describes the incidence and prevalence of selected diseases in the population of Qatar.

4.1 Non-Communicable Diseases

4.1.1 Cancer

Cancer is a leading cause of mortality worldwide (Kanavos, 2006), responsible for nearly 10 million deaths and accounting for approximately one in every six deaths globally (WHO, 2020). In Qatar, among males, crude cancer incidence rate was 55.53 and 67.49 per 100,000 in 2020 and 2021 respectively (Table 4.1.1). Among females, crude cancer incidence rate was 113.52 and 147.14 per 100,000 in 2020 and 2021 respectively. Overall, cancer incidence was estimated to be 72.06 per 100,000 in 2020 and 90.02 per 100,000 in 2021 (Table 4.1.1). For comparative purposes, age-specific cancer incidence rate is a commonly utilized indicator to describe the burden of cancer among different population age groups and among different countries. Calculating the age-standardized rates remove the differences from variations in age structure across a country and over time (Ahmad, et al., 2001).

In Qatar, age specific cancer incidence rate increases with increasing age and increases even more dramatically among 40+: this trend is seen in all years from 2020 to 2021 (Table 4.1.2). Nevertheless, due to COVID-19 measures, the level of referral to the cancer center was reduced, this is reflected in reduction in most of the metrics for 2020 compared to the year 2019.

For instance, cancer incidence rate was 19.21 and 16.52 cancer cases per 100,000 in the age group 0-4 in 2020 and 2021 respectively. From 191.52 and 255.97 cases per 100,000 in the age group of 50-54 years it gradually increased to 1444.13 and 2198.39 cases per 100,000 in the 80+ age group in the 2020 and 2021 respectively (Table 4.1.2).

Table 4.1.1: Crude cancer incidence per 100,000, by gender, 2020 to 2021

Year	Male	Female	Total
2020	55.53	113.52	72.06
2021	67.49	147.14	90.02

Source: Qatar Cancer Information Center QCIC, MOPH

Table 4.1.2: Age-specific cancer incidence rate per 100,000, by age group and year, 2020 to 2021

Age	2020	2021
0 - 4	19.21	16.52
5 - 9	12.69	9.79
10 - 14	10.15	18.38
15 - 19	23.82	15.10
20 - 24	14.78	19.44
25 - 29	18.32	20.85
30 - 34	35.91	39.02
35 - 39	51.73	65.94
40 - 44	74.46	114.95
45 - 49	127.76	152.15
50 - 54	191.52	255.97
55 - 59	316.39	363.38
60 - 64	480.69	574.93
65 - 69	710.68	767.78
70 - 74	972.04	897.01
75 - 79	1152.67	1086.74
80 +	1444.13	2198.39

Source: Qatar Cancer Information Center QCIC, MOPH

In 2020, Colorectal cancer (120 cases) followed by Leukemia (113 cases) and prostate cancers (84 cases) accounted for the majority (28.18%) of newly diagnosed cases of cancer among

males (Table 4.1.5). Among females, breast cancer (322 cases), thyroid gland (112 cases) and colorectal (62 cases) cancers contributed to the majority (54.1%) of newly diagnosed cases of cancer in 2020 (Table 4.1.6).

In Qatar, in 2021, colorectal cancer (161 cases), followed by Leukemia (106 cases) and lung (90 cases) constituted the majority (26.84%) of newly diagnosed cases of cancer among males (Table 4.1.3). Among females, breast (407), thyroid gland (156) and colorectal (73) cancers contributed to the majority (55.59%) of newly diagnosed cases of cancer in 2021 (Table 4.1.4).

Table 4.1.3: Most common cancers by anatomic localization amongst males, 2021

Anatomic Localization [ICD 10]	Number of Cases	% of Total
C18-C21 / D01 Colorectal	161	12.11%
C91-C95 Leukemia	106	7.97%
C33-C34 / D02.1-D02.2 Trachea, bronchus and lung	90	6.77%
C61 / D07.5 Prostate	83	6.24%
C73 / D09.3 Thyroid gland	72	5.41%
C64-C66 Kidney	72	5.41%
C44 / D04 Non-Melanoma skin cancer	70	5.26%
C16 / D00.2 Stomach	61	4.59%
C67 / D09.0 Bladder	60	4.51%
C22 / D01.5 Liver and intrahepatic bile ducts	57	4.29%

Source: Qatar Cancer Information Center QCIC, MOPH

Table 4.1.4: Most common cancers by anatomic localization amongst females, 2021

Anatomic Localization [ICD 10]	Number of Cases	% of Total
C50 / D05 Breast	407	35.58%
C73 / D09.3 Thyroid gland	156	13.64%
C18-C21 / D01 Colorectal	73	6.38%
C54-C55 / D07.0 Uterus	70	6.12%
C53 / D06 Cervix uteri	51	4.46%
C91-C95 Leukemia	41	3.58%
C33-C34 / D02.1-D02.2 Trachea, bronchus and lung	25	2.19%
C44 / D04 Non-Melanoma skin cancer	24	2.10%
C56 Ovary	24	2.10%
C82-C85, C96 Non-Hodgkin Lymphoma	23	2.01%

Source: Qatar Cancer Information Center QCIC, MOPH

Table 4.1.5: Most common cancers by anatomic localization amongst males, 2020

Anatomic Localization [ICD 10]	Number of Cases	% of Total

C18-C21 / D01 Colorectal	120	10.67%
C91-C95 Leukemia	113	10.04%
C61 / D07.5 Prostate	84	7.47%
C33-C34 / D02.1-D02.2 Trachea, bronchus and lung	61	5.42%
C22 / D01.5 Liver and intrahepatic bile ducts	59	5.24%
C82-C85, C96 Non-Hodgkin Lymphoma	58	5.16%
C70-C72 Brain & CNS	55	4.89%
C73 / D09.3 Thyroid gland	53	4.71%
C67 / D09.0 Bladder	50	4.44%
C44 / D04 Non-Melanoma skin cancer	49	4.36%

Source: Qatar Cancer Information Center QCIC, MOPH

Table 4.1.6: Most common cancers by anatomic localization amongst females, 2020

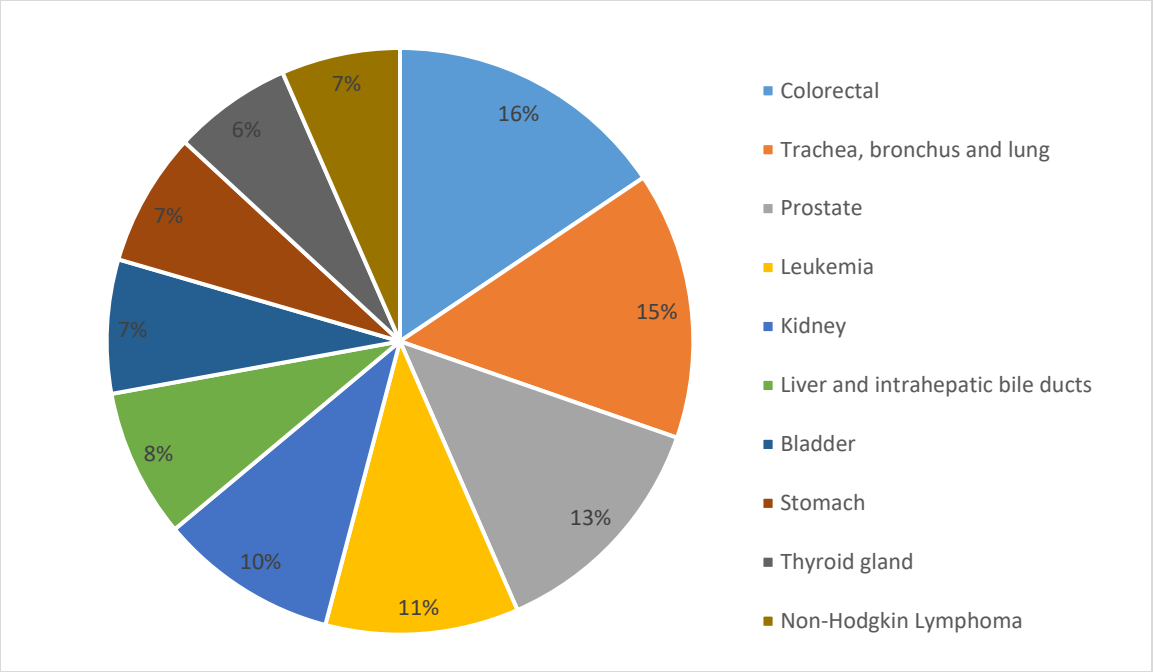
Anatomic Localization [ICD 10]	**Number of Cases**	**% of Total**
C50 / D05 Breast	322	35.15%
C73 / D09.3 Thyroid gland	112	12.23%
C18-C21 / D01 Colorectal	62	6.77%
C54-C55 / D07.0 Uterus	55	6.00%
C53 / D06 Cervix uteri	39	4.26%
C91-C95 Leukemia	31	3.38%
C56 Ovary	26	2.84%
C70-C72 Brain & CNS	24	2.62%
C44 / D04 Non-Melanoma skin cancer	24	2.62%
C82-C85, C96 Non-Hodgkin Lymphoma	21	2.29%

Source: Qatar Cancer Information Center QCIC, MOPH

In 2021, among females, breast cancer is the most common cancer found in both Qatari (41.0%) and non-Qatari (46.0%). It is followed by thyroid gland (16.0%) and colorectal (13.0%) cancers among Qatari women. For non-Qatari females, breast cancer is followed by thyroid gland (18.0%), Uterus (7.0%) and Cervix uteri (7.0%) cancers are the second and third most common cancers.

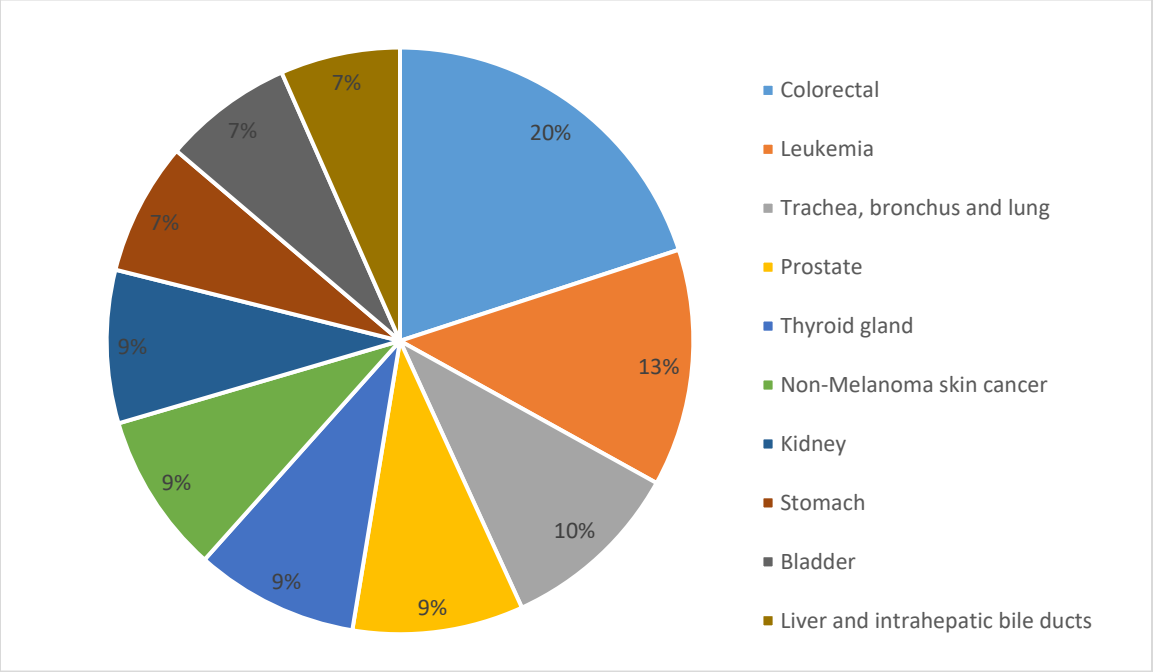
In 2021, minor variations exist in the cancer incidence between Qatari and non-Qatari males. Colorectal cancers and lung cancers were the two most common cancers, with incidence of 16.0% and 15.0% cases in Qatari males, however in non-Qatari males, colorectal cancer was the top primary site followed by Leukemia, with incidences of 20.0% and 13.0%. For Qatari males the third most common cancer was prostate (13.0% %) and for non-Qatari males it was lung cancer (10.0%)

Figure 4.1.1: Percentage of cancers in the male Qatari population, by type of cancer, 2021



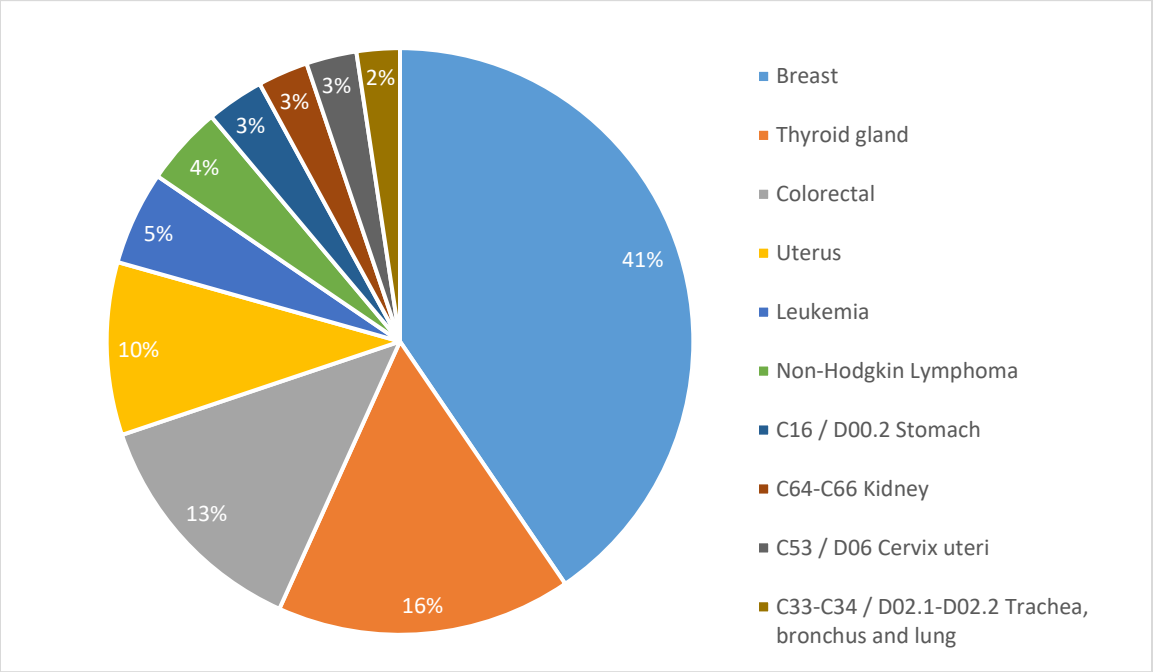
Source: Qatar Cancer Information Center QCIC, MOPH

Figure 4.1.2: Percentage of cancers in the male non-Qatari population, by type of cancer, 2021



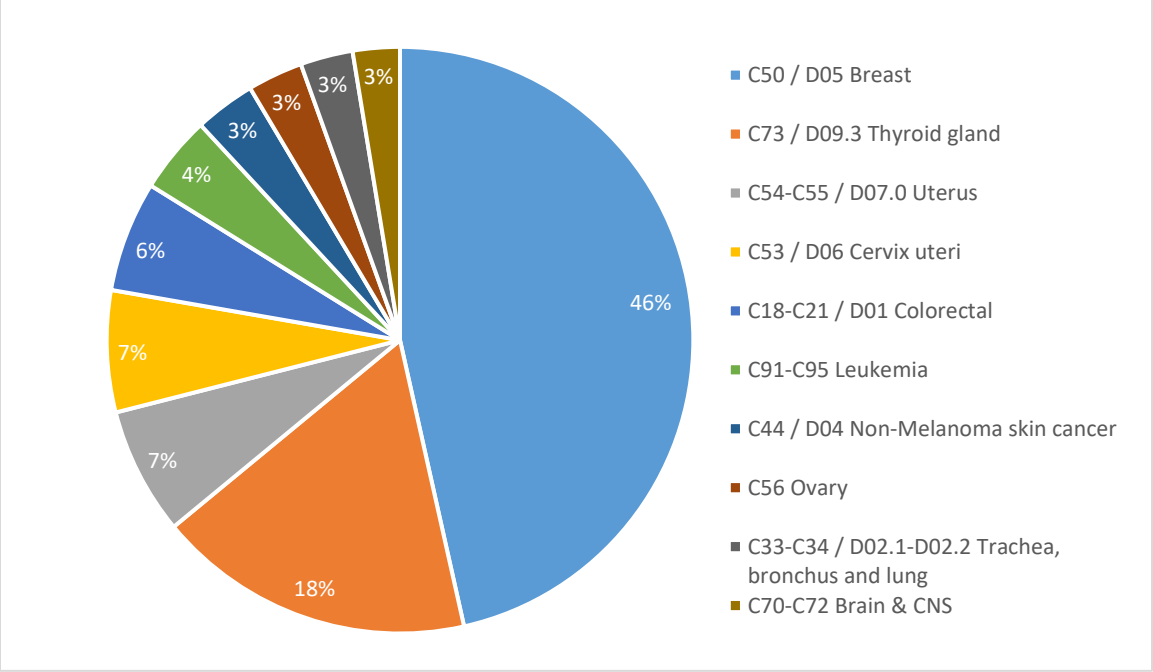
Source: Qatar Cancer Information Center QCIC, MOPH

Figure 4.1.3: Percentage of cancers in the female Qatari population, by type of cancer, 2021



Source: Qatar Cancer Information Center QCIC, MOPH

Figure 4.1.4: Number and percentage of cancers in the female non-Qatari population, by type of cancer, 2021



Source: Qatar Cancer Information Center QCIC, MOPH

On average, in the OECD countries, common cancers in 2019 were lung cancer (21%), colorectal cancer (11%) and breast cancer (15% in women) prostate cancer (10% amongst men).

4.1.2 Dental caries among children aged 4-5 years

Table 4.1.7: Percentage of dental caries as per DMFT for children aged 4 to 5 years, 2022-2023

Gender	2022			2023		
	Number of cases	Number of visits	%	Number of cases	Number of visits	%
Male	2,777	3,899	71.22%	3083	4940	62.4%
Female	2,793	3,978	70.21%	3355	5322	63.0%
Total	5,570	7,877	70.71%	6438	10,262	62.7%

Source: Primary Health Care Corporation

In 2023, the prevalence of dental caries among children aged 4 to 5 years, as measured by DMFT, showed a notable improvement compared to 2022. The overall percentage decreased from 70.7% in 2022 to 62.7% in 2023. Both genders exhibited similar trends, with males declining from 71.2% to 62.4% and females from 70.2% to 63.0%. This reduction suggests progress in oral health interventions and preventive measures targeting early childhood dental care (Table 4.1.7).

4.2 Communicable Diseases

4.2.1 Tuberculosis

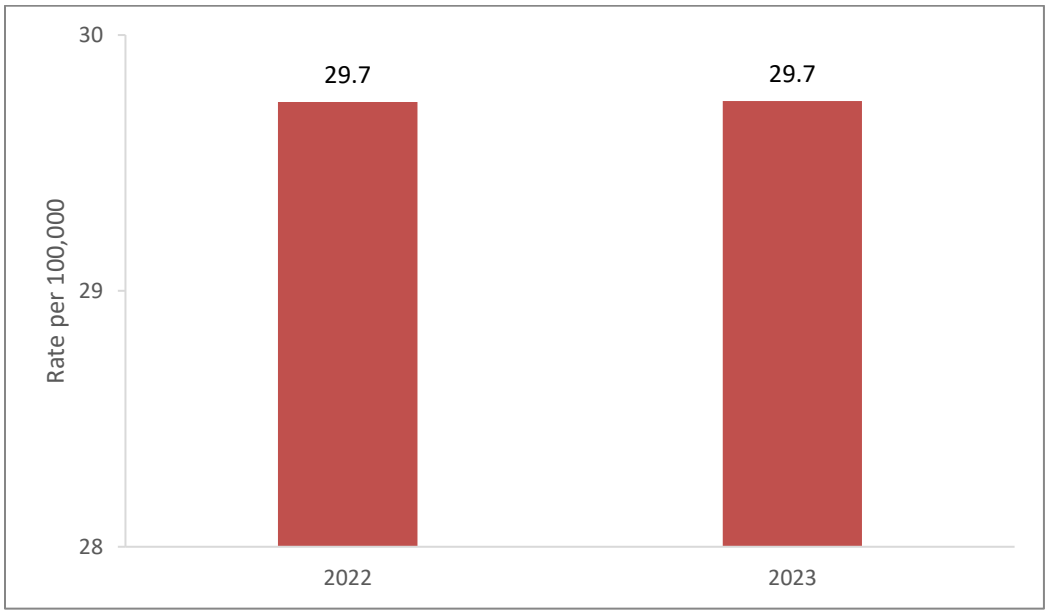
Tuberculosis is an infectious disease caused by the bacteria mycobacterium tuberculosis. Given its contagious nature, tuberculosis poses a serious public health threat, which led many countries to adopt strict regulatory procedures and protocols to adequately identify and treat tuberculosis in order to limit its spread (WHO, 2013).

In Qatar, the incidence of notified tuberculosis cases was on the decline from the year 2012 to 2015 (Table 4.2.1). Between 2016 and 2021, the notification rate of tuberculosis in Qatar increased, ranging from 19.3 per 100,000 in 2016 to a peak of 35.8 per 100,000 in 2021, before stabilizing at 29.7 per 100,000 in both 2022 and 2023. While pulmonary and extra-pulmonary cases varied across the years, the overall trend shows an increase from 511 cases in 2012 to 911 cases in 2023, reflecting a gradual rise in notifications despite year-to-year fluctuations. The post-2020 increase may reflect enhanced surveillance, improved case detection, or true increases in incidence, while the stabilization in 2022–2023 suggests a possible plateau in transmission (Figure 4.2.1 and Table 4.2.1).

In 2023, Qatar recorded a tuberculosis incidence rate of 29.7 cases per 100,000 population, significantly lower than the global average of 134 cases per 100,000. The stabilization of Qatar's incidence rate between 2022 and 2023 aligns with the global trend during the same period. According to World Bank data, the global tuberculosis incidence declined from 157 cases per 100,000 in 2012 to 129 cases in 2020, then rose to 134 cases in 2022, remaining stable through 2023 (World Bank, 2023).

A number of public health interventions and clinical guidelines have been put in place and enforced over the past years and could account for the gradual decrease in tuberculosis incidence rate (screening X-rays, raising awareness, treatment of latent TB, precautionary measures when travelling to countries endemic with tuberculosis) (David, et al., 2017) (WHO, 2013). However, this is counteracted by another public health crisis: the emergence of multidrug-resistant tuberculosis (MDR-TB) where an increasing number of newly diagnosed cases are found to be resistant to rifampicin, the first-line drug therapy for treatment of tuberculosis (WHO, 2013).

Figure 4.2.1: Rate of tuberculosis case notification per 100,000, by year, 2022 to 2023



Source: Ministry of Public Health

Table 4.2.1: Notification of tuberculosis cases and rate per 100,000 population, by tuberculosis type and year, 2012 to 2023

Year	T.B (Ext-Pulmonary)	T.B (Pulmonary)	All	Rates
2012	259	252	511	28.0
2013	215	256	471	23.5
2014	322	143	465	21.0
2015	305	229	534	21.9
2016	262	244	506	19.3
2017	295	340	635	23.3
2018	441	310	751	27.2
2019	444	376	820	29.3
2020			861	30.4

2021			983	35.8
2022	441	431	872	29.7
2023	494	417	911	29.7

Source: Ministry of Public Health

4.2.2 Human Immunodeficiency Virus (HIV)

HIV, the human immunodeficiency virus, is the agent causative of the HIV infection. HIV is notably known to be a sexually transmitted infection but can also be transmitted by transfer of infected blood and from an infected mother to her infant during pregnancy or through breast milk (Rom & Markowitz, 2007). HIV targets the cells responsible for the immune system and destroys them, leading to a decrease in immunity over time and a higher probability of getting infected. The immune system becomes progressively weak, a condition referred to as AIDS or acquired immunodeficiency syndrome, and the infected body would ultimately be unable to fight infections, eventually resulting in death (Zuckerman, 2009).

In Qatar, the number of estimated new HIV infections has gradually increased from 2010 to 2023 (Table 4.2.2). Qatar was estimated to have 13 new HIV infection cases in 2010, gradually increasing to 58 new estimated cases of HIV infection in 2020 and then further increasing to 119 cases in 2023.

The number of new HIV infections in Qatar showed a steady upward trend from 14 cases in 2012 to 119 cases in 2023 (Table 4.2.2). The most notable rise occurred between 2016 and 2023, where annual new infections are detected more than six times (from 19 to 119 cases). This sustained increase suggests improved detection and rise in new infections. The trend highlights the need for strengthened HIV prevention strategies, early testing, and targeted interventions.

In 2022–2023, the number of newly reported HIV/AIDS cases have slightly increased, however, the burden was predominantly higher among males, who accounted for the majority of new cases in both years (Figure 4.2.2). While females represented a smaller proportion, their case numbers also showed a decrease in 2023 compared to 2022. These findings indicate that HIV remains more prevalent among males than females and underscores the need for prevention, testing, and treatment approaches.

The increase in newly diagnosed new HIV cases in Qatar might be due to increased testing due to raised awareness among healthcare providers and the public health sector. (Personal communication with CDC, 2021).

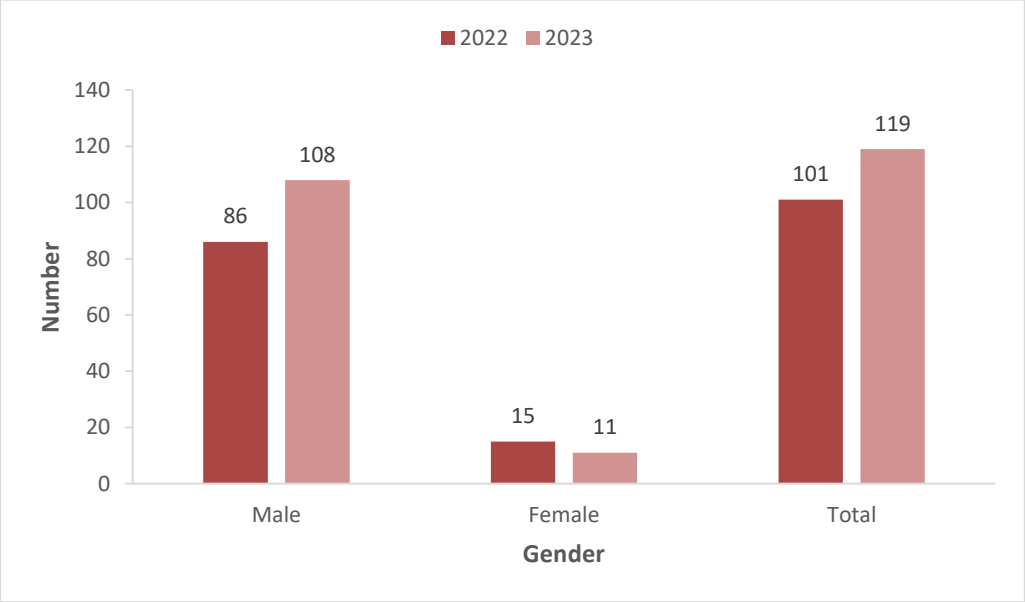
Table 4.2.2: Number of new HIV infections, by year, 2012 to 2023

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Number of new HIV infections	14	15	16	17	19	27	38	54	58	79	101	119

Source: Joint United Nations Programme on HIV and AIDS (UNAIDS) (2010-2015), Ministry of Public Health (2016-2021)

Note: Generated using UNAIDS software "Spectrum". Numbers rounded to whole number.

Figure 4.2.2: Number of new reported cases of HIV/AIDS, by gender and year, 2022 to 2023



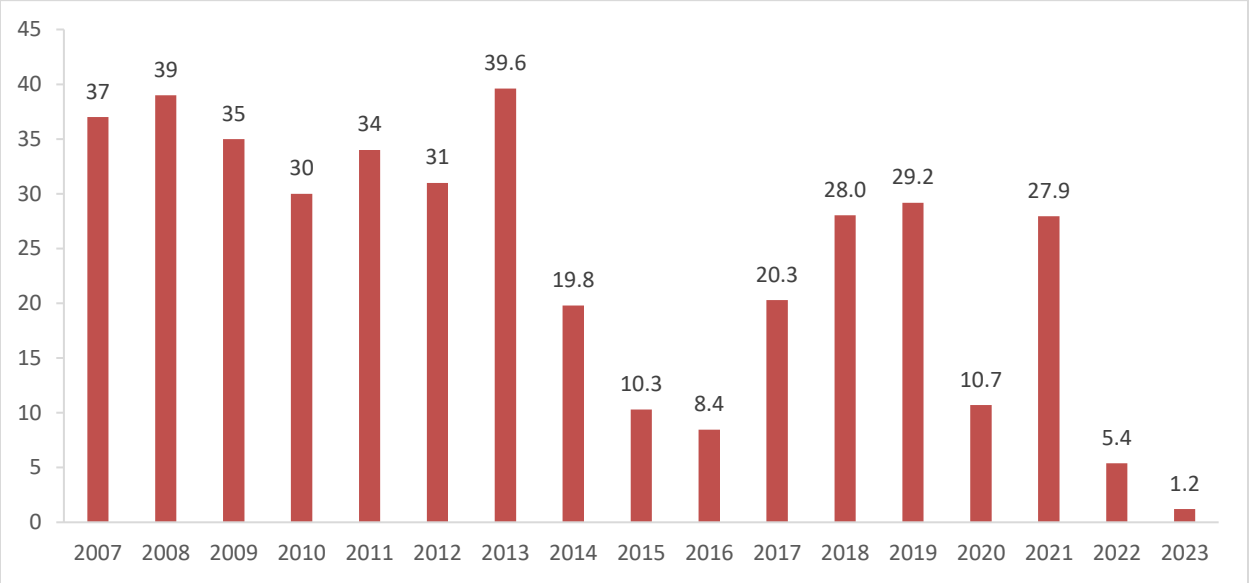
Source: Ministry of Public Health

4.2.3 Hepatitis B

Hepatitis B is an infectious disease caused by the hepatitis B virus. Hepatitis B is another sexually transmitted disease and just like HIV, it can be transmitted by transfer of infected blood, intravenous drug abuse (needle sharing) and from an infected mother to her infant during pregnancy (WHO, 2017). The infection can remain in the liver and would lead to a progressively deterioration of this organ and ultimately to liver cirrhosis, cancer and death (Chisari & Ferrari, 1995).

Like other sexually transmitted infection, Hepatitis B causes a public health threat (WHO, 2017). A number of public health interventions, such as immunization of newborns and mother-to-child prevention account for the decreasing trend in hepatitis B incidence rate (WHO, 2017).

Figure 4.2.3: Hepatitis B incidence rate per 100,000, by year, 2007 to 2023



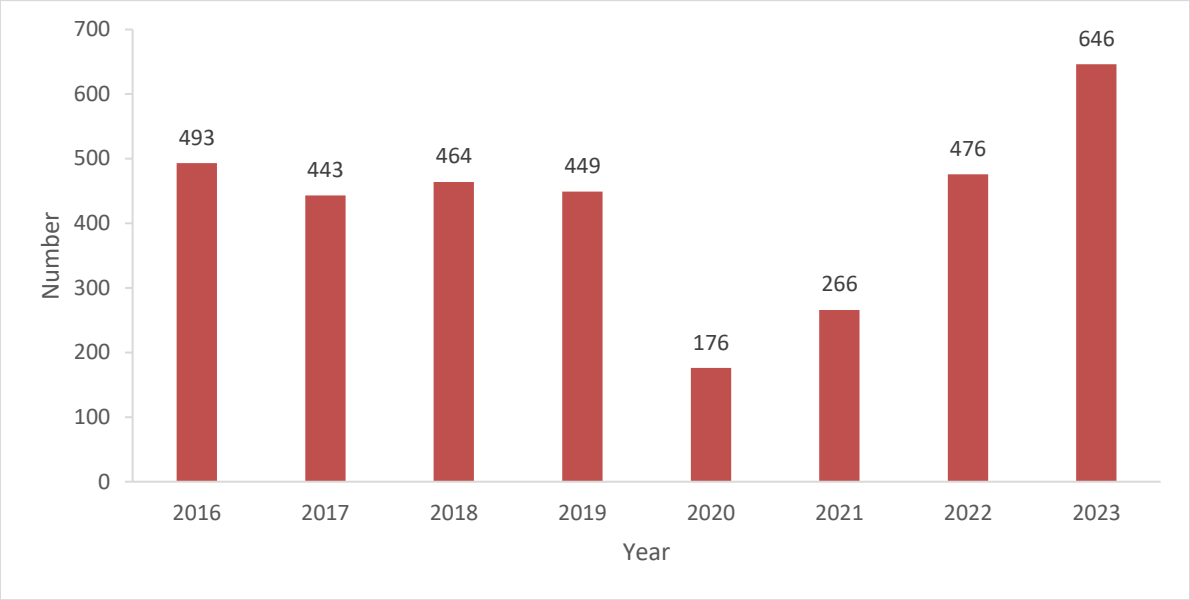
Source: Ministry of Public Health

From 2007 to 2023, the incidence rate of hepatitis B in Qatar showed year-to-year fluctuations with an overall declining trend (Figure 4.2.3). Earlier years recorded higher rates, but the incidence gradually decreased over time, reflecting the impact of widespread immunization and better infection control practices. In recent years, the rates have stabilized at comparatively lower levels, suggesting progress in disease control, though continued monitoring is essential to prevent resurgence and ensure sustained protection, particularly among high-risk groups.

4.2.4 Malaria

Malaria is an infectious disease caused by a type of parasite from the Plasmodium family. It is transmitted through the bite of a unique type of mosquito, the Anopheles. Malaria is endemic is certain geographic locations: it is predominantly found in the African region (93% of cases) as well as South-East Asia (3.4% cases) followed by the Eastern Mediterranean Region (2.1% of cases) (WHO, 2018). In other countries, such as Qatar, malaria is imported by people travelling from endemic region. In some sporadic cases there can be a local transmission originated by imported cases in the presence of the carrier mosquito.

Figure 4.2.4: Number of cases of malaria reported, by year, 2016-2023



Source: Ministry of Public Health
Note: all cases were imported; no local transmission

Between 2016 and 2023, the number of reported malaria cases in Qatar fluctuated but remained entirely imported, with no evidence of local transmission (Figure 4.2.4). While annual case counts varied, the overall pattern reflects the country's effective prevention of indigenous malaria. These findings highlight the importance of sustained surveillance and rapid case management for Malaria in Qatar.

4.2.5 Measles

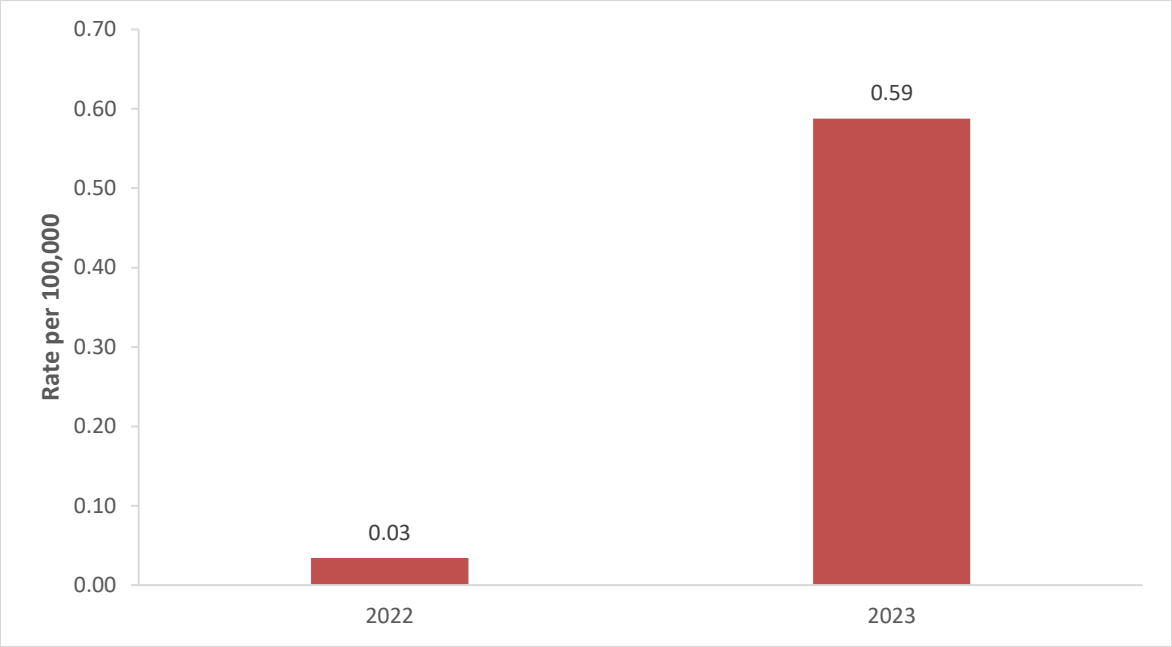
Measles is an infectious disease caused by a virus. It affects primarily the respiratory system and leads to a characteristic generalized rash on the patient's body. The measles virus is highly contagious and is transmitted from person to person through airborne droplets as well as close and direct contact (Tagbo & Ezeonwu, 2018). It can progress to severe pneumonia as well as debilitating brain injury (in rare cases) and other significant morbidity and mortality. There is an effective vaccination against measles that is widely used in Qatar. The country has planned eradication of measles.

Table 4.2.3: Number of measles cases reported, by year, 2022-2023

Year	Measles
2022	1
2023	18

Source: Ministry of Public Health

Figure 4.2.6: Rate of measles cases per 100,000, by year, 2022-2023



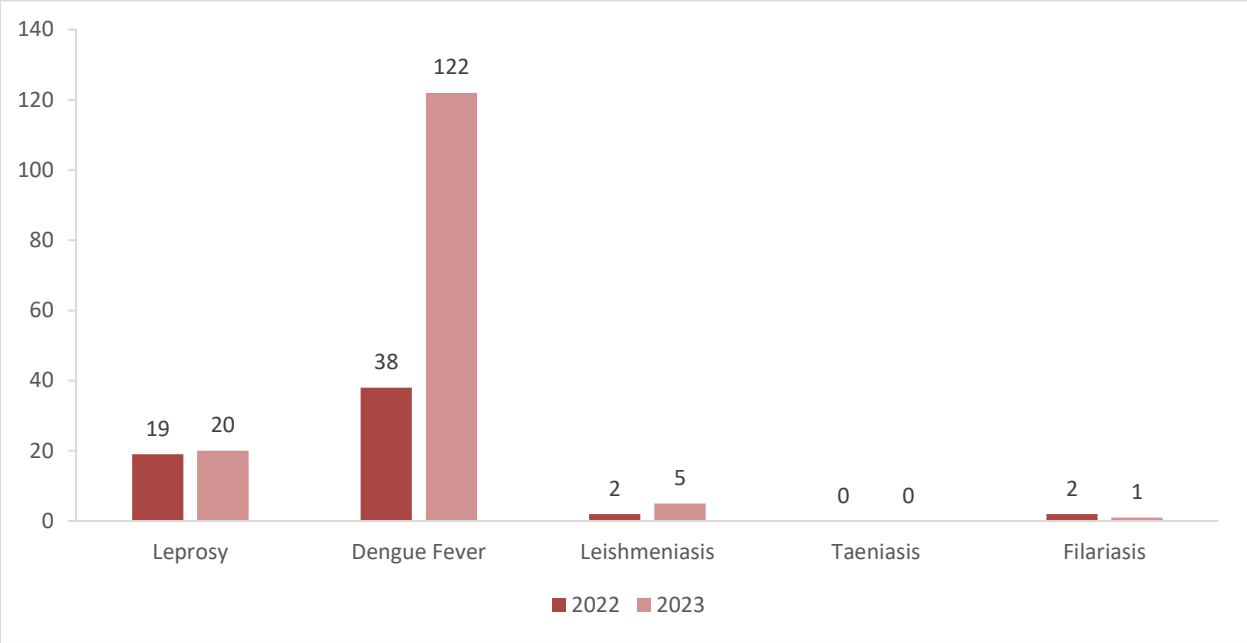
Source: Ministry of Public Health

The number of reported measles cases increased sharply from 1 case in 2022 to 18 cases in 2023, marking a significant rise (Table 4.2.3). This surge suggests improved surveillance and detection and highlights the need for strengthened immunization efforts, outbreak preparedness, and rapid response measures to prevent further transmission.

4.2.6 Neglected tropical diseases

Neglected tropical diseases is a group of diverse infectious diseases and are major disabling conditions, mainly found in the poorest areas of the world. These diseases often result in significant morbidity such as disfigurement, blindness, brain injuries and often lead to death if not addressed promptly or left untreated (Hotez & Kamath, 2009). In our report, the focus was targeted on 5 diseases: Leprosy, Dengue Fever, Leishmaniasis, Taeniasis and Filariasis.

Figure 4.2.7: Number of selected neglected tropical diseases cases, by disease type and year, 2022 to 2023



Source: Ministry of Public Health

The findings suggest that NTDs remain a limited yet persistent health concern, largely linked to imported cases. Dengue showed a sharp increase, rising from 38 to 122 cases, underscoring the need for continuous surveillance and targeted prevention (Figure 4.2.7). Leprosy cases remained stable (20 in 2023 and 19 in 2022), while leishmaniasis cases increased from 2 in 2022 to 5 in 2023. No cases of taeniasis were reported in either year. Filariasis was reported in two cases in 2022 and one case in 2023.

5 Risk Factors

This chapter examines major risk factors for health including health-related behaviors and lifestyle such as dietary habits, tobacco consumption, obesity, physical activity in people of all age groups. The prevalence of most of these risk factors for developing diseases can be modified by public health interventions and policies (Singh, Reddy & Prabhakaran, 2011).

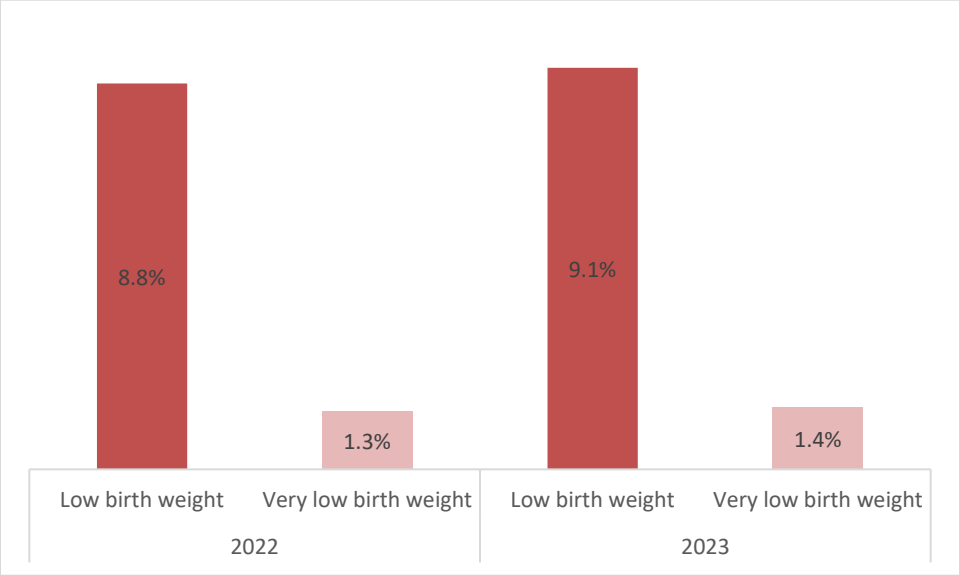
5.1 Low birth weight

Low birth weight is defined as by the World Health Organization as the weight of an infant at birth of less than 2,500 grams irrespective of the gestational age of the infant. Very low birth weight describes infants weighing less than 1500 grams at birth, irrespective of their gestational age (OECD/EU, 2018). It is a very important indicator of infant health, as low birth weight infants are at increased risk of health problems, disabilities, morbidities and even death. Some of the main risk factors for low birth weight include maternal smoking, alcohol consumption and poor nutrition during pregnancy, low body mass index, lower socioeconomic status, having

had in-vitro fertilization treatment and multiple births, and a higher maternal age (OECD/EU, 2018).

The increased use of delivery management techniques such as induction of labor and caesarean delivery, as well as the use of in-vitro fertilization techniques and multiple pregnancies may also have played a role in explaining the increasing proportion of these newborns among total births (OECD/EU, 2018).

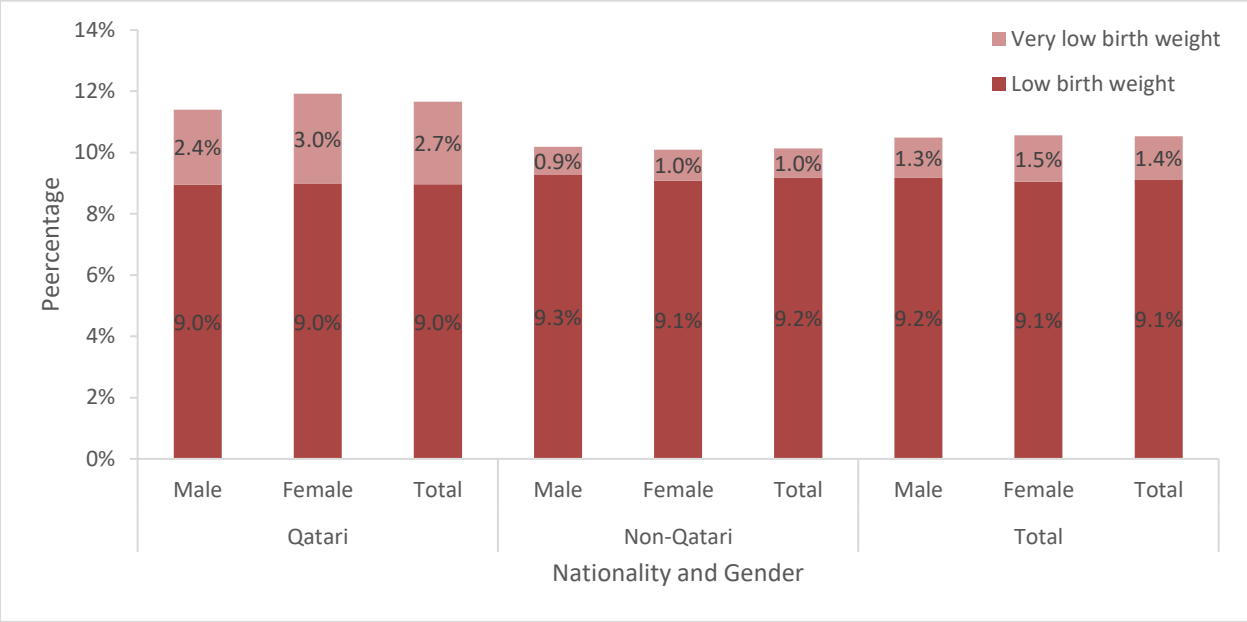
Figure 5.1: Percentage of newborn babies with very low (less than 1,500 grams) and low birth weight (less than 2,500 grams), 2022 to 2023



Source: Ministry of Public Health and Planning and Statistics Authority

In 2022–2023, the percentage of newborns with very low birth weight (<1,500 g) and low birth weight (<2,500 g) showed little year-to-year variation, indicating a relatively stable pattern (Figure 5.1). These findings suggest that while the overall burden has not increased much, continued focus on maternal health, antenatal care, and nutrition interventions remains crucial to reduce preventable low birth weight deliveries and improve neonatal outcomes.

Figure 5.2: Percentage of newborn babies with very low (less than 1,500 grams) and low birth weight (1,500 to 2,499 grams), by gender and nationality, 2023



Source: Ministry of Public Health

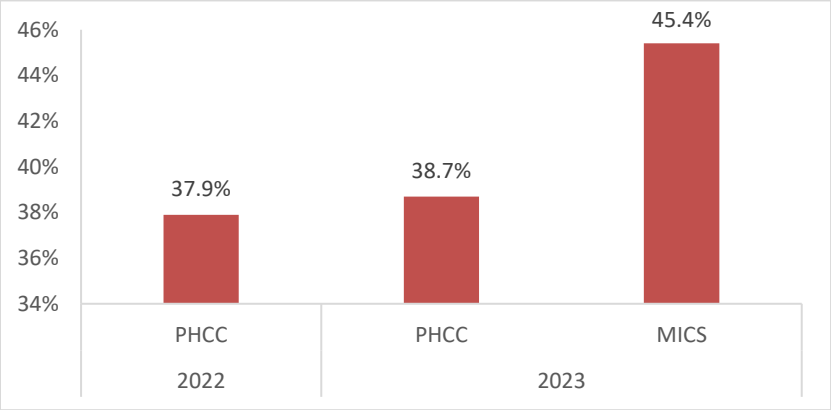
Figure 5.2 presents the distribution of newborns with very low birth weight (<1,500 grams) and low birth weight (1,500–2,499 grams) in 2023, disaggregated by gender and nationality. The data show that low birth weight is more common than very low birth weight across all groups. Notable variations are observed by nationality, suggesting potential differences in maternal health, risk factors, and access to care. Proportion of very low birth weight of newborns (<1500 gr. at birth) is also slightly higher among Qatari newborns (2.7%) with respect to non-Qatari ones (1.0%). Proportion of low birth weight of newborns (<1500 gr. at birth) is also slightly higher among non-Qatari newborns (9.2%) with respect to Qatari ones (9.0%). These patterns highlight the importance of targeted interventions to reduce low birth weight and improve neonatal outcomes.

5.2 Breastfeeding

Breastfeeding is a well-recognized way to provide ideal food and nutrients for the growth and development of newborns. According to the WHO, exclusive breastfeeding for 6 months is the optimal way of feeding infants (Greiner, 2014). Review of the evidence showed that breast milk promotes cognitive development, enhance the infant's immunity, leads to quicker recovery during illnesses and decrease infant mortality from common illnesses such as diarrhea and respiratory infections. In addition to unparalleled benefits for the infants, breastfeeding also promotes the mother's health and well-being. It strengthens the bond between the mother and the child and decreases the risks of breast and ovarian cancers (Gartner et al., 2005).

According to the WHO EMRO report 2019, it was estimated that 40% of infants under 6 months of age globally were exclusively breastfed, compared to 35% in the EMRO countries (WHO EMRO, 2019).

Figure 5.3: Percentage of infants under 6 months of age who were exclusively breastfeed, 2022-2023



Source: Primary Health Care Corporation and Planning and Statistics Authority

Figure 5.3 shows that the percentage of infants under six months of age who were exclusively breastfed in Qatar increased slightly from 37.9% in 2022 to 38.7% in 2023.
The Qatar Multiple Indicator Cluster Survey (MICS) was carried out in 2023 by National Planning Council (NPC) in collaboration with UNICEF, as part of the Global MICS Programme, with Government funding and technical support provided by the United Nations Children's Fund (UNICEF).
According to the MICS report, adherence to exclusive breastfeeding is at 45.4%. These findings reflect the current level of adherence to recommended infant feeding practices, which may be influenced by maternal awareness, maternal and child health service support, and broader societal factors. Sustaining and improving exclusive breastfeeding rates remains essential for optimal child growth, development, and long-term health.

5.3 Childhood malnutrition

Childhood malnutrition and impaired nutritional status refers to the indicators describing the magnitude of under- and over nutrition in a population. Both, overweight and obesity in childhood are strong predictors of obesity in adulthood as well as all the associated risk factors for chronic diseases such as diabetes, cardiovascular diseases and cancers. On the other hand, undernutrition and wasting among children impairs their ability to fully grow, develop (both physically and mentally), learn and play. (UNICEF/WHO/World Bank, 2018)

According to the WHO-JME report, 11.2% of children under 5 were considered overweight and 7.7% of children under 5 were wasted (moderate or severe) in the EMRO region, in 2019 (UNICEF/WHO/World Bank, 2019).

Childhood malnutrition has become one of the most serious public health challenges and its prevention starts with adequate maternal nutrition during pregnancy and adequate breastfeeding during the first two years of life. With the rise of the fast food chains, it is crucial for parents to ensure safe and proper food to their children as well as an environment and opportunities for physical activity among kids. On a national level, fighting childhood nutrition requires multi-sectoral nutrition programming, raising awareness on the health threats in poses, both short-term and long-term, as well as legislative interventions (UNICEF/WHO/World Bank, 2018).

Table 5.1: Percentage of children under 5 years with impaired nutritional status, by type of nutritional impairment, 2022-2023

Percentage of Obesity, Overweight and wasting	2022	2023
Children under 5 year who are Stunted	3.9%	4.8%
Children under 5 year who are Wasted	2.3%	3.2%
Children under 5 years who are Overweight	8.8%	9.1%
Children under 5 years who are Obese	1.9%	2.1%

Source: Primary Health Care Corporation

Table 5.1 illustrates the percentage of children under 5 years with impaired nutritional status in Qatar during 2022 and 2023. The prevalence of stunting increased from 3.9% to 4.8%, while wasting rose from 2.3% to 3.2%, indicating a slight deterioration in undernutrition. At the same time, overweight increased from 8.8% to 9.1% and obesity from 1.9% to 2.1%, reflecting a parallel rise in overnutrition. These findings point to a dual burden of malnutrition, underscoring the importance of strengthened child nutrition programs and preventive strategies.

Table 5.2: Percentage of school children aged 13-18 years who are overweight, obese, thin or severely thin, year school 2022-2023

School Year	Obese	Overweight	Thinness	Severe Thinness	Normal
2022-2023	23.1%	22.2%	2.8%	0.6%	51.2%
2023-2024	22.7%	21.8%	2.8%	0.7%	52.1%

Source: Ministry of Public Health, Growth Monitoring Program

Table 5.2 presents the nutritional status of school children aged 13–18 years for the academic years 2022–2023 and 2023–2024. The proportion of children classified as obese slightly decreased from 23.1% to 22.7%, while overweight prevalence also declined from 22.2% to 21.8%.

Thinness remained unchanged at 2.8%, and severe thinness increased marginally from 0.6% to 0.7%. The proportion of children with normal weight improved from 51.2% to 52.1%. Overall, the findings suggest modest improvements in weight distribution, with small reductions in overweight and obesity and a slight rise in the percentage of children with normal nutritional status.

Overweight and obesity are defined as having excessive proportion of body fat and are most of the time related to a combination of sedentary lifestyle and improper nutrition. Both, overweight and obesity, are well established risk factors for many chronic diseases, including diabetes, cardiovascular diseases, and cancer. It is one of the leading causes of years of life lost worldwide and in the OECD counties (OECD, 2017). Body Mass Index (BMI) is a measure to evaluate an individual's weight in relationship to his height. WHO states that adults above the age of 18 with a BMI or 25 or greater are considered overweight and adults with a BMI of 30 and above are considered obese (WHO, 2018).

5.4 Anemia

Woman of reproductive age are at higher risk of developing anemia while pregnant and anemia in pregnancy is associated with low birth weight, premature birth and maternal mortality. Optimal nutrition, iron supplementation and routine follow up are highly recommended to prevent anemia in pregnant women. According to the WHO, anemia of pregnancy is defined as having hemoglobin level less than 11g/dL (WHO, 2018).
Over the past 30 years, the prevalence of anemia during pregnancy has been steadily decreasing, from 43.4% in 1990 to 40.1% in 2016 (World Bank, 2019).

The table below shows the percentage of pregnant women with anemia in Qatar during 2022 and 2023. The prevalence declined slightly from 33.5% in 2022 to 32.3% in 2023, indicating a modest improvement. However, anemia remains a significant maternal health concern, highlighting the need for continued focus on maternal nutrition and strengthened antenatal care interventions.

Table 5.3: Percentage of pregnant women with anemia, 2022-2023

Year	2022	2023
Percentage	33.5%	32.3%

Source: Primary Health Care Corporation

5.5 Tobacco

The negative health consequences of tobacco on the human body and health are well known. Tobacco consumption increase the risks of cancers, stroke, coronary heart disease, respiratory diseases such as Chronic Obstructive Respiratory Diseases (COPD) and asthma. It can also cause several complications in newborns of smoking women, such as low birth weight (OECD, 2017).

The Global Youth Tobacco Survey (GYTS) done in 2018 captured the rate of smoking among people aged between 13 and 15 years (WHO, 2020). There is consistently a high proportion of adult male smokers compared to adult female smokers. The report states that, 12.1% of students (15.7% of boys, and 8.7% of girls) currently used any tobacco products and 3.3% of boys and 0.6% of girls are classified in the "Frequent cigarette smokers" category. (Table 5.5)

Table 5.5: Percentage of 13-15 years who are currently tobacco users and frequent cigarette smokers by gender in 2018

Gender	Current Tobacco Users	Frequent cigarette smokers*
Male	15.7%	3.3%
Female	8.7%	0.6%
Overall	12.1%	1.9%

Source: Global Youth Tobacco Survey, 2018

*Smoked cigarettes on 20 or more days of the past 30 days.

5.6 Access to improved drinking water and sanitation facilities

Improved drinking water is a type of water source that is flowing while being protected from contamination from the outside environment especially with fecal matter. Examples include public tap and piper water into yards. Improved sanitation facility refers to refers to the separation human excreta from human contact as to provide optimal hygiene and prevent the transmission of diseases.

Table 5.6: Percentage of residents who have access to improved drinking water and improved sanitation facilities, 2023

	Access to improved drinking water	Access to improved sanitation facilities
Percentage	100%	100%

Source: Planning and Statistics Authority

Table 5.6 presents the percentage of residents in Qatar with access to improved drinking water and improved sanitation facilities in 2023. Coverage was universal, with 100% of the population having access to both safe drinking water and improved sanitation, reflecting the country's strong infrastructure provision.

5.7 Ambient air concentration

The particulate matter, PM10 includes particles less than 10 µm in diameter, PM2.5 those less than 2.5 µm. They can be emitted directly into the air from industry, agriculture, transport… and natural sources as forest fires and volcanic eruptions. PM10 and PM2.5 are small enough to pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Particles in the PM2.5 size range are able

to travel deeply into the respiratory tract, reaching the lungs and they can cause short-term health effects such as throat and lung irritation, coughing, sneezing and shortness of breath. Nitrogen dioxide (NO_2) is a gaseous air pollutant composed of nitrogen and oxygen and is one of a group of related gases called nitrogen oxides, or NO_x. NO_2 forms when fossil fuels such as coal, oil, gas or diesel are burned at high temperatures. The main sources of this pollutant are cars, trucks, and buses as well as power plants. Nitrogen dioxide causes a range of harmful effects on the lungs which could lead to increased inflammation of the airways, reduced lung function and increased asthma attacks. Sulfur dioxide (SO_2) is a toxic gas and the largest source of SO_2 in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities. SO_2 can affect both health and the environment. Ozone (O_3) is a highly reactive gas composed of three oxygen atoms. It is both a natural and a man-made product that occurs in the Earth's atmosphere. Ozone has two properties of interest to human health. First, it absorbs UV light, reducing human exposure to harmful UV radiation that causes skin cancer and cataracts. Second, when inhaled, it reacts chemically with many biological molecules in the respiratory tract, leading to a number of adverse health effects.

The following table describes in monthly basis the distribution of air pollutants in Qatar for the year 2021.

Table 5.7: Annual average of ambient air concentration of PM2.5, PM10, NO_2, SO_2 and Ozone, 2021

	PM2.5	PM10	NO_2	SO_2	O_3
January	35.0	134.8	37	4.2	18.1
February	38.7	103.3	27.3	4.4	30.6
March	34.8	183.3	30.5	4.3	23.6
April	40.9	145.3	34.8	5.7	35.0
May	39.7	145.5	32.1	5.6	33.4
June	63.3	293.0	30.0	3.3	39.5
July	43.7	172.4	27.0	3.0	36.0
August	45.0	148.0	31.0	2.9	40.0
September	35.7	144.0	27.0	3.1	39.4
October	29.7	112.7	25.7	2.4	30.1
November	32.1	110.6	30.6	3.6	26.7
December	26.6	107.4	32.4	3.9	20.6
Annual average	**38.7**	**150.0**	**30.4**	**3.8**	**31.0**

Source: Ministry of Public Health

6. Health Workforce

Healthcare professionals and health providers are the backbone of any health system and they must be in sufficient number to offer the population the services they need. Doctors, nurses, dentist, pharmacists and allied health professionals constitute the health workforce of a country (OECD, 2017). Allied health professional includes medical sonographers, medical technologists, occupational and physical therapists, speech language, dietitians among others.

In Qatar, there were 28.1, and 29.4 physicians per 10,000 population in 2022 and 2023 (Table 6.1). This increasing trend of healthcare professionals has also been found among dentists (from 6.9 to 7.2 per 10,000 population), nurses (80.3 to 82.5 per 10,000 population) and pharmacists (11.4 to 12.1 per 10,000 population) from 2022 to 2023. Allied health professionals were estimated to be 36.2 per 100,000 population in 2022, and 37.8 per 10,000 population in 2023 (Table 6.1).

In the OECD, it was estimated that the number of physicians was 35 per 10,000 in 2017, higher than the average number of physicians in Qatar for the same year. Nurses outnumber physicians and the average number of nurses in the OECD countries in 2017 (88 per 10,000) was also higher compared to Qatar (67 per 10,000) (OECD, 2019).

The number of doctors as well as other healthcare professionals per capita and per population varies widely across countries (OECD, 2017). Although there is a general trend of increased health workforce worldwide, the number of healthcare professionals is largely dependent on the population needs and should be continuously revised to offer optimal medical care.

Table 6.1: Number of healthcare professionals per 10,000 population, by profession and year, 2022 to 2023

Year	2022	2023
Physicians	28.1	29.4
Dentists	6.9	7.2
Nurses	80.3	82.5
Pharmacists	11.4	12.1
Allied Health Professionals	36.2	37.8

Source: Ministry of Public Health

7. Service delivery

Service delivery encompasses the part of the health system where a patient receives appropriate treatment, diagnostic test, intervention, disease prevention, rehabilitation, proper follow-up and continuum of care. It relates to the management and delivery of these health services in inpatient as well as outpatient facilities.

Another indicator for health service delivery are the number of health care facilities and the number of hospitals beds relative to the population. They refer to the availability and access to health care facilities. The number of primary health care facilities measures availability of outpatient services for delivering treatment to patients at the primary health care level. The number of hospital beds, on the other hand, provides an indication of the resources available for delivering services to inpatients in hospitals (OECD, 2017).

In the OECD, the average rate of hospital beds per 10,000 was 47 in 2017 (OECD, 2019).

As previously discussed, the number of primary health care facilities and the number of hospital beds should be tailored to the population need and constantly monitored to provide adequate access and treatment coverage. A suboptimal number of health care facilities and hospital beds could result in longer waiting time and restricted access whereas an excess in the latter could result in inappropriate and wasted distribution of resources (OECD, 2017).

Table 7.1: Number of primary health care facilities per 10,000 population, 2022 to 2023

Year	Public	
	Number	Rate
2022	30	0.10
2023	31	0.10

Source: Ministry of Public Health

Table 7.1 shows the number of primary health care facilities per 10,000 population between 2022 and 2023. Public primary health care facilities increased from 30 in 2022 to 31 in 2023, maintaining a rate of 0.10 per 10,000 population.

Table 7.2: Number of hospital beds and rate per 10,000 population, 2022 to 2023

Year	Public			Private		
	Number	Rate	%	Number	Rate	%
2022	3,202	10.92	87.1%	476	1.62	12.9%
2023	3,265	10.66	82.5%	692	2.26	17.5%

Source: Ministry of Public Health
Note: Government includes Public and Semi-Public healthcare providers

Table 7.2 presents the number of hospital beds by sector for 2022 and 2023. Public sector beds increased from 3,202 to 3,265. The private sector beds grew more markedly from 476 to 692, with the rate rising from 1.62 to 2.26 per 10,000 population. These findings highlight steady public sector capacity alongside notable growth in private sector contribution to hospital beds.

Annual outpatient visits is a reflection of the number of consultations with doctors mainly in primary health care clinics as well as hospital outpatient departments, including both generalists and specialists.

In the OECD, there was 6.8 annual outpatient visits per person per year in 2017. The relatively low number of outpatient visits in Qatar may be attributed to its predominant younger age population compared to other OECD countries.

The number and type of doctor consultations can vary among different population groups in each country. The trend in visiting a general practitioner has been found to be equally distributed in most countries, but in nearly all countries, people with higher socioeconomic status were more likely to see a specialist than those with lower status and would report more frequent visits, according to an OECD study (Deveaux & de Looper, 2012).

Table 7.3: Annual outpatient visits per capita, 2022 to 2023

Year	2022	2025
Number per capita	3.5	3.3

Source: Hamad Medical Corporation
Note: Public facilities only

Table 7.3 shows the annual outpatient visits per capita in public facilities for 2022 and 2023. The rate decreased slightly from 3.5 visits per capita in 2022 to 3.3 in 2023, suggesting a modest decline in outpatient service utilization. This trend may reflect shifting care-seeking patterns, including increased uptake of preventive care, digital health services, or greater reliance on private sector facilities.

The percentage of deliveries attended by skilled health professionals reflects the maternal and fetal health care system of a country. WHO reinforces that all women should have access to skilled care during pregnancy and childbirth to ensure prevention, detection and management of complications (WHO, 2004).
By contrast, the World Data Bank estimated a worldwide average of 80.0% of deliveries attended by a skilled birthing professional.

Improvements in the coverage of the proportion of deliveries attended by skilled birthing professionals and their provision of care may explain the low maternal and infant mortality seen in Qatar.

Table 7.4: Percentage of deliveries attended by skilled birthing professionals, 2023

Year	2023
Percentage	100%

Source: Ministry of Public Health

Table 7.4 shows the percentage of deliveries attended by skilled birthing professionals in Qatar in 2023. Coverage was complete, with 100% of births attended by skilled health personnel. This reflects the strength of maternal healthcare services and supports safe delivery practices nationwide.

Table 7.5: the Hospital acquired infections (as for HSPA definition) - Methicillin-resistant Staphylococcus aureus (MRSA) (per 1,000 patient days), Clostridium difficile (per 10,000 patient days), Surgical wound infections (%), 2022 to 2023

Indicators / Year	2022	2023
Incidence of Inpatient Hospital-Onset MRSA per 1,000 patient days	0.01	0.02
Incidence Of Inpatient Hospital-Onset CDI per 10,000 patient days	0.74	0.60
Surgical Site Infection Rate	1.23%	1.05%

Source: Hamad Medical Corporation

Table 7.5 presents the incidence of selected hospital-acquired infections in Qatar during 2022 and 2023. The incidence of inpatient hospital-onset MRSA increased slightly from 0.01 to 0.02 per 1,000 patient days, though it remained very low overall. In contrast, the incidence of inpatient hospital-onset *Clostridium difficile* infection declined from 0.74 to 0.60 per 10,000 patient days, indicating an improvement in infection control practices. The surgical site infection rate also decreased from 1.23% in 2022 to 1.05% in 2023. Overall, these findings suggest that while MRSA incidence requires continued vigilance, reductions in *C. difficile* and surgical site infections reflect effective hospital infection prevention and control measures.

Table 7.6: Hospital admission by major cause by nationality and gender, 2022 to 2023

Nationality	2022					2023				
	Day Cases		Inpatient		Total	Day Cases		Inpatient		Total
	M	F	M	F		M	F	M	F	
Qatari	42,968	39,848	14,585	23,167	120,568	41,007	38,962	14,381	21,246	115,596
Non-Qatari	82,779	43,766	54,729	57,369	238,643	98,229	51,225	53,892	56,884	260,230

Source: Hamad Medical Corporation

Table 7.6 shows hospital admissions by nationality and gender in Qatar for 2022 and 2023. Among Qataris, total admissions declined slightly from 120,568 in 2022 to 115,596 in 2023, with reductions observed in both day cases and inpatient admissions. In contrast, non-Qatari admissions increased from 238,643 in 2022 to 260,230 in 2023, driven largely by a rise in day cases. Overall, non-Qataris continued to account for the majority of hospital admissions, reflecting their larger share of the population and growing healthcare demand among the expatriate population.

In Table 7.6.1 the hospital admissions are further broken down on the basis of the major causes for admission and the duration of admission (i.e., Day cases vs inpatient). In Table 7.6.2 the data is further explained on the basis of hospital admission for chronic diseases per 100,000 population.

Table 7.6.1: Hospital admission on the basis of Disease groups defined in ICD, 2022 to 2023

Major Disease Group by ICD	2022			2023		
	Day Cases	Inpatient	Total	Day Cases	Inpatient	Total
Blood Diseases & Blood-Forming Organs	5,691	1,796	7,487	6,524	1,979	8,503
Childbirth & Puerperium	3,373	29,683	33,056	3,472	31,846	35,318
Circulatory System	2,194	9,802	11,996	2,703	11,021	13,724
Congenital Anomalies	505	860	1,365	702	936	1,638
Digestive System	10,831	13,075	23,906	12,611	13,340	25,951
Diseases of the ear and mastoid process	662	681	1,343	1,164	643	1,807
Diseases of the eye and adnexa	8,749	609	9,358	9,768	628	10,396
Endocrine Gland	2,900	3,536	6,436	2,894	3,620	6,514
Factors Influencing Health Status	152,039	19,414	171,453	156,104	19,462	175,566
Genitourinary System	6,411	7,843	14,254	10,195	7,405	17,600
Infectious & Parasitic	520	4,940	5,460	2,140	4,870	7,010
Injury & Poisoning cases	509	9,398	9,907	2,136	9,614	11,750
Mental Disorders	152	2,341	2,493	248	2,372	2,620
Neoplasms	3,555	4,538	8,093	3,944	5,389	9,333
Nervous System & Sense Organs	514	2,070	2,584	719	2,209	2,928
Nonspecific Symptoms and Signs	4,067	6,646	10,713	4,315	4,189	8,504
Perinatal Period	6	7,406	7,412	10	8,374	8,384
Respiratory System	1,878	12,268	14,146	3,139	12,088	15,227
Skeletal System & Connective Tissue	2,922	2,885	5,807	4,278	2,987	7,265
Skin & Subcutaneous Tissue	1,356	2,771	4,127	2,290	3,358	5,648
Special Purpose	0	2	2	2	0	2
Others	527	7,286	7,813	65	73	138
Total	209,361	149,850	359,211	229,423	146,403	375,826

Source: Hamad Medical Corporation

Table 7.6.1 presents hospital admissions by major disease group for 2022 and 2023. Total admissions increased from 359,211 to 375,826. The largest share was due to “Factors Influencing Health Status” followed by “childbirth and puerperium”, which rose from 33,056 to 35,318. Admissions also increased for digestive (23,906 to 25,951), circulatory (11,996 to 13,724), and respiratory diseases (14,146 to 15,227). Neoplasms rose from 8,093 to 9,333, while injury and poisoning cases grew from 9,907 to 11,750. These trends highlight rising demand for maternal, chronic disease, cancer, and injury-related care.

Table 7.6.2: Hospital admission by chronic disease, 2022 to 2023

	2022			2023		
Chronic Diseases Principal Diagnosis	Day Cases	Inpatient	Total	Day Cases	Inpatient	Total
Asthma	14	1,025	1,039	12	963	975
Chronic Heart Failure	31	1,134	1,165	19	1,214	1,233

COPD	39	383	422	45	444	489
Diabetes	817	1,224	2,041	1,038	1,343	2,381
Hypertension	53	467	520	82	456	538
Other Diseases	208,407	145,617	354,024	228,227	141,983	370,210
Total	209,361	149,850	359,211	229,423	146,403	375,826

Source: Hamad Medical Corporation

Figure 7.6.2 presents hospital admissions for chronic diseases in 2022 and 2023. Total chronic disease admissions increased from 359,211 in 2022 to 375,826 in 2023. Among specific conditions, diabetes showed the largest rise, from 2,041 to 2,381 admissions, reflecting its growing burden. Chronic heart failure admissions also increased slightly (1,165 to 1,233), while COPD rose from 422 to 489. Asthma admissions declined from 1,039 to 975, and hypertension remained stable (520 to 538). Overall, these trends highlight the sustained impact of diabetes, cardiovascular conditions, and respiratory illnesses on hospital utilization, underscoring the continuing challenge of managing chronic disease in Qatar.

Table 7.6.3: HMC -ED activity by nationality and gender, 2022 to 2023

Nationality	2022				2023			
	Registered patient - not admitted to IP		Admitted as IP from ED		Registered patient - not admitted to IP		Admitted as IP from ED	
	M	F	M	F	M	F	M	F
Qatari	214,321	207,464	10,501	16,608	220,539	223,895	8,887	12,464
Non-Qatari	491,609	422,294	40,384	39,845	526,702	469,616	35,438	33,961

Source: Hamad Medical Corporation

Table 7.6.3 shows emergency department (ED) activity in 2022 and 2023. The number of registered patients not admitted to inpatient care increased from 1,335,688 in 2022 to 1,440,752 in 2023, a rise of 7.9%. In contrast, admissions from ED to inpatient care declined from 107,338 in 2022 to 90,750 in 2023, representing a 15.5% decrease. Overall, the data suggest rising ED utilization but a declining proportion of cases requiring hospital admission, which may reflect improved triaging and case management.

Table 7.6.4: HMC - RE-admission rate, 2022 to 2023

2022	2023
1.00%	1.05%

Source: Hamad Medical Corporation

Table 7.6.4 shows the hospital re-admission rate at Hamad Medical Corporation in 2022 and 2023. The rate remained very low overall, increasing only slightly from 1.00% to 1.05%, indicating stable performance in quality of care.

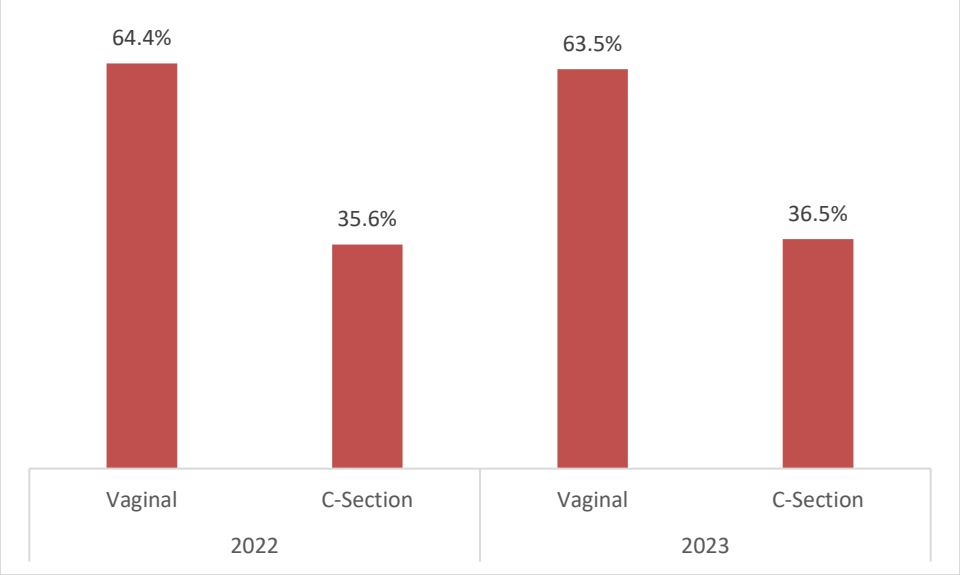
Table 7.7: Children under 5 with diarrhea treated with oral rehydration therapy (%), 2022 to 2023

2022	2023
62%	60%

Source: Primary Health Care Corporation

Table 7.7 shows the percentage of children under 5 with diarrhea who received oral rehydration therapy in 2022 and 2023. Coverage declined slightly from 62% in 2022 to 60% in 2023, indicating a modest reduction in treatment uptake. This highlights the need to sustain and strengthen awareness about oral rehydration therapy for effective management of childhood diarrhea.

Figure 7.7: Delivery methods in governmental hospitals, 2022 to 2023



Source: Hamad Medical Corporation

The figure 7.7 illustrates the distribution of delivery methods in governmental hospitals between 2022 and 2023. In 2022, vaginal deliveries accounted for 64.4% of total births, while cesarean sections represented 35.6%.

In 2023, the proportion of vaginal deliveries slightly decreased to 63.5%, whereas cesarean deliveries increased to 36.5%. This marginal shift suggests a gradual rise in cesarean section rates over time, which may reflect changes in clinical practices, maternal preferences, or obstetric risk factors.

Continuous monitoring of these trends is essential to ensure adherence to recommended guidelines and to evaluate potential implications for maternal and neonatal health outcomes.

Conclusion

The continuous collection and analysis of health data remain central to accurately identifying and addressing Qatar's evolving health priorities. By engaging with communities, healthcare providers, and stakeholders, and by integrating multiple data sources, this report provides a clear picture of the health needs and challenges facing the population.

Ongoing surveillance ensures that emerging issues are detected early, enabling timely prioritization and effective allocation of resources. This evidence-driven approach strengthens public health policy by uncovering the underlying determinants of health, guiding the design of targeted strategies that address root causes and improve outcomes.

The insights presented here serve as a comprehensive resource for policymakers, supporting evidence-based decision-making, more efficient resource use, and enhanced healthcare delivery. Ultimately, these findings contribute to improving public health and well-being. All of this information is compiled in the Qatar Health Report 2022–23, which stands as a key national reference for planning, policy, and future health system development.

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