

Births & Deaths

In the State of Qatar 2021





جهاز التخطيط والإحصاء
Planning and Statistics Authority
دولة قطر • State of Qatar

Births & Deaths

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(Review & Analysis)

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Preface



The present time witnesses an increasing demand for statistical data of all types, including vital statistics. One of the most important data is the data on births, deaths and related indices that are used as a key element in decision making to achieve the objectives of the National Development Strategy that, in turn, will achieve Qatar National Vision 2030. Among these are the development of infrastructure network so that all citizens and residents in Qatar can have access to health services. This includes maternal and childcare services; combating infectious diseases, providing basic vaccinations, raising awareness on proper nutrition system and providing the necessary cadres of doctors, nurses and technicians.

This annual report, issued by the Planning and Statistics Authority (PSA), analyzes the vital birth and death statistics with the aim of identifying the trend of births and deaths indicators in general during the period (2012-2021). The indicators provided by the statistics on births and deaths are used as milestones to achieve short and long-term goals, and to improve health, social and economic conditions for all population of Qatar.

The report shows the evolution of the indicators that reflect tangible improvements in all indicators, such as crude birth rates and percentage distribution of births by nationality, place of residence and fertility rates, as well as crude death rates, percentage distribution of deaths by nationality and place of residence, detailed death rates, causes of death, infant, child and maternal death rates and life expectancy at birth.

The PSA hopes that government agencies, private institutions of public interest and civil society organizations will benefit from the report's indicators on births and deaths in 2021 so as to develop social plans and policies aimed at improving health conditions, minimizing all death-causing diseases and finding successful solutions in this regard.

Dr. Saleh M. Al-Nabit
President of the Planning and Statistics Authority

Introduction

The birth and death statistics are one of the main pillars of vital statistics and are used for several purposes in view of their important role in population growth. These statistics are also an integral part of the statistics produced by the Planning and Statistics Authority (PSA), as they are used to calculate many demographic indicators that fall within the concept of social indicators.

The data on birth and death statistics which are obtained from national records are considered as one of the tools necessary to update the data on population and demographic analysis required in the economic and social planning processes. The analysis of birth and death statistics also serves in many areas, as it meets the needs that the state is working to provide and clarifies the trend in population growth. The analysis includes demographic and health indicators based on data collected from the civil registry system for the development of a parallel data systems that contain highly accurate information on fertility, adult death rates and detailed death rates, including infant, child and maternal deaths, as well as causes of death and life expectancy at birth. In addition to official purposes, the results of this report serve other scientific purposes.

It should be noted that the data contained in this report is the outcome of collaboration between the Planning and Statistics Authority and the Ministry of Public Health.

The data in this report includes births and deaths registered in the State of Qatar and Qatari births and deaths registered abroad. The analysis consists of two chapters; the first is on live births and fertility rates, while the second is on rates and causes of death, in addition to an annex of tables.

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First: Births

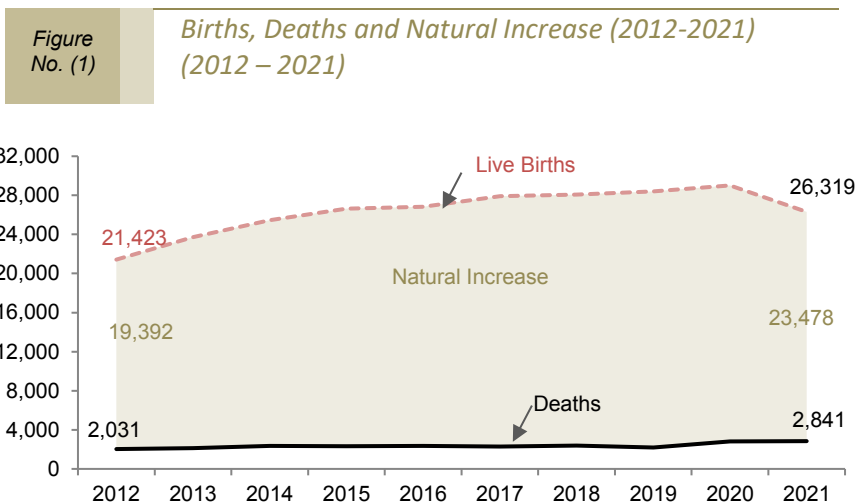
This chapter provides an analysis of live birth data including the evolution and distribution of the number of births by mother's place of residence and nationality, crude birth rate, fertility rates for Qatari women and normal and underweight newborns.

1. Evolution of the Number of Live Births

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 placenta has been cut or is still attached; each product of such a birth is considered live-born regardless of gestational age. The change in the population resulting from these natural events (the difference between the number of births and deaths) is called "natural increase". The data indicates that the natural increase rate decreased from 10.58 per 1,000 population in 2012 to 8.54 in 2021; a drop of 19% during the comparison period.

Live birth rate witnessed an increase of 2.1% during the period 2012-2021.

The number of live births in Qatar reached 26,319 in 2021 (Figure 1), a drop of 7.7% in natural increase compared to 2020. An increase was observed in the number of live births registered during the period (2012-2021) from 21,423 in 2012 to 26,319 live births in 2021, an annual growth rate of 2.1%.



The number of Qatari live births reached 7,814 accounting for 29.7% of total live births, while the number of non-Qatari live births reached 18,505 accounting for 70.3% of total live births.

2. Live Births by Nationality and Mother's Place of Residence

Figure 2 indicates that the majority of live births were registered in Al Rayyan Municipality, accounting for 37.2% of total live births registered in Qatar, followed by Doha Municipality by 35.5%, then Al Wakra Municipality by 10.1%, Umm Salal by 6.3%, Al Dhaayen by 5.3%, Al Khor by 3.1% and then the rest of municipalities (Al Shihaniya and Al Shamal) by 2%. Finally, births outside of Qatar accounted for 0.5% of total live births.

Most of live births in Qatar were registered in the municipalities of Al Rayyan (37.2%) and Doha (35.5%) in 2021

When reviewing live births by nationality, gender and Mother's place of residence, we find that most of Qatari male live births were registered in Al Rayyan Municipality by 49.2%, followed by Doha Municipality by 15.9%, Al Dhaayen by 9.8%, Umm Salal by 8.8%, Al Wakra by 7.9%, Al Khor by 3.3%, Al Shihaniya by 3.1% and Al Shamal by 0.7%. The rest of live births were born outside of Qatar, accounting for 1.3%.

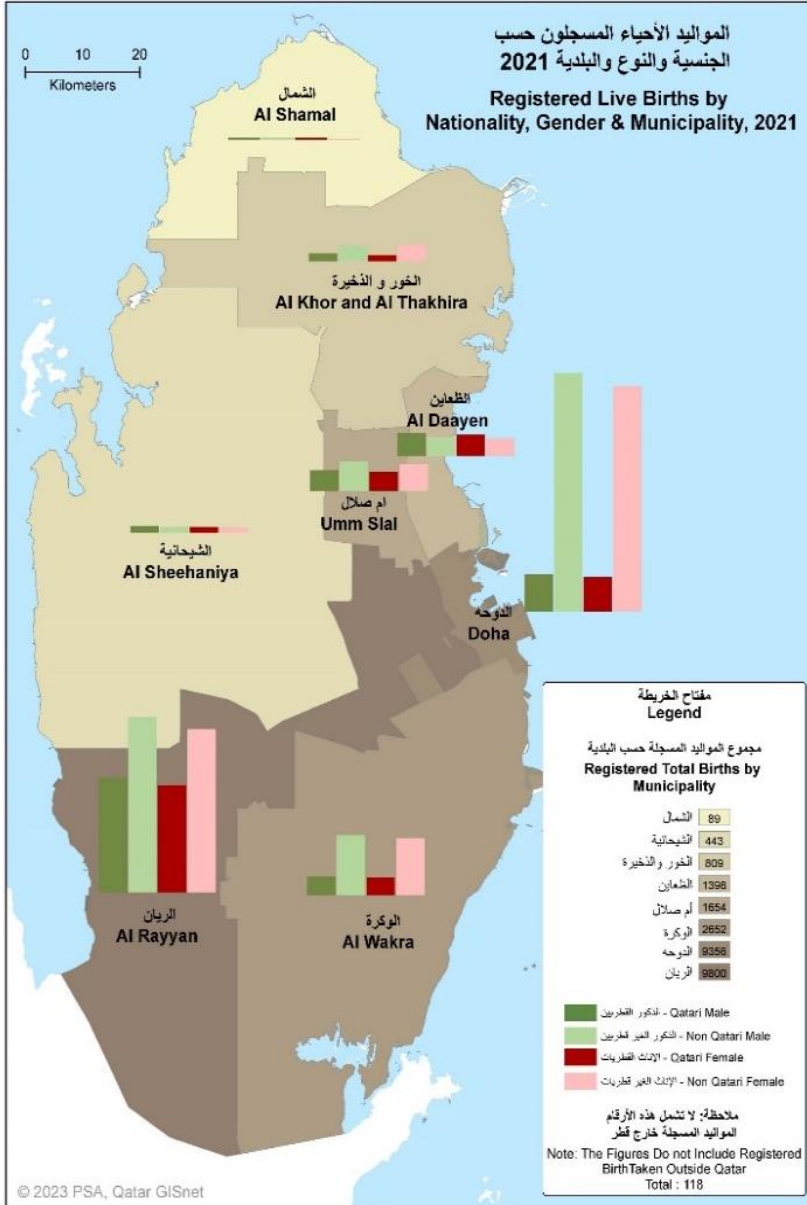
As for non-Qatari male live births, they were mostly concentrated in Doha Municipality by 43.8%, followed by Al Rayyan 32.2%, Al Wakra by 11%, Umm Salal by 5.38%, Al Dhaayen by 3.4%, Al Khor by 2.9%, and then the remaining municipalities (Al Shihaniya and Al Shamal) by 1.4%.

With regard to females, Figure 2 shows that the highest percentage of Qatari female live births was registered in Al Rayyan Municipality by 49.8% of total Qatari female births, followed by Doha by 15.9%, Al Dhaayen by 9.9%, Umm Salal by 8.5%, Al Wakra by 7.9%, Al Khor by 2.8%, Al Shihaniya by 2.7%, and Al Shamal by 0.7%. The rest of female live births were outside of Qatar, accounting for 1.8%.

As for non-Qatari female live births, they were mostly concentrated in Doha Municipality by 43.9% of total non-Qatari female births, followed by Al Rayyan by 31.8%, Al Wakra by 11%, Umm Salal by 5.2%, Al Dhaayen by 3.4%, Al Khor by 3.3% and then the rest of municipalities (Al Shihaniya and Al Shamal) by 1.4%.

Figure No. (2)

Live Births by Nationality, Gender and Place of Residence, 2021



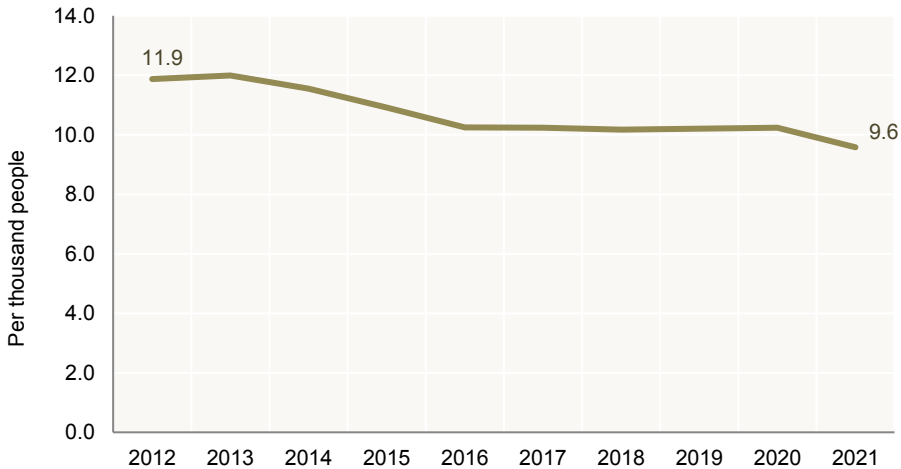
3. Crude Birth Rate

The crude birth rate refers to the number of live births per 1,000 population, regardless of age and gender in a given year. It is called “crude” because it comprises the population of all ages. The crude birth rate dropped from 11.9 live births per 1,000 population in 2012 to 9.6 in 2021, a decline of 19.3% during the period (2012-2021).

Crude birth rate dropped from 11.9 per 1,000 population in 2012 to 9.6 per 1,000 population in 2021, a decrease of 19.3% during the period 2012-2021.

Figure No. (3)

Crude Birth Rate (per 1,000 population) (2012-2021)



Regarding the sex ratio at birth, data indicates that the ratio of male live births per 100 female live births stood at 106.8% in Qatar in 2021, which is high, as the highest rate during the past ten years was 104.9 in 2019, and falls outside the usual sex ratio (101, 105) at birth.

4. Age Specific Fertility Rates for Qatari Women

The age-specific fertility rate is one of the most accurate rates for measuring fertility. This rate requires a complete series of data (number of births by age of mother, as well as the distribution of population by age and gender). The age-specific fertility rate measures the number of annual births per thousand women at a given age (the age group range is usually 5 years), provided that the age-specific fertility rates are not one number, but are at least 7 numbers (for the average fertility period of 35 years).

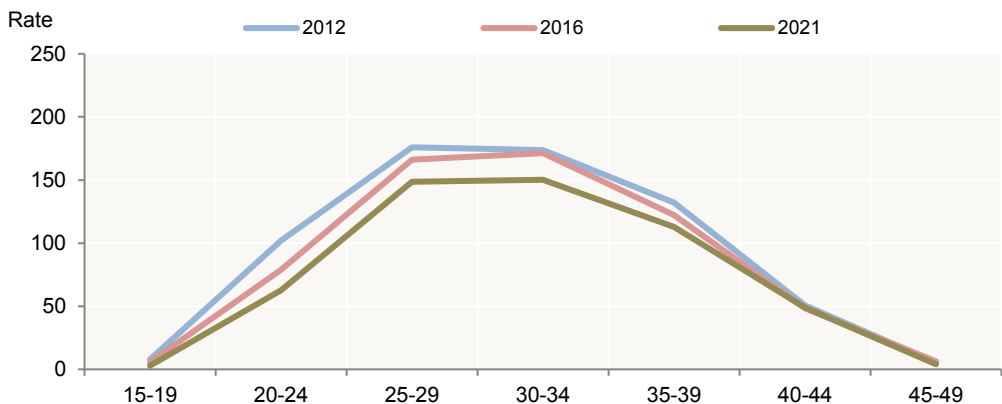
Age specific fertility rates recorded the highest level in the age group (30-34 years). Its decline was even more significant in the age groups of less than 25 years during the comparison period.

The results are displayed in a curve (Figure 4) that shows the distribution of births on all age groups of Qatari women. The figure indicates that the fertility rate in 2021 started low as usual in the age group (15-19 years) at the rate of 2.9 children per 1,000 women, and then increased reaching its peak in the age group (30-34 years) at the rate of 150.18 children per 1,000 women. The rates, then, gradually declined in subsequent groups until they reached their lowest (3.97 children per 1,000 women) in the oldest age group (45-49 years).

The age fertility rate curve also indicates a significant change in the fertility structure that caused its decline during the period (2012-2021) represented by the decline in fertility rates across almost all age groups. The decline was more significant for Qatari women under the age of 25 years as shown in Figure 4.

Figure
No. (4)

*Age Specific Fertility Rates for Qatari Women by
Mother's Age Group (2012-2021)*



The fertility decline in the first and last age groups and its increase in the middle age groups have all been proven in statistical studies which found that women under 20 years of age give less birth than women aged between 20 and 35 years, after which their ability to reproduce gradually declines.

5. Total Fertility Rate (TFR) and Gross Reproduction Rate (GRR)

A. Total Fertility Rate (TFR):

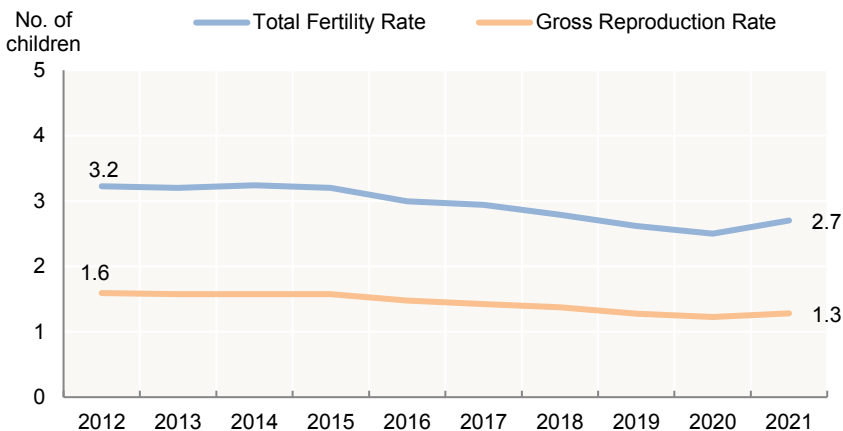
TFR is the average number of live births a woman would have during her reproductive years. TFR is directly affected by the average age of marriage for females, the percentage of widows at the age of fertility, the extent of continued marital life and the use of family planning methods. However, it is indirectly affected by other economic, cultural and social factors. TFR can be calculated by adding up the age-specific fertility rates of childbearing groups and multiplying them by the age group length, and then dividing them by one thousand if Total Fertility Rate per woman is required.

Total Fertility Rate for Qatari women declined from 3.2 children per woman in 2012 to 2.7 children per woman in 2021.

Figure 5 below shows the decrease in TRF for Qatari women during the period (2012-2021) from 3.2 children per woman in 2012 to 2.7 children per woman in 2021. With this decrease, the total fertility rate in Qatar almost reached the global average of 2.4 children per woman. The developed and economically advanced countries have lower rates, such as Australia and most European countries, where the highest fertility rate is 1.9 children per woman in France.

Figure No. (5)

Total Fertility Rate (TFR) and Gross Reproduction Rate (GRR) for Qatari Women (2012-2021)



B. Gross Reproduction Rate (GRR):

Gross reproduction or replacement rate is the measurement used to estimate future mothers through the study of female births in order to identify the number of daughters that would be born to a woman during her childbearing life. Each daughter represents a link in the survival chain of the human race, while ignoring the fact that some women will die before completing their childbearing years. Thus, it is similar to Total Fertility Rate in terms of calculation, however, it only takes into consideration female births instead of total births. GRR witnessed a decline from 1.6 daughters per Qatari woman in 2012 to 1.3 daughters per Qatari woman in 2021, a drop of nearly 20.1% during the comparison period.

The decline in fertility rates in Qatar can be explained by the higher educational attainment of Qatari women, their involvement in work, the preference of career to marriage and childbearing, the reluctance of young people from early marriage and lower childhood mortality rates.

6. Normal and Underweight Newborns

The term “underweight newborns” refers to the percentage of the number of live births whose weight is less than 2.5 kg in a given year of total live births in the same year.

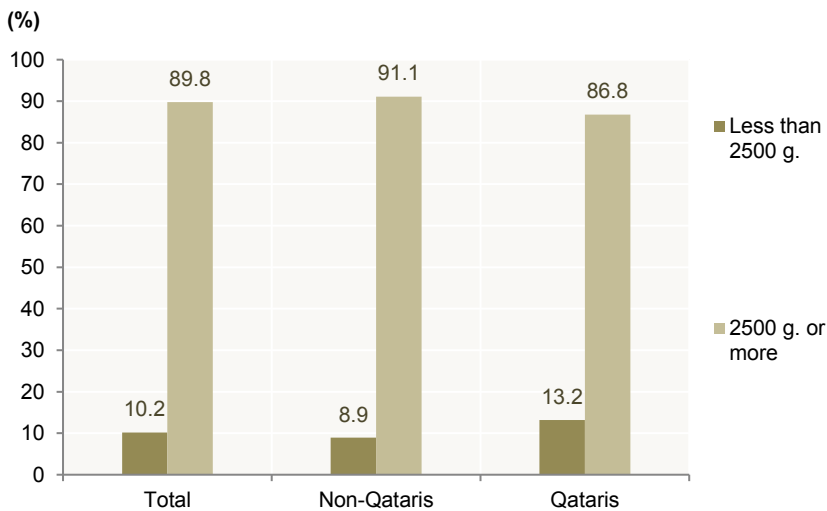
Qatari underweight newborn rate increased to (13.2%) compared to non-Qataris (8.9%), a difference of 3.3 percentage points in 2021

The number of underweight newborns reached 2,683 live births, accounting for 10.2% of total live births of 26,313 in 2021, while the percentage of normal-weight newborns was 89.8% of total live births.

With regard to nationality, Figure 6 below indicates that underweight newborn rate is higher among Qataris (13.2%) compared to non-Qataris (8.9%), a difference of 3.3 percentage points.

Figure No. (6)

Percentage (%) of Live Births by Nationality and Weight (Underweight and Normal Weight), 2021



Second: Deaths

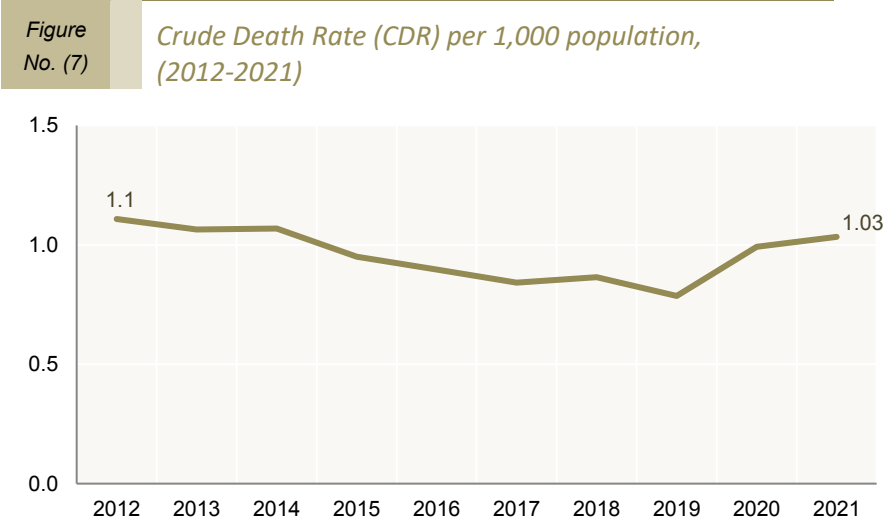
This chapter includes an analysis of mortality data at several points, including crude death rates, death rates of all ages by gender, distribution of deaths by gender, nationality and place of residence, detailed death rates, causes of death, infant and child mortality, maternal mortality, and life expectancy at birth.

1. Crude Death Rate (CDR)

Death is the permanent disappearance of all evidence of life at any time after live birth has taken place. This definition therefore excludes stillbirths.

The number of deaths reached 2,841 in 2021, compared to 2,811 deaths in 2020, indicating a slight increase in the number of CDR by 4.2% in 2021 compared to 2020 despite its decline by 9% in 2019 compared to 2018. The data in Figure 7 below indicates a decline in crude death rate in Qatar from 1.11 per 1,000 population in 2012 to 1.03 per 1,000 population in 2021, an annual decrease rate of 1%

Crude death rate increased by 4.2% in 2021 compared to 2020, despite its decline by 9% in 2019 compared to 2018.

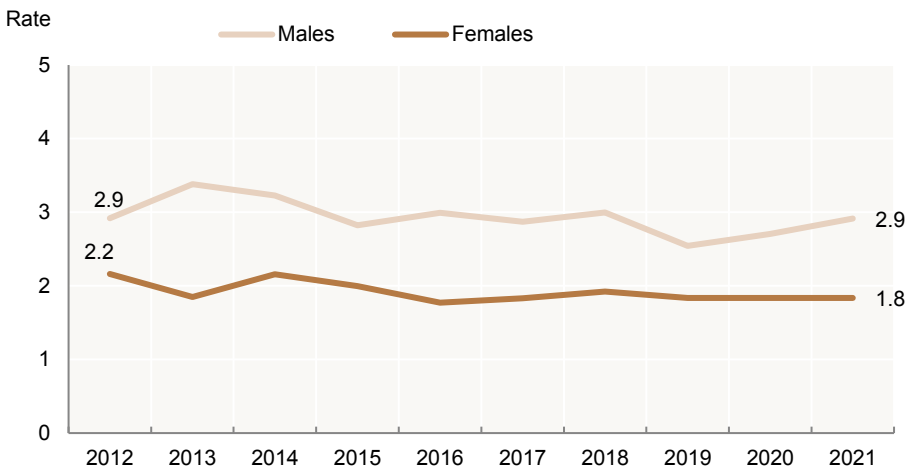


2. Qatari Death Rate of All Ages by Gender

The Crude Death Rate (CDR) gives an overall idea of the level of deaths. Nevertheless, there is a need for more detailed measurement of CDR in order to analyze death data, because death rate is linked to a variety of demographic, economic and social factors and characteristics. Here, we deal with the crude death rate for both males and females and the evolution of the trend of this rate during the period (2012-2021). The results indicate that the death rate per 1,000 Qatari population by gender declined for both males and females in general (Figure 8). Female deaths witnessed a decline from 2.2 per 1,000 females in 2012 to 1.8 per 1,000 females in 2021, a drop of 18.2%. On the other hand, male deaths remained at a level of 2.9 per 1,000 males during the same period

Figure No. (8)

Crude Death Rate per 1,000 Qatari population by gender (2012-2021)



It is observed that female deaths are declining compared to males. On other hand, the decline in death rate is due to medical advances in the treatment of many diseases and the development of healthcare systems as a result of the significance the state attaches to health sector.

3. Deaths by Nationality, Gender and Place of Residence

Figure 9 below shows that most deaths in the State of Qatar were registered in Doha Municipality, accounting for 71.8% of total deaths registered in Qatar, followed by Al Rayyan by 15.1%, Al Wakra by 2.6%, Umm Salal by 2.2%, Al Khor by 2%, Al Shihaniya by 1.2%, and then the rest of municipalities (Al Shamal and Al Dhaayen) by almost 1.6%, in addition to 3.5% of deaths outside Qatar.

Most deaths in Qatar were registered in the Municipalities of Doha (71.8%) and Al Rayyan (15.1%) in 2021

Regarding the deaths by nationality, gender and place of residence, most of Qatari male deaths occurred in Doha Municipality by 52.2%, followed by Al Rayyan by 25.5%, Umm Salal by 3.2%, Al Wakra by 2.8%, Al Khor by 2.2%, Al Shihaniya by 1.5%, and then the rest of municipalities (Al Dhaayen and Al Shamal) by almost 1.6%. The remaining percentage of deaths (11%) was outside Qatar.

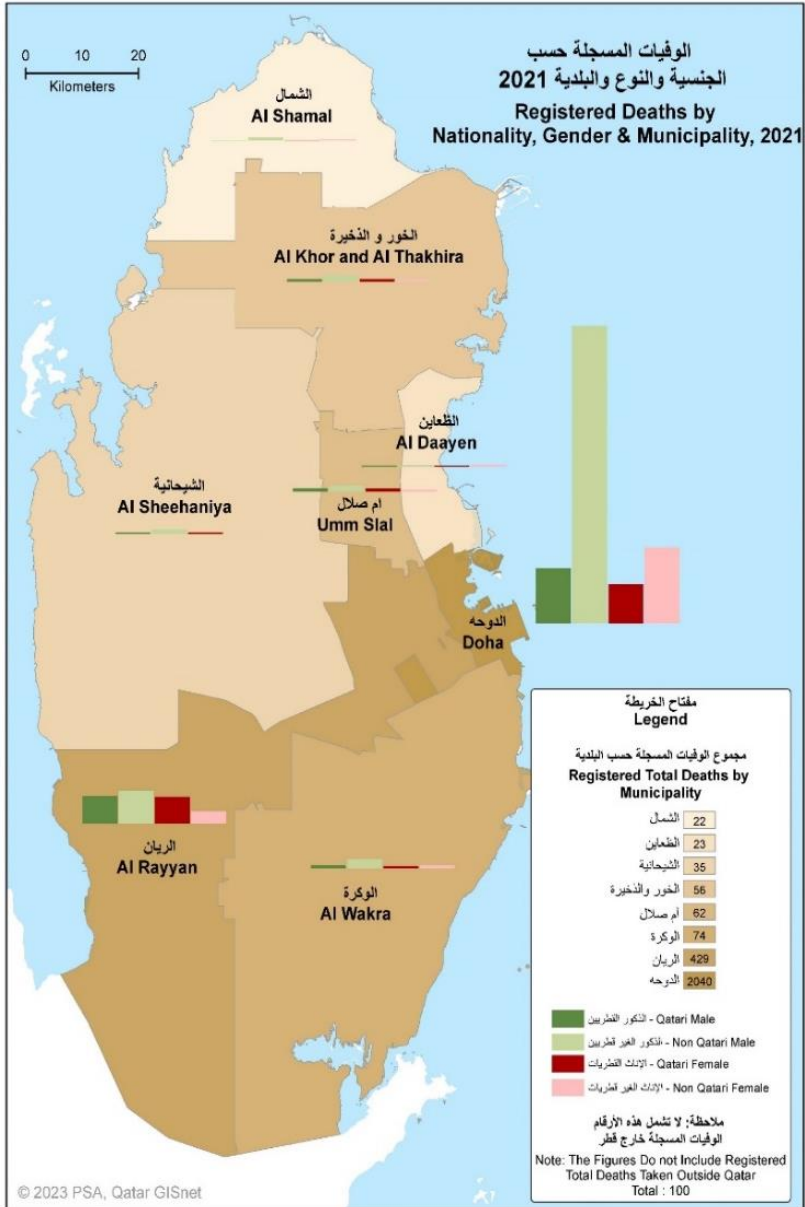
As for non-Qatari male deaths, they were mostly concentrated in Doha Municipality by 82.6%, followed by Al Rayyan by 9.1%, Al Wakra by 2.4%, Al Khor and Umm Salal by 1.7% each, Al Shihaniya by 1.3% and then the rest of municipalities (Al Shamal and Al Dhaayen) by 1.2%.

Figure 9 above also shows that most of Qatari female deaths occurred in Doha Municipality by 45.2% of total Qatari female deaths registered in Qatar, followed by Al Rayyan by 30.4%, Umm Salal by 3.2%, Al Khor and Al Wakra by 2.6% each, Al Shihaniya by 1.9%, and then the rest of municipalities (Al Shamal and Al Dhaayen) by 1.6%. Qatari Female death rate outside Qatar amounted to 12.5%.

On the other hand, non-Qatari female deaths were concentrated in Doha Municipality, accounting for 76.9% of total non-Qatari female deaths, followed by Al Rayyan by 12.2%, Al Wakra by 3%, Umm Salal and Al Khor by 2.1% each, Al Dhaayen by 1.9%, and then the rest of municipalities (Al Shamal and Al Shihaniya) by 1.3%. The remaining percentage of deaths (0.5%) was outside Qatar.

Figure No. (9)

Deaths by Nationality, Gender and Place of Residence, 2021



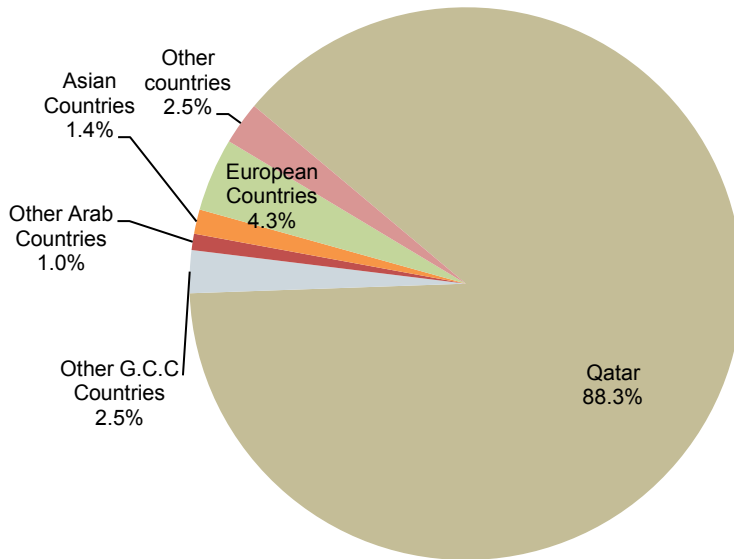
4. Qatari Deaths by Place of Death

Figure 10 below shows that the registered Qatari deaths were distributed as follows: around 9 out of 10 Qatari deaths (88.3%) occurred inside Qatar, while one person out of 10 died outside Qatar in 2021.

Male deaths are higher than female deaths and are increasingly more significant at the age of 50 years and older than at middle ages.

The deaths outside Qatar were distributed as follows: 4.3% in European countries, 1.4 in Asian countries, 2.5% in GCC countries, 1% in the rest of the Arab countries and 2.5% in other countries.

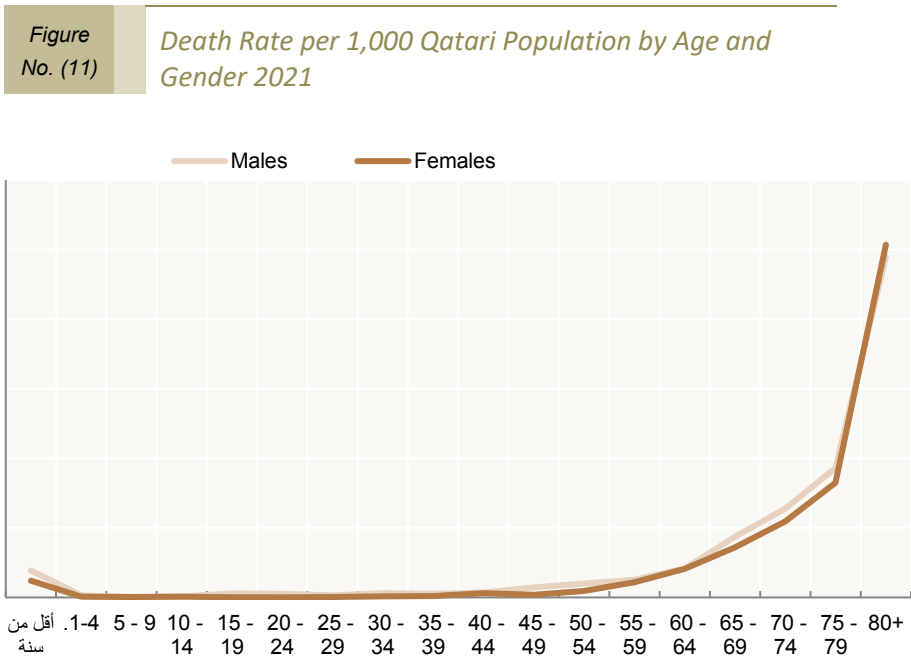
Figure No. (10) *Percentage Distribution of Registered Qatari Deaths by Place of Death 2021*



5. Detailed Qatari Death Rates by Age and Gender

One of the most important determinants of the level of death in a society is the age structure. Deaths are dramatically affected by the age factor. The detailed death rate by age and gender is calculated by dividing the number of deaths of individuals in a certain age group in a given year by the number of individuals in the same group and the same year, multiplied by one thousand. These rates show death levels for both males and females, and the age groups that need extra healthcare.

Figure 11 below shows Qatari death rate by age and gender taking the shape of a curve that represents the average death rate with a slight torsion on the left side due to lower infant death rates, but more sharply in the right side which represents the elderly. This torsion is at both ends of the curve and the curve summits represent the age group of less than one year and the age group of 80 years and over.



The curve base is from the beginning of the age group (1-4 years) to the beginning of the age group 50 years). Therefore, there is one pattern of death rates by age for both males and females. It starts high for infants as usual and then falls into rapid decline down to its lowest level at ages (1-49 years), then it rises again steadily over the age of 50 years due to increased risk of death among the elderly.

With respect to death rates by gender, they are convergent between males and females in the age groups of less than 15 years, with a slight difference in favor of females in the first year of life as usual in the deaths of first year. The male deaths start rising steadily and remarkably above female deaths at the age of 49 years and older and are higher in lower age groups.

6. Causes of Death (Preliminary Data)

The causes of death will be addressed in two points; causes of death by nationality and causes of death by gender for Qataris.

A. Causes of Death by Nationality:

Figure 12 below shows the percentage distribution of registered deaths by nationality and cause of death (ICD-10). The results indicate that the first cause of death in 2021 was "circulatory system diseases" that are related to blood pressure, diabetes and cholesterol, which were responsible for the deaths of 30.8% of population in Qatar. The death due to such diseases was higher by 4 percentage points among non-Qataris in favor of Qataris. Deaths due to "circulatory system diseases" increased by 8% compared to 2020.

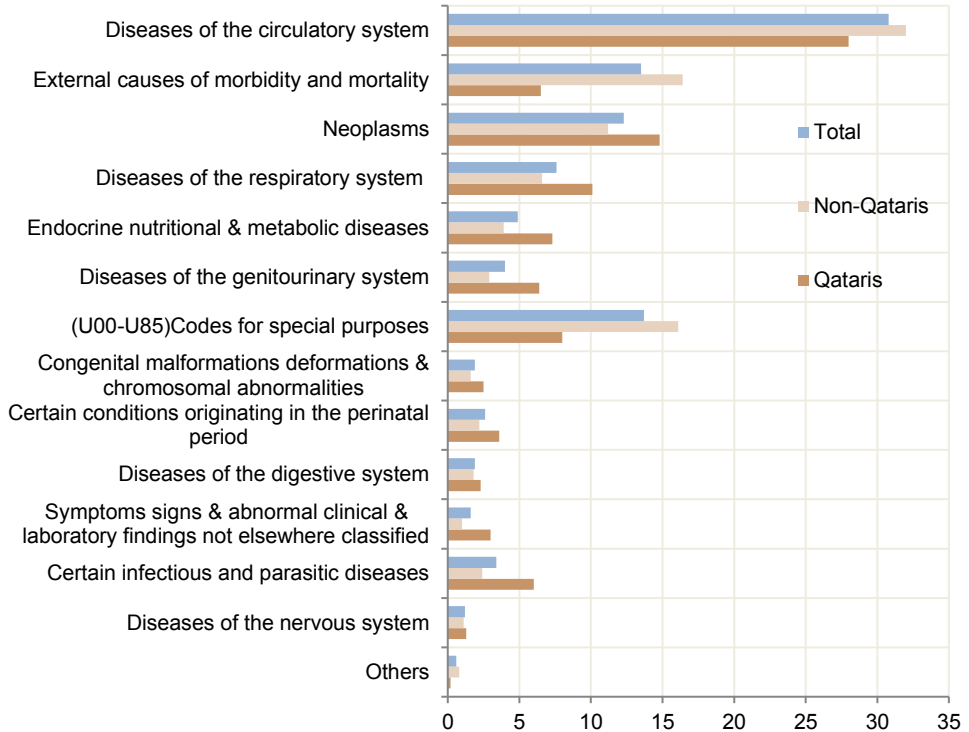
The second cause of death was "codes for special purposes (U00–U85)" which is the provisional assignment of new diseases of uncertain etiology or emergency that contains ICD-10 codes for emergency use of U07 case, post-COVID-19. This cause was responsible for 13.7% of deaths, which was higher among non-Qataris, with a difference of 8 percentage points in favor of Qataris.

The third cause of death was "external causes of morbidity and death", accounting for 13.5% (including a range of causes such as road accidents, falling, drowning, exposure to smoke, fire and flames, exposure to toxic substances, self-harm, assault and others). This cause of death was higher among non-Qataris by a difference of nearly 10 percentage points in favor of Qataris. The fourth reason was "neoplasms", accounting for 12.3% of total deaths. It was higher among Qataris, by 4 percentage points in favor of non-Qataris. Deaths due to this cause recorded a decrease of 15% in 2021 compared to 2020.

The fifth cause of death was the respiratory diseases, which represented 7.6% of total deaths. It was higher among Qataris, with a difference of 3.6 percentage points in favor of non-Qataris. Deaths due to respiratory diseases witnessed an important decrease of 33% in 2021 compared to 2020.

In sixth place came "endocrine, nutritional and metabolic diseases", otherwise known as (metabolic diseases), accounting for 4.9% of total causes of death. Deaths due to this cause increased among Qataris by a difference of 3.4 percentage points in favor of non-Qataris, and it recorded a remarkable decrease by 14% in 2021 compared to 2020, whereas there was a slight increase among non-Qataris by about 2% in the same year, although the death rate due to this disease was higher among Qataris (9.6%) than among non-Qataris (4.4%), a difference of 5.2 percentage points in 2021.

Figure No. (12) *Percentage Distribution (%) of Deaths by Cause of Death and Nationality, 2021*



The seventh cause of death was "genitourinary diseases" which was responsible for 4% of deaths in Qatar. It was higher among Qataris by a difference of 3.5 percentage points in favor of non-Qataris. In eighth place came the "infectious and parasitic diseases" accounting for 3.4% of deaths. It was higher among Qataris, with a difference of 3.6 percentage points in favor of non-Qataris.

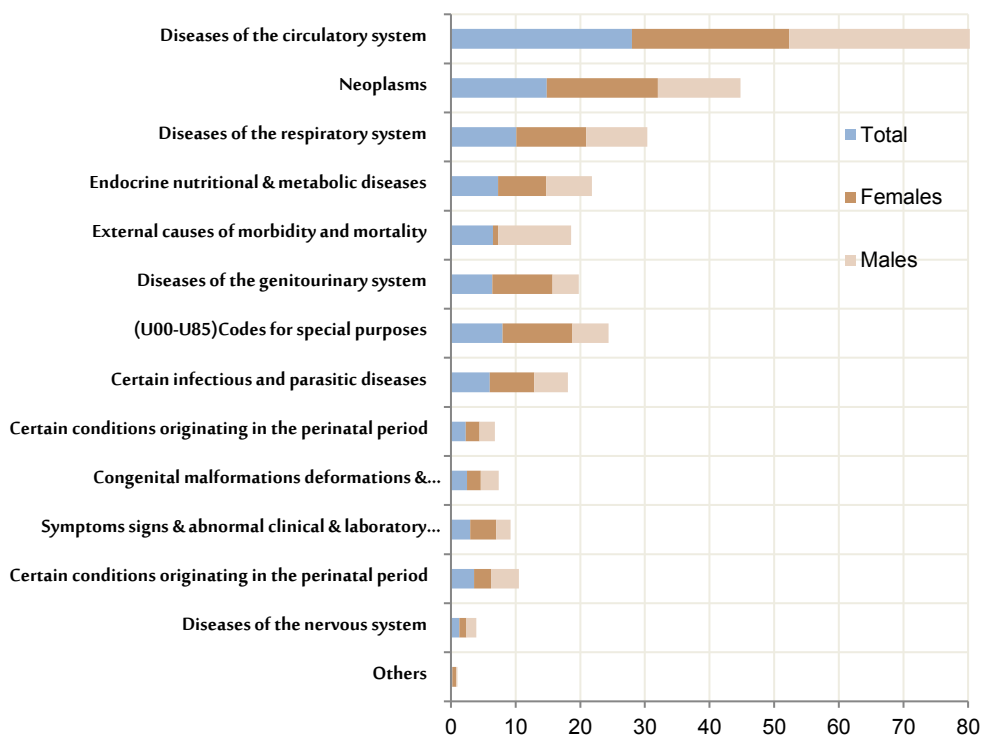
Other causes of death varied between 2.6% and 0.6%, such as "conditions that arise in the perinatal period", "gastrointestinal diseases", "symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified", and "neurological diseases" and others, all of which were more prevalent among Qataris than non-Qataris, with slight differences.

B. Cause of Qatari Deaths by Gender

Figure 13 below shows the distribution of registered Qatari deaths by cause of death and gender (ICD-10) in 2021. The results indicate that the first cause of death for Qataris was the "circulatory system diseases", known medically to be related to blood pressure, diabetes and cholesterol, which was responsible for 28% of Qatari deaths. Deaths due to this cause increased in 2021 by 2.2% compared to 2020. The death caused by circulatory system diseases was higher among males by a difference of 6.7 percentage points in favor of females.

Figure No. (13)

Percentage distribution (%) of Qatari deaths by cause of death and gender, 2021



Neoplasms were the second cause of death among Qataris, accounting for 14.8%, a decrease of 8.1% in 2021 compared to 2020. This cause of death was higher among females (17.2%) than males (12.8%), with a difference of 4.4 percentage points in favor of males.

"Respiratory system diseases" came in third place by 10.1%, a decrease of 1% in 2021 compared to 2020. It was higher among females compared to males with a difference of 1.3 percentage points.

"Codes for special purposes (U00–U85)" were the fourth cause of death by 8%, a decrease of 16.7% in 2021 compared to 2020. It was higher among females by a difference of 5.2 percentage points in favor of males. This cause of death is the provisional assignment of new diseases of uncertain etiology or emergency that contains ICD-10 codes for emergency use of U07 case, post-COVID-19.

"Endocrine, nutritional and metabolic diseases", otherwise known as (metabolic diseases) were the fifth cause of Qatari deaths, by 7.3% of total causes of death for Qataris, with no significant difference between males (7.1%) and females (7.4%). Deaths due to this cause decreased by 24% in 2021 compared to the previous year.

"External causes of morbidity and death" were the sixth cause of death by 6.5% of total causes of death for Qataris without recording a significant decrease compared to 2020, with an important difference between male deaths (11.3%) and female deaths (0.8%) in 2021.

"Genitourinary diseases" ranked seventh in causes of Qatari deaths, with 6.4%. deaths due to this cause increased for females by a difference of 5.2 percentage points in favor of males. Deaths due to this cause witnessed a decrease of 22% in 2021 compared to the previous year.

"Infectious and parasitic diseases" ranked eighth, with 6%, and it was higher among females, with a difference of 1.7 percentage points in favor of males.

The other causes of death varied from "conditions that arise in the perinatal period" (3.6%) and "symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified" (3%) to "neurological diseases" (1.3%) and others (0.2%). There is no significant difference between males and females in the classified causes.

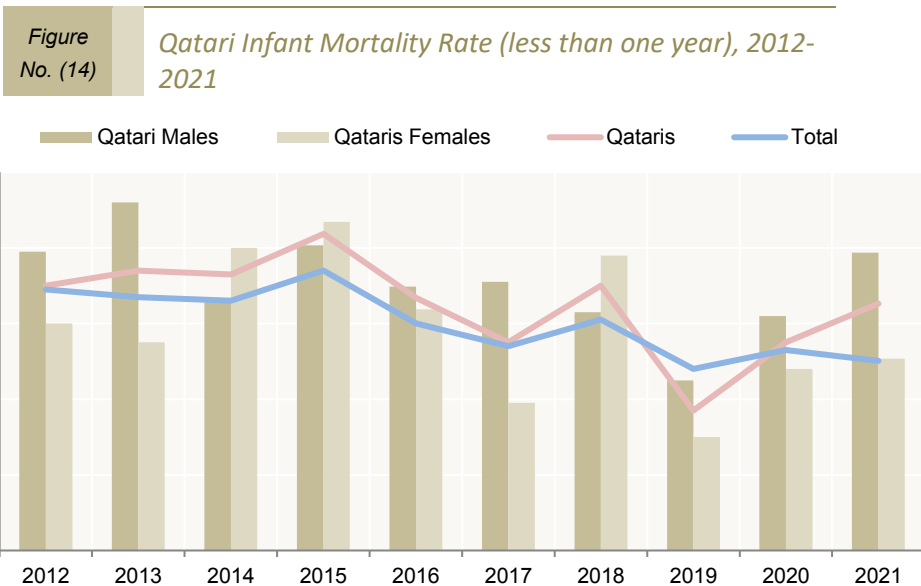
7. Infant and Child Mortality

Infant and Child Mortality Rates are divided into two basic categories: infant mortality rates (less than one year) and child mortality rates (1-4 years). The infant and child mortality indicators are particularly important, as they are used to determine health and living standards in a society. Infants are the segment of society that responds best to improvement in the health services and living standards, and thus these indicators help in policy evaluation and review.

A. Infant Mortality

Infant mortality (under one year) is particularly important because the infant mortality rate is always higher than the mortality rate of any other age. Consequently, infant mortality has a significant impact on crude death rates. In addition, it depends on the mother’s health during pregnancy, the length of interval between births, and perinatal and postnatal healthcare.

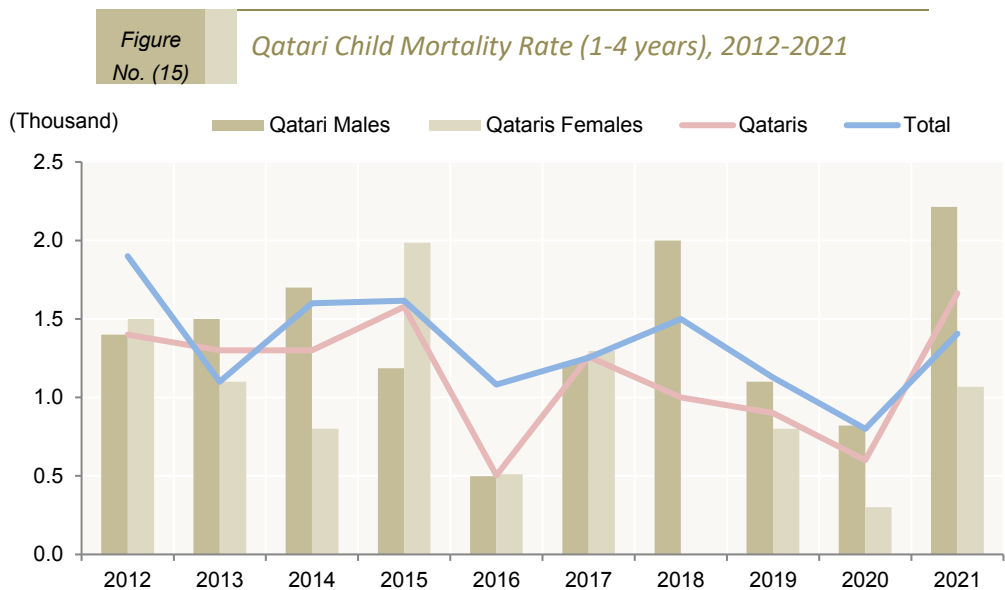
The results indicate that infant deaths witnessed a fluctuating decline during the period (2012-2021) from 6.9 deaths per 1,000 live births in 2012 to 5 deaths per 1,000 live births in 2021, down by 27.5% during the same period (Figure 14).



As for Qataris, the infant mortality rate witnessed a fluctuating decline from 7 deaths per 1,000 live births in 2012 to 6.5 deaths per 1,000 live births in 2021, a drop of 6.8% for the same period. With regard to gender, male deaths (7.9 deaths per 1,000 live births) were higher than female deaths (5.1 deaths per 1,000 live births) with a difference of more than 2.5 points per thousand in favor of females in 2021. Such results are expected since male infant deaths are usually higher than female in the first year of life.

B. Child Mortality (1-4 years)

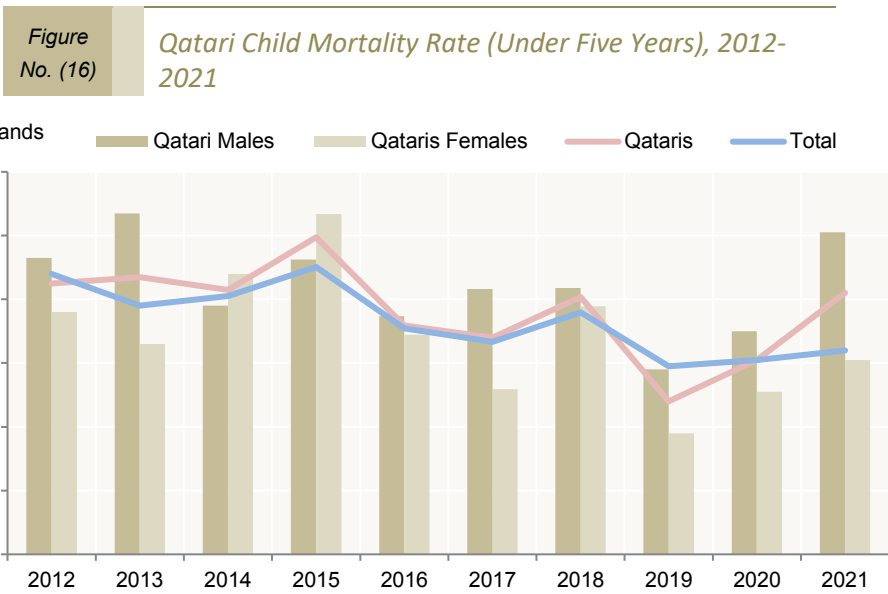
The first stage of life (1-4 years) is described as the stage of upbringing and preparing the child for the future. It requires a lot of health services and a special care to create the appropriate environmental conditions that preserve the health and lives of individuals. The results in Figure 15 below indicate that there is a clear tangible change during the study period on child mortality rate (1-4 years), where the rate in Qatar dropped from 1.9 deaths per 1,000 live births in 2012 to 1.4 deaths per 1,000 live births in 2021, a decrease of 26.3%. As for Qataris, the rate unexpectedly hiked from 0.6 deaths per 1,000 live births in 2020 to 1.7 deaths per 1,000 live births in 2021.



The child mortality in this period is more dependent on the environmental, economic and social factors. Similarly, the child deaths between the ages of one to four years dropped significantly among males and females, reflecting the increase in healthcare for children, the periodic vaccination programs and free childcare services provided by the Ministry of Public Health. The percentage of basic vaccination coverage during the first year of life reached a high level of 98% for some vaccinations and 99.3% for others in 2021.

C. Under Five Mortality

The data indicate that under-five mortality rates experienced a tangible decline during the period (2012-2021) from 8.8 deaths per 1,000 live births in 2012 to 6.4 deaths per 1,000 live births in 2021, a significant decrease of 27.3% during the same period (Figure 16).

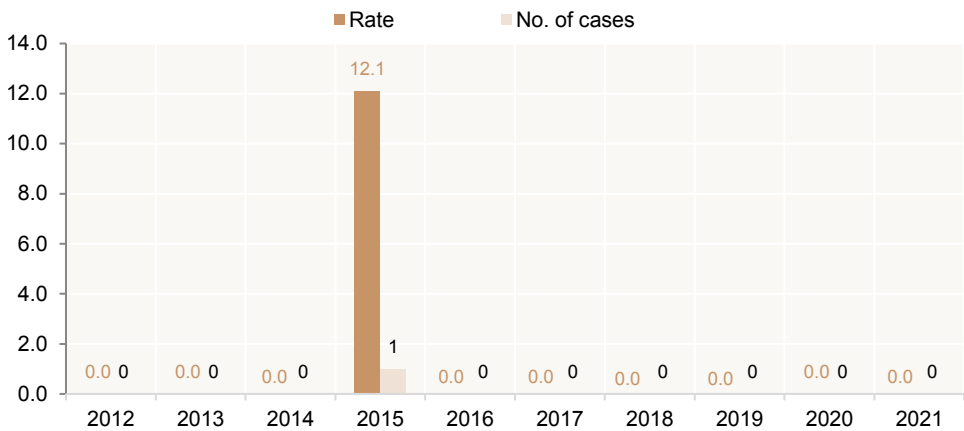


As for Qataris, there was a fluctuating drop from 9.3 deaths per 1,000 live births in 2012 to 7 deaths per 1,000 live births in 2020, a decrease of 24.7%, with an unexpected increase to 10.1 deaths in 2021. With regard to gender, the male death rate (10.1 deaths per 1,000 live births) was higher than female death rate (6.1 deaths per 1,000 live births), with a difference of 3 deaths per 1,000 live births in 2021.

8. Maternal Mortality Ratio (Puerperium)

The ICD-10 identifies maternal mortality as "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes". The maternal mortality rate is measured by the number of maternal deaths per 100,000 live births. Since deaths due to this cause have become rare among Qatari women, we have decided to provide the number of annual deaths along with the rates as in Figure 17 below. The results indicate one maternal death in 2015 during the past 10 years. This means that there were 9 years during this period in which no deaths were observed, and no maternal deaths occurred during the last five years (Figure 17).

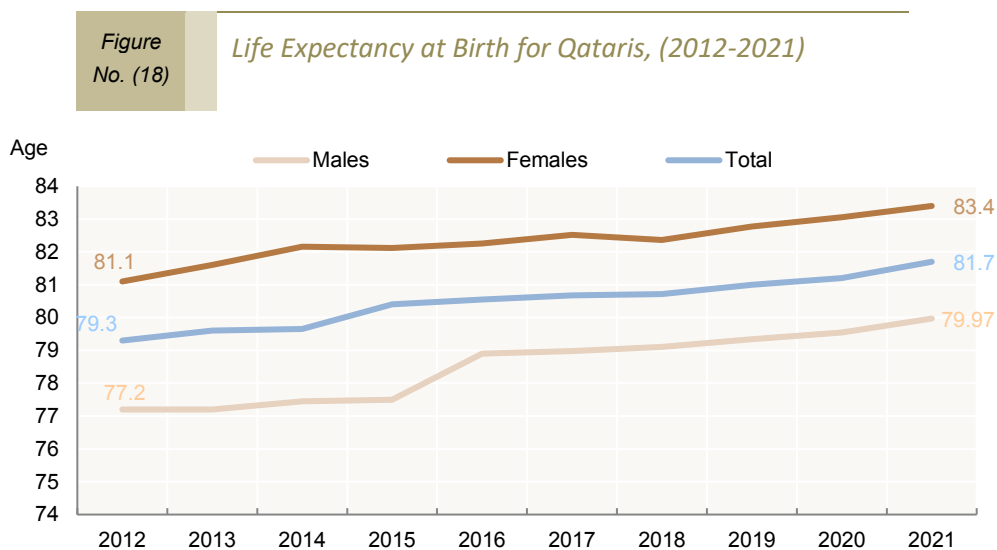
Figure No. (17) *Qatari Maternal Mortality Ratio per 100,000 Live Births (Rate and Number of Deaths), 2012-2021*



The maternal deaths have become very rare in the State of Qatar thanks to maternal care and regular follow-up during pregnancy in healthcare centers. Health problems that arise during pregnancy are diagnosed and treated in an early stage, leading to an increase in healthy pregnancy rate and a decrease in maternal death rate.

9. Life Expectancy at Birth

Life expectancy at birth means the average number of years that a newborn is expected to live in the case of the continuation of death factors prevailing at time of birth throughout his/her life. This indicator is the outcome of the overall progress in the various health, nutrition, social, economic and cultural fields. Qatar has been able to reduce crude death rates, infant death rates and child mortality rates in general, in addition to reducing the detailed death rates and maternal mortality rates. As a result, this indicator significantly improved as life expectancy at birth reached 81.7 years for Qataris in 2021 (83.4 years for females versus 79.97 years for males) (Figure 18).



Life expectancy at birth among Qataris reached almost the average life expectancy at birth among the group of countries with the higher human development indices (81 years). As for the level of increase, each Qatari gains, on average, 3.5 months in age annually during the study period.

Tables