

Demographic and health indicators in Gulf Cooperation Council nations with an emphasis on Qatar

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ABSTRACT

Qatar is a rapidly developing wealthy state that is part of the Gulf Cooperation Council, a group of six countries that share relatively similar economic and cultural profiles. We aimed to capture key health indicators and demographic data from Qatar and GCC countries by examining 1980–2010 data from the World Bank Databank and WHO report. The results highlighted a unique demographic profile in Qatar, which has the lowest age dependency ratio, highest male to female ratio, and second highest migrant population in the world. In comparison to other GCC countries, Qatar had the highest life expectancy and the lowest communicable disease and-all cause mortality rates.

The GCC countries generally had a low percentage of their population over age 65, a high percentage of migrants, a very low crude death rate and very high overweight and obesity prevalence. Examination of data trends showed a decline in birth rate and fertility rate with significant improvement in under-five and maternal mortality rates over the last three decades.

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INTRODUCTION

Qatar is a sovereign Arab state located in the Arabian Peninsula in southwest Asia. It is also a member of the Gulf Cooperation Council (GCC), a group of six countries—namely Bahrain, Kuwait, Oman, Saudi Arabia, Qatar and United Arab Emirates (UAE)—also located in the Arabian Peninsula, which share relatively similar economic and cultural profiles. Having one of the highest GDPs per capita and the fastest growing economies in the world, Qatar has become one of the region's wealthiest states due to its enormous oil and natural gas revenues. The country is undergoing rapid development which has significant implications for demographic and health indicators. For example, Qatar had the highest annual population growth rate in the world within the period between 2005 and 2011. It reached a peak of 18.6% in 2007; this is compared to a world average of little over 1%.

OBJECTIVES

We aimed to capture key health indicators and demographic data from Qatar and the remaining GCC countries to see how they compare to each other and to the rest of the world, as well as how some of these indicators have developed over the last three decades.

METHODOLOGY

We used the World Bank Databank as the main source of data for the following demographic indicators: population size; population ages 0–14 (% of total); population ages 15–64 (% of total); international migrant stock (% of population); population, female (% of total); life expectancy at birth, total (years); birth rate, crude (per 1,000 people); fertility rate, total (births per woman); death rate, crude (per 1,000 people); maternal mortality ratio (modeled estimate, per 100,000 live births); and mortality rate, under-five (per 1,000 live births). Cause-specific mortality rates and noncommunicable disease (NCD) risk factors were obtained from the WHO World Health Statistics 2012 report and the WHO Global status report on noncommunicable diseases 2010. For analysis of trends over time, we selected 1980 as the starting year for comparison, as that was the earliest year for which most selected indicator data were available. For indicators where data from 1980 was not available (e.g. maternal mortality), we went with the data from 1990.

Besides GCC countries, two other countries were selected for comparison: Norway and Singapore. Norway was chosen as it is ranked #1 on the Human Development Index for 2008–2011 and the Global Prosperity Index for 2009–2012. Singapore was selected as another rapidly developing economy with demographics that are somewhat similar to those of the GCC. In addition, average for World Bank High Income Countries (HIC) and the global average were included for comparison purposes. An aggregate of countries with Gross National Income per Capita more than \$12,467, HIC is composed of many countries besides those used in the report.

FINDINGS

Population figures and distribution

In the GCC, the largest country in terms of population size (and geographic area) is Saudi Arabia, with a little over 28 million people, which compose the majority (63%) of the total GCC population. Qatar, as shown in [Table 1](#), has the second smallest population, with 1.87 million people, composing 4% of the total population in the GCC countries. The current growth figure in Qatar represents an 850% increase over the past three decades. Comparatively, the population in the UAE increased by 780% in the same three-decade period; while the increase varied from two- to three-fold across the rest of the GCC countries. Similarly, Singapore's population has increased two-fold during the same time period, while Norway's population increased by only 20%.

A relatively low percentage of the GCC countries population is over age 65, with those over this age composing between 0.4% and 2.7% of the total population, depending on the country. This is compared with an average of 7.7% of the population being over age 65 worldwide, and 15.8% of the population being over age 65 in high income countries, as is shown in [Table 1](#). While Norway ranks close to high income at 15%, Singapore falls between Norway and GCC countries at 9.4%. If we look at the under-15 population worldwide, a quarter of the world's population falls within this category. In the GCC, the under-15 population category varied considerably—on the high end, 30% of Saudi Arabia's population is under 15 years, while the lowest figure was for Qatar with 13.4%. In fact Qatar has the third lowest percentage in the world after Japan and Germany. Meanwhile, Norway and Singapore, at 18.6%

Table 1. Population figures in the GCC and other selected countries and aggregates.¹

Country	Population Size (Thousands)		Percent Under 15 Years (2011)	Percent Over 65 Years (2011)	Migrant Population Percent (2010)	Female Population Percent (2011)
	1980	2011				
Qatar	221	1,870	13.4%	1.1%	74.2%	24.1%
Saudi Arabia	9,801	28,083	30.0%	3.0%	26.6%	44.8%
UAE	1,016	7,891	16.8%	0.4%	43.8%	30.5%
Bahrain	357	1,324	19.8%	2.1%	25.0%	37.4%
Kuwait	1,376	2,818	26.8%	2.5%	76.6%	40.4%
Oman	1,181	2,846	27.0%	2.7%	29.7%	41.0%
Norway	4,085	4,952	18.6%	15.0%	9.9%	49.9%
Singapore	2,414	5,184	16.8%	9.4%	38.7%	49.6%
High Income	911,752	1,135,004	17.3%	15.8%	11.9%	50.4%
World	4,446,509	6,973,738	26.6%	7.7%	3.1%	49.6%

and 16.8% respectively, are close to the average for high Income countries, at 17.3%. Based on the indicators above, age-dependency ratio in the GCC is low; in fact, the three lowest age dependency ratios in the world belong to Qatar, UAE, and Bahrain with 17%, 21%, and 28%, respectively. Age dependency ratio is defined as the ratio of dependents – people younger than 15 or older than 64 – to the working-age population – those aged 15–64 years

International migrant stock is the number (or percentage of population) of people born in a country other than that in which they live. Qatar and Kuwait have the two highest migrant population percentages in the world, outnumbering country nationals by three to one, and making up three quarters of the population in those countries. While not as large, the migrant population percent in the rest of the GCC countries is still considerably high, ranging between 25% and 43.8% of the total population, as seen in Table 1. Similarly, Singapore ranks within the same range at 38.7%, while in Norway and other high-income countries that proportion is around one tenth of the population. These percentages are high as compared to the world, where 3.1% of the earth's population is classified as international migrants. According to gender, there is an imbalance in the GCC countries population figures with the male gender being in majority. In fact, Qatar has the highest male ratio in the world with 3.15 males per female (see female population percentage in Table 1), followed by the rest of GCC countries ranging between 1.2 and 2.3 males per female. Singapore, Norway, and the rest of high-income countries all share a ratio much closer to the natural gender ratio of 1:1. This is also true for the majority of countries around the world, with minor variations.

Fertility, births, and life expectancy

Life expectancy at birth has improved all across the world in the past three decades. This trend is true for the GCC countries also, where the increase varied between 5 and 12 years for each country. According to the latest estimates (Table 2), Qatar has the highest life expectancy in the GCC, 78 years, adhering closely to life expectancy in high-income countries, which is 80 years average. Singapore and Norway's averages are slightly higher, at 81 and 82 years respectively. Although it presents the highest increase since 1980, Oman continues to have the lowest life expectancy among GCC countries at 73 years. However, this is higher than the world average of 70.

Birth rates and fertility rates are closely tied to each other, as they are both ways to evaluate the number of children born in a given population. Birth rate is a measured rate that looks at the number of live births occurring during a year per 1,000 population, while fertility rate is a synthetic rate that estimates the average number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with current age-specific fertility rates.

With the exception of Norway, birth rates have declined across all countries included in this report in the past three decades, as shown in Table 2. Birth rates in the GCC were high in 1980, ranging between 30 and 51 births per 1000 people. In the following 30 years those rates gradually declined, reaching more moderate rates by 2010. Qatar and the UAE had the lowest rates in the GCC at 13, while Saudi had the highest at 22 births per 1,000. Comparatively, the current world average for birth rate is 20 whereas the birth rate in high-income countries is 12.

A similar trend is seen in the fertility statistics, with GCC countries starting at a high rate in 1980 and then gradually normalizing over the course of three decades. Currently, the UAE holds the lowest

Table 2. Life Expectancy at birth, Birth Rate, and Fertility Rate in the GCC and other selected countries and aggregates in the years 1980–2010.¹

Country	Life Expectancy at Birth (Years)		Birth Rate (per 1000 people)		Fertility Rate (Births per Woman)	
	1980	2010	1980	2010	1980	2010
Qatar	71	78	35	13	5.8	2.3
Saudi Arabia	62	74	44	22	7.2	2.8
UAE	69	77	30	13	5.4	1.7
Bahrain	70	75	33	20	4.9	2.5
Kuwait	70	75	39	18	5.5	2.3
Oman	61	73	51	18	8.3	2.3
Norway	76	81	12	13	1.7	2
Singapore	72	82	17	9	1.7	1.2
High income	73	80	15	12	1.9	1.8
World	63	70	27	20	3.7	2.5

fertility rate in the GCC at 1.7 births per woman, while Saudi has the highest rate at 2.8, as seen in Table 2. The world average fertility rate is 2.5 births per woman; however, high-income countries generally have a lower rate averaging at 1.8 births per woman, which is below the replacement rate of 2.3. Replacement fertility is the fertility rate at which newborn girls would have an average over their lifetimes of exactly one daughter, enough to keep population size constant. Interestingly, Qatar, Kuwait, and Oman all stood at exactly that rate.

Crude death, under-five mortality, and maternal mortality rates

Crude death rate (CDR) indicates the number of deaths occurring during the year per 1,000 people. Three decades ago, all GCC countries had lower than average CDRs compared to the rest of the world. In the most recent estimates, shown in Table 3, GCC countries not only maintained that status, but also managed to bring it down to less than half of the world average. The UAE had the lowest CDR in the GCC at 1.3 deaths per 1000 people, with Qatar coming a close second at 1.5. Since CDR counts all deaths regardless of age groups, countries with a high percentage of elderly population, like Norway and other high-income countries, have a generally higher CDR than countries with a younger age profile.

Under-five mortality improved all across the world in the past 3 decades. GCC countries had significant improvements in this field, achieving reductions ranging from 70% to an impressive 91% lower mortality in Oman. However, while under-five mortality rates in the GCC are higher than Singapore, Norway, and other high income countries, they are still much lower than the average world rate of 58 deaths under 5 years per 1,000 people, where Saudi Arabia has the highest rate in the GCC with 17.5 deaths.

Table 3. Crude death rate, under-five mortality, and maternal mortality figures in the GCC and other select countries and aggregates, years 1980(1990)–2010.¹

Country	Crude Death Rate (per 1000 people)		Mortality Rates			
			Under five (per 1000 live births)		Maternal (per 100,000 live births)	
	1980	2010	1980	2010	1990	2010
Qatar	3.5	1.5	40.7	8.2	15	7
Saudi Arabia	8.6	3.7	90.3	17.5	44	24
UAE	4.1	1.3	43.2	7.1	24	12
Bahrain	4.4	2.7	33.7	10.2	23	20
Kuwait	3.8	3.1	34.1	11.1	11	14
Oman	9.9	3.8	102.9	9.3	110	32
Norway	10.1	8.5	10.3	3.4	9	7
Singapore	5.2	4.4	14.2	2.6	6	3
High income	8.9	8.3	18.7	6.4	16	14
World	10.2	8.2	112.2	58.1	400	210

Similar to other mortality figures, maternal mortality ratio (MMR) generally saw a reduction across the world, however the data was only available starting 1990 thus limiting the analysis to the past two decades. Looking at Table 3, there was variability in the improvement of maternal mortality in the GCC, with Oman achieving significant reduction in mortality by 71%. Meanwhile, Kuwait saw an increase in MMR from 11 in 1990 to 14 in 2010. In the latest estimates, Qatar had the lowest rate with seven maternal deaths per 100,000 births, same as Norway and half the average of 14 for high income countries. Meanwhile, although achieving the most reduction, Oman had the highest MMR in the GCC region with 32 maternal deaths. This rate, however, is less than one sixth of the world's average, standing at 210.

Cause-specific mortality rates

Over all, mortality in the GCC varies significantly between countries. Qatar had the lowest all-causes mortality rate (ACMR) with 292 deaths per 100,000 people aged 30–70 years, lower than Singapore, Norway, and the average for high-income countries. In contrast, Oman had the highest ACMR with 766, almost the same as the world average of 764 deaths per 100,000 people aged 30–70 years (Table 4).

Non-communicable diseases (NCDs) posed a significant burden on the populations in the GCC region, where mortality figures ranged between 392 in Qatar to 648 deaths per 100,000 in Saudi Arabia. Those figures were higher than the average for high-income countries, at 380, while the world's average was within the GCC range at 573. Within NCDs, we examined mortality from cancer, cardiovascular disease (CVD), and diabetes for comparison. Cancer mortality was lower in the GCC compared to other countries in this report; while in comparison, CVD and diabetes saw higher mortality rates in the GCC, with the highest rate in Oman at 504 deaths per 100,000 people, more than double the world average of 245 (Table 4).

Mortality rates from injuries in the GCC were generally lower than the high-income countries average of 41 per 100,000 people. The exception was Saudi Arabia, where injuries were responsible for 68 deaths, however still lower than the world average of 78. Amongst all countries in this report, Singapore had the lowest injury mortality rate at only 21 deaths per 100,000 people.

Mortality from Communicable Diseases (CD) was generally low in the GCC compared to the rest of the world. Qatar had the lowest CD mortality in the GCC at 31 deaths per 100,000, incidentally equal to the high-income countries average. On the opposite end, Saudi Arabia had the highest CD mortality in the GCC with 68, while still having less than a third of the world's average at 230 deaths per 100,000 people.

Raised Blood Pressure (RBP) is a major risk factor for cardiovascular diseases, it's estimated to cause 7.5 million deaths worldwide each year (about 12.8% of all deaths).³ The world prevalence of RBP is 40%. Amongst selected countries, Norway had the highest prevalence with 47%, followed by Singapore with 37%, then the rest of GCC countries, with UAE having the lowest prevalence at 28% (Table 5).

Raised blood glucose is implicated in 6% of global deaths.³ While most GCC countries and Norway had a prevalence of 10–12%, Saudi Arabia had a higher prevalence of 18%, while Singapore had the lowest amongst selected countries with 7% of the population having raised blood glucose.

Table 4. Age Standardized Mortality rates in the GCC and other selected countries and aggregates (Year 2008).²

	Age-Standardized Mortality Rates (per 100,000 Population)					
	Ages (30–70)			All population		
	All Causes	Cancer	CVD and Diabetes	NCD	Injuries	CD
Qatar	292	93	109	392	36	31
Saudi Arabia	664	81	401	644	68	86
UAE	434	78	211	406	38	73
Bahrain	408	73	207	590	33	63
Kuwait	466	81	272	399	28	53
Oman	766	118	504	648	39	22
Singapore	326	126	115	313	21	66
Norway	315	138	74	363	36	27
High Income	376	141	104	380	41	31
World	764	150	245	573	78	230
Median (World Countries)	774	140	284	637	58	105

Table 5. Prevalence of selected NCD risk factors in the GCC and other selected countries and aggregates (Year 2008).⁴

	Raised Blood pressure	Raised Blood Glucose	Overweight	Obesity
Qatar	34%	10%	72%	33%
Saudi Arabia	33%	18%	69%	33%
UAE	28%	10%	71%	33%
Bahrain	37%	11%	71%	33%
Kuwait	29%	12%	79%	42%
Oman	35%	10%	56%	21%
Singapore	37%	7%	30%	7%
Norway	47%	11%	58%	22%
High Income	35%	—	55%	22%
World	40%	—	35%	12%

Around 2.8 million people die each year worldwide as result of being overweight or obese.³ Obesity and overweight are known to be an important risk factor for cardiovascular diseases, diabetes and cancer. Overweight and obesity were highly prevalent in all GCC countries, with the highest figures in Kuwait, where 79% of the population was overweight, and 42% was obese. In the rest of the GCC countries, Qatar included, around 70% of the population was overweight and a third of the population being obese. Oman had the lowest prevalence in the GCC with overweight at 56% and obesity at 21%. Outside the GCC, Norway had a lower overweight and obesity prevalence at 58% and 22% respectively, while Singapore had the lowest figures in the selected countries with 30% prevalence of overweight and 7% for obesity (Table 5).

STUDY LIMITATIONS

The high migrant stock in Qatar makes comparison difficult within the GCC nations and other countries around the world. For example, the annual growth rate in Qatar seems to be more influenced by financial and industrial factors than by demographic factors such as birth and death rates. For example, a large scale project (such as the Asian Games in 2005 in Qatar) caused a spike in population figures. On the other hand, the financial crisis of 2008 had the opposite effect on population in the UAE, which also has a very high migrant stock, causing a decline in its population numbers in the years that followed.

Migrant workers in Qatar have a unique profile: most of them are young to middle-aged male adults, single and with low education level.⁵ This migrant stock can alter the demographic balance in the country, whether its gender with a 3:1 male to female ratio, or age profile with very low percentages of population under 15 and over 65 years. This can also impact other demographic indicators, birth rate, fertility rates, crude death rate, and possibly adult mortality rate, to name a few. These statistics require an extensive evaluation that is beyond the scope of this paper. Additionally, specific information on migrant worker demographics will be helpful to draw meaningful conclusions.

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