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HEALTH STATISCTICS YEARBOOK
2018

GENERAL DIRECTORATE OF
HEALTH INFORMATION SYSTEMS

THE MINISTRY of HEALTH of TURKEY

HEALTH STATISTICS YEARBOOK

2018

In Health Statistics Yearbook 2018, statistics were calculated according to international standard definition.

Ankara 2019

THE MINISTRY of HEALTH of TURKEY

HEALTH STATISTICS YEARBOOK

2018

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		Burdur
	Adana Subregion	Adana
		Mersin
	Hatay Subregion	Hatay
		Kahramanmaraş
		Osmaniye
Western Anatolia	**Ankara Subregion**	Ankara
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		Bilecik
	Kocaeli Subregion	Kocaeli
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NUTS-1	NUTS-2	NUTS-3
Aegean	**İzmir Subregion**	İzmir
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		Afyonkarahisar
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		Uşak
Southeastern Anatolia	**Gaziantep Subregion**	Gaziantep
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		Kilis
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		Diyarbakır
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		Siirt
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		Kırşehir
	Kayseri Subregion	Kayseri
		Sivas
		Yozgat

ABBREVIATIONS

ABPRS : Address Based Population Registration System
ATC : Anatomical Therapeutic Chemical
BCG : Bacillus Calmette-Guerin Vaccination
BHSM : Basic Health Statistics Module
BMI : Body Mass Index
CHC : Community Health Center
CEKUS : Child, Adolescent, Women and Reproductive Health Unit
cm : Centimeter
COPD : Chronic Obstructive Pulmonary Disease
CPI : Consumer Price Index
CPV : Conjugated Pneumococcal Vaccination
CT : Computerized Tomography
DALY : Disability Adjusted Life Years
DaPT : Diphtheria aceluler Pertussis Tetanus Vaccination
DDD : Daily Defined Dose
ECHO : Echocardiography
EHIS : European Health Interview Survey
EU : European Union
EUROSTAT : Office of European Statistics
FMIS : Family Medicine Information System
GBD : Global Burden of Disease
GDP : Gross Domestic Product
GLOBOCAN : Global Cancer Observatory
GNI : Gross National Income
gr : Gram
HALE : Health Adjusted Life Expectancy
HBV : Hepatitis B Vaccination
HbA1c : Hemoglobin A1c or Glycolized Hemoglobin
HDL : High Density Lipoproteins
HFA : Health for All
Hib : Haemophilus Influenza Type B Vaccination
IARC : International Agency for Research on Cancer
ICD-10 : International Classification of Diseases
IDF : International Diabetes Federation
IHME : Institute for Health Metrics
IPV : Inactive Polio Vaccine
ITS : Pharmaceutical Track and Trace System
KETEM : Cancer Early Diagnosis, Screening and Training Centers
Kg : Kilogram
LDL : Low Density Lipoprotein
MCHFP : Mother-Child Health and Family Planning
MET : Metabolic Equivalents
mL : Milliliter
MMR : Measles Mumps Rubella Vaccination
MoND : Ministry of National Defense
MoH : Ministry of Health
MRI : Magnetic Resonance Imaging
NUTS : Nomenclature of Territorial Units for Statistics

OECD	: The Organization for Economic Cooperation and Development
PIS	: Prescription Information System
PPP	: Purchasing Power Parity
SII	: Social Insurance Institution
SPTS	: Health Personnel Tracking System
SSI	: Social Security Institution
TDHS	: Turkey Demographic and Health Survey
₺	: Turkish Lira
TURKSTAT	: Turkish Statistical Institute
UNICEF	: United Nations Children's Fund
UN IGME	: United Nations Inter-Agency Group for Child Mortality Estimation
UNPD	: United Nations Population Division
WHO	: World Health Organization
YLD	: Years Lived with Disability
YLL	: Years of Life Lost

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General Explanations on Health Statistics Yearbook 2018

While the values of the indicators in the Health Statistics Yearbook 2018 were calculated, international definitions and standards have been used and were revised in accordance with these definitions and standards.

Please find the information in detail in the fact sheet at the end of the chapters.

The international data on all chapters (except Turkey) are taken from the following sources;

1. Online database of the World Health Organization Headquarters in Geneva, "Global Health Observatory" (http://www.who.int/gho/en/), which contains data on 194 countries. In order to make comparisons between countries, projected data for countries are included. "Health 2020" indicators are taken from "European Health Information Gateway" database belonging to WHO Europe and the data for these indicators are self-reported.

2. OECD and EUROSTAT databases are based on the values which are reported from the countries. They are not used any estimation methods to produce data for the indicators.

3. The values in the yearbook which are taken from World Bank database are produced by using estimation techniques.

4. The Project of GLOBOCAN provides a suite of data visualization tools to explore estimates of the incidence, mortality, and prevalence of 36 specific cancer types and of all cancer sites combined in 185 countries or territories of the world, by sex and age group, as part of the IARC (the International Association of Cancer Registries). The method of estimations is country-specific and its quality is based on scope, quality, accuracy and recency of data.

5. UN IGME was formed in 2004 to share data on child mortality, improve methods for child mortality estimation, report on progress towards child survival goals, and enhance country capacity to produce timely and properly assessed estimates of child mortality. The UN IGME is led by the UNICEF, WHO, World Bank and UNPD.

6. Most of the values in the databases belong to two years ago.

7. For making international comparison, it was used population estimates of UN.

8. Numbers written alongside of EU, OECD and WHO indicate the number of countries included in the calculation.

International comparison of the regions and countries that are included are as follows;

1. **WHO/European Region:** Albania, Andorra, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan.

2. **Upper Middle Income Countries (Countries with GNI per capita between $3.996 and $12.375):** Albania, Algeria, American Somoa, Armenia, Argentina, Azerbaijan, Belarus, Belize, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, China, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, Equatorial Guinea, Fiji, Gabon, Georgia, Grenada, Guatemala, Guyana, Iran, Iraq, Jamaica, Jordan, Kazakhstan, Kosovo, Lebanon, Libya, Macedonia, Malaysia, Maldives, Marshall Islands, Mauritius, Mexico, Montenegro, Namibia, Nauru, Paraguay, Peru, Romania, Russian Federation, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Serbia, Sri Lanka, South Africa, Suriname, Thailand, Tonga, Turkey, Turkmenistan, Tuvalu, Venezuela.

3. **High-Income Countries (Countries with GNI per capita of $12.376 or more):** Andorra, Antigua and Barbuda, Aruba, Australia, Austria, Bahamas, Bahrain, Barbados, Belgium, Bermuda, British Virgin Islands, Brunei, Darussalam, Canada, Cayman Islands, Channel Islands, Chile, Croatia, Curacao, Cyprus, Czech Republic, Denmark, Estonia, Faroe Islands, Finland, France, French Polynesia, Germany, Gibraltar, Greece, Greenland, Guam, Hungary, Hong Kong, Iceland, Ireland, Isle of Man, Israel, Italy, Japan, Kuwait, Latvia, Liechtenstein, Lithuania, Luxembourg, Macao, Malta, Martinique, Monaco, Netherlands, New Caledonia, New Zealand, Northern Mariana Islands, Norway, Oman, Palau, Panama, Poland, Portugal, Puerto Rico, Qatar, San Marino, Saudi Arabia, Seychelles, Singapore, Saint Maarten (Dutch part), Slovakia, Slovenia, South Korea, Spain, St. Kitts and Nevis, Sweden, Switzerland, Taiwan, Trinidad and Tobago, Turks and Caicos Islands, United Arab Emirates, United Kingdom, United States, Uruguay, Virgin Islands (U.S.).

4. **European Union:** Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

5. **OECD Countries:** Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States.

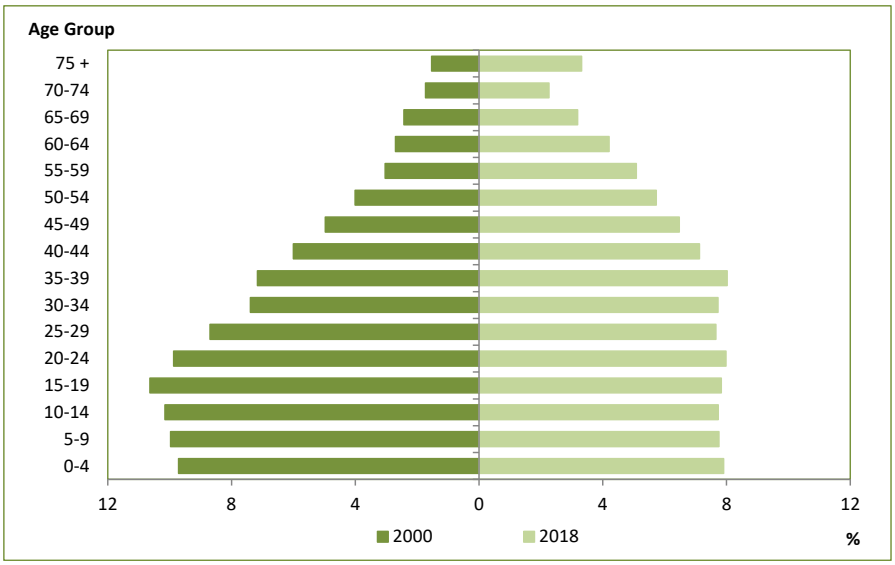
Note: World Bank divides the countries into 4 groups namely high, upper-middle, lower-middle and low income. The countries are grouped based on their gross national income per capita by using Atlas Method. As of 01 July 2019, the countries are defined below.

Income Groups	Low	Lower-Middle	Upper-Middle	High
GNI (per capita) (US $)	< 1.026	1.026 - 3.995	3.996- 12.375	> 12.375

Chapter 1

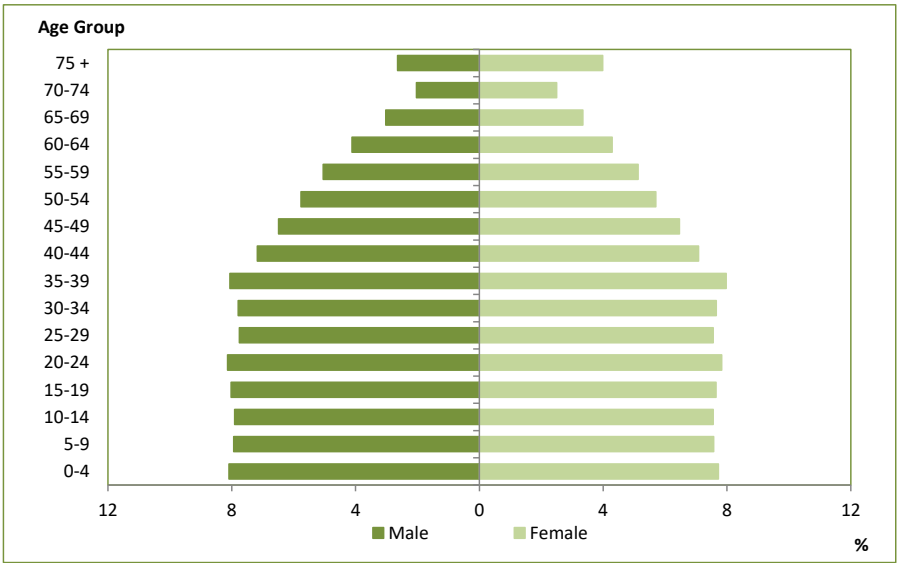
General Demographic Indicators

Figure 1.1. Population Pyramid, (%), 2000, 2018



Source: TURKSTAT

Figure 1.2. Population Pyramid by Sex, (%), 2018



Source: TURKSTAT

Table 1.1. General Demographic Indicators by Years

	1990	2000	2015	2016	2017	2018
Total Population	56.473.035	67.803.927	78.741.053	79.814.871	80.810.525	82.003.882
Rural Population Ratio (%)	48,7	40,8	12,4	12,1	11,8	12,1
Urban Population Ratio (%)	51,3	59,2	87,6	87,9	88,2	87,9
0-14 Aged Population Ratio (%)	35,0	29,8	24,0	23,7	23,6	23,4
65 and Over Aged Population Ratio (%)	4,3	5,7	8,2	8,3	8,5	8,8
Youth Dependency Ratio (Aged 0-14)(%)	57,6	46,3	35,4	34,9	34,7	34,5
Elderly Dependency Ratio (Aged 65 and Over) (%)	7,1	8,8	12,2	12,3	12,6	12,9
Total Age Dependency Ratio (%)	64,7	55,1	47,6	47,2	47,2	47,4
Annual Population Growth Rate (‰)	21,7	18,3	13,4	13,5	12,4	14,7
Crude Birth Rate (‰)	24,1	21,6	17,1	16,6	16,1	15,3
Crude Death Rate (‰)	7,1	7,3	5,2	5,3	5,3	5,2
Total Fertility Rate	2,9	2,5	2,2	2,1	2,1	2,0

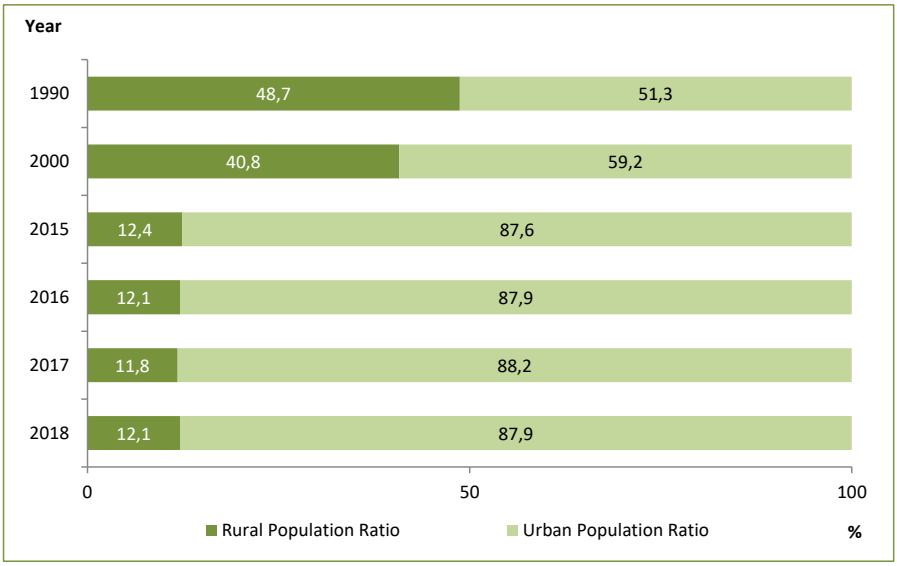
Source: TURKSTAT

Table 1.2. Population by Age Groups, 2000, 2018

Age Group	2000	2018
0-4	6.584.822	6.484.986
5-9	6.756.617	6.358.920
10-14	6.878.656	6.340.423
15-19	7.209.475	6.424.267
20-24	6.690.146	6.547.129
25-29	5.895.255	6.276.469
30-34	5.009.655	6.333.153
35-39	4.854.387	6.576.072
40-44	4.068.756	5.846.026
45-49	3.368.769	5.310.707
50-54	2.717.349	4.701.324
55-59	2.058.422	4.172.341
60-64	1.829.288	3.445.861
65-69	1.645.517	2.612.207
70-74	1.172.643	1.856.922
75 +	1.040.789	2.717.075
Unknown	23.381	-
Turkey	67.803.927	82.003.882

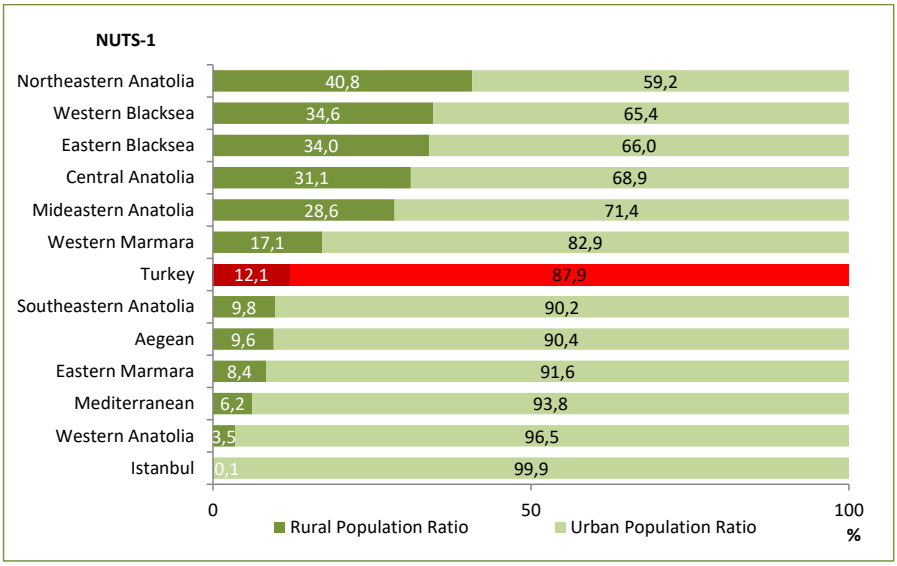
Source: TURKSTAT

Figure 1.3. Urban and Rural Population Ratio by Years, (%)



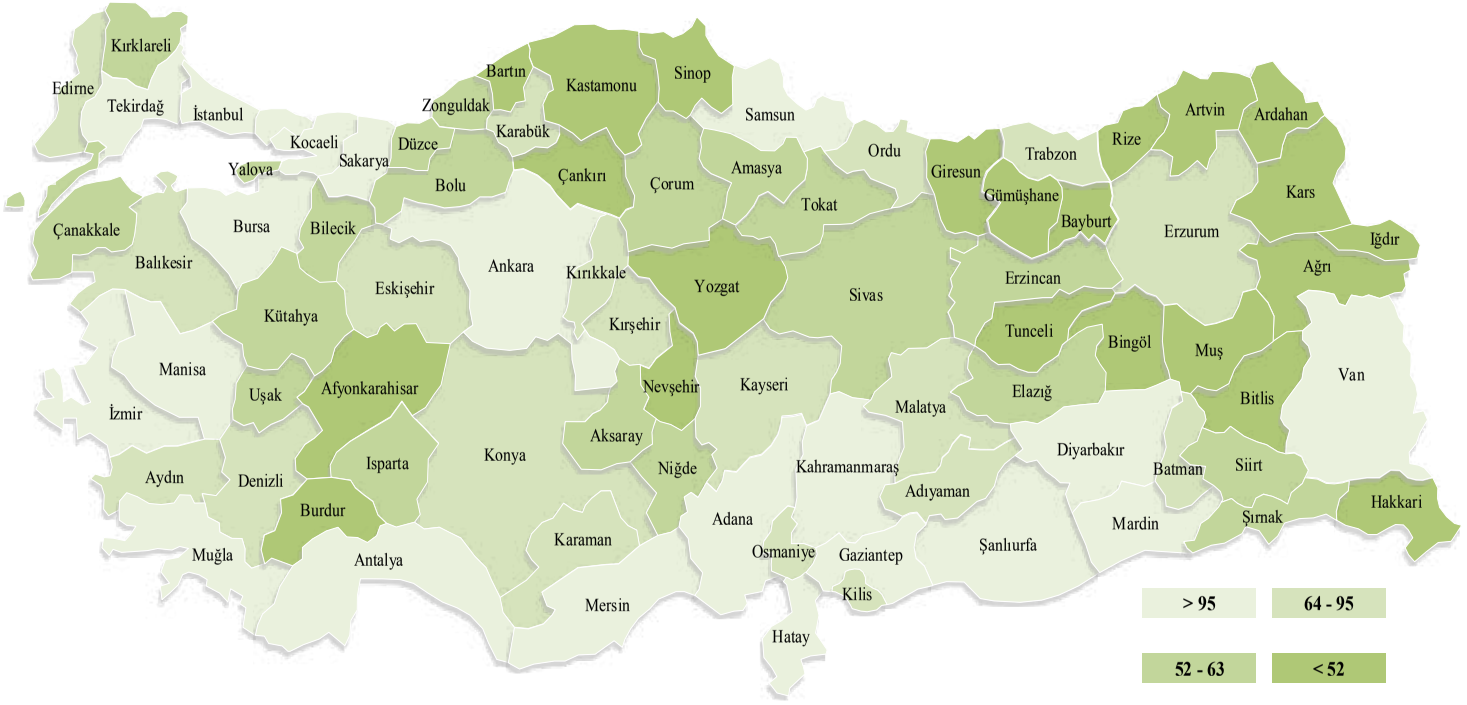
Source: TURKSTAT

Figure 1.4. Rural and Urban Population Ratio by NUTS-1, (%), 2018



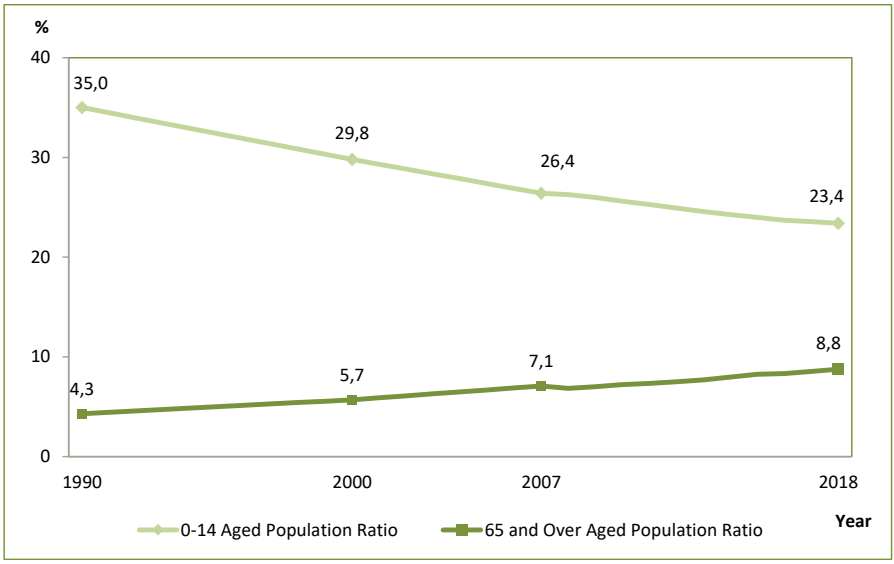
Source: TURKSTAT

Map 1.1. Urban Population Ratio by Provinces, (%), 2018



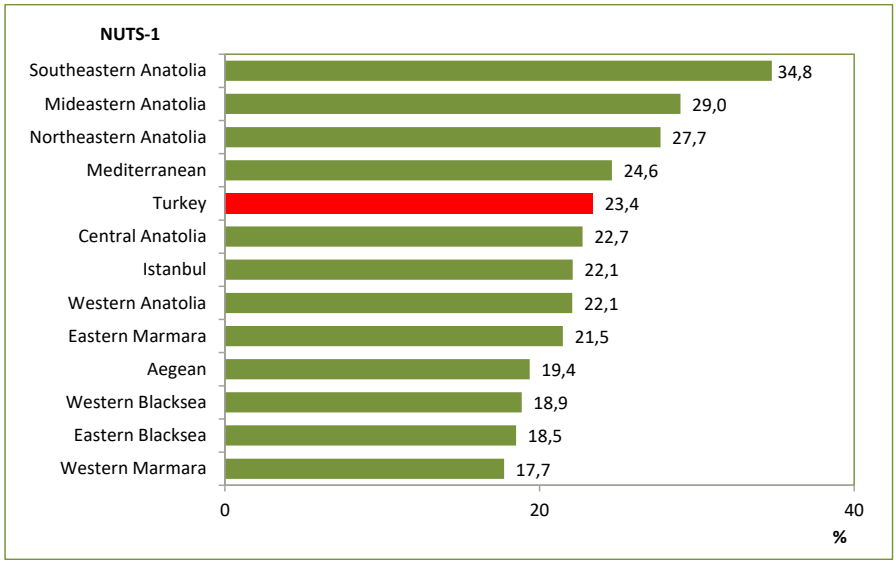
Source: TURKSTAT

Figure 1.5. 0-14 Aged, 65 and Over Aged Population Ratio by Years, (%)



Source: TURKSTAT

Figure 1.6. 0-14 Aged Population Ratio by NUTS-1, (%), 2018

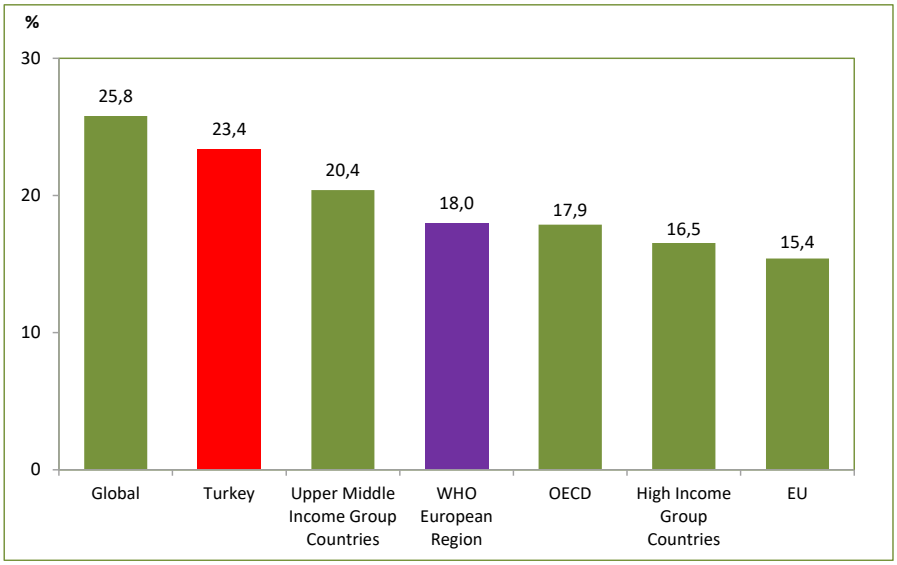


Source: TURKSTAT

Map 1.2. 0-14 Aged Population Ratio by Provinces, (%), 2018

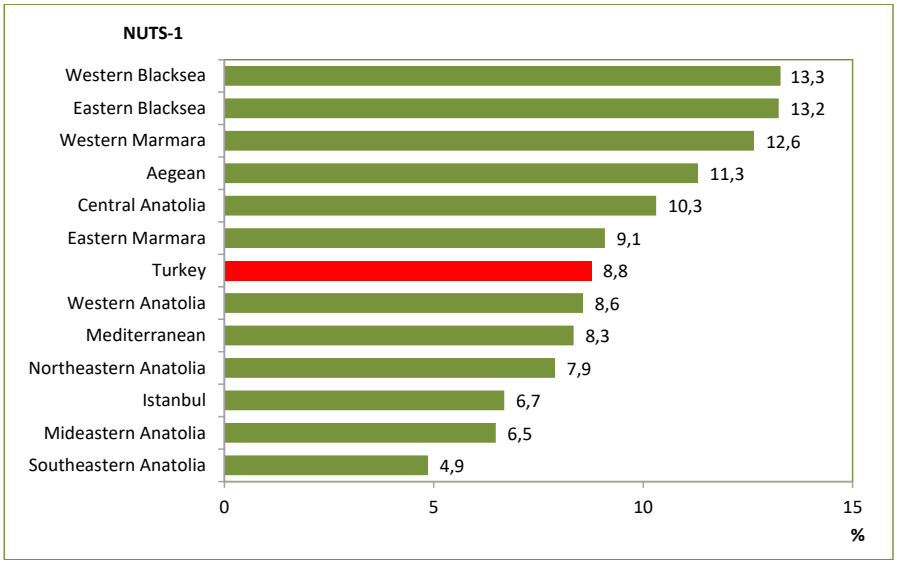
Source: TURKSTAT

Figure 1.7. International Comparison of 0-14 Aged Population Ratio, (%), 2018



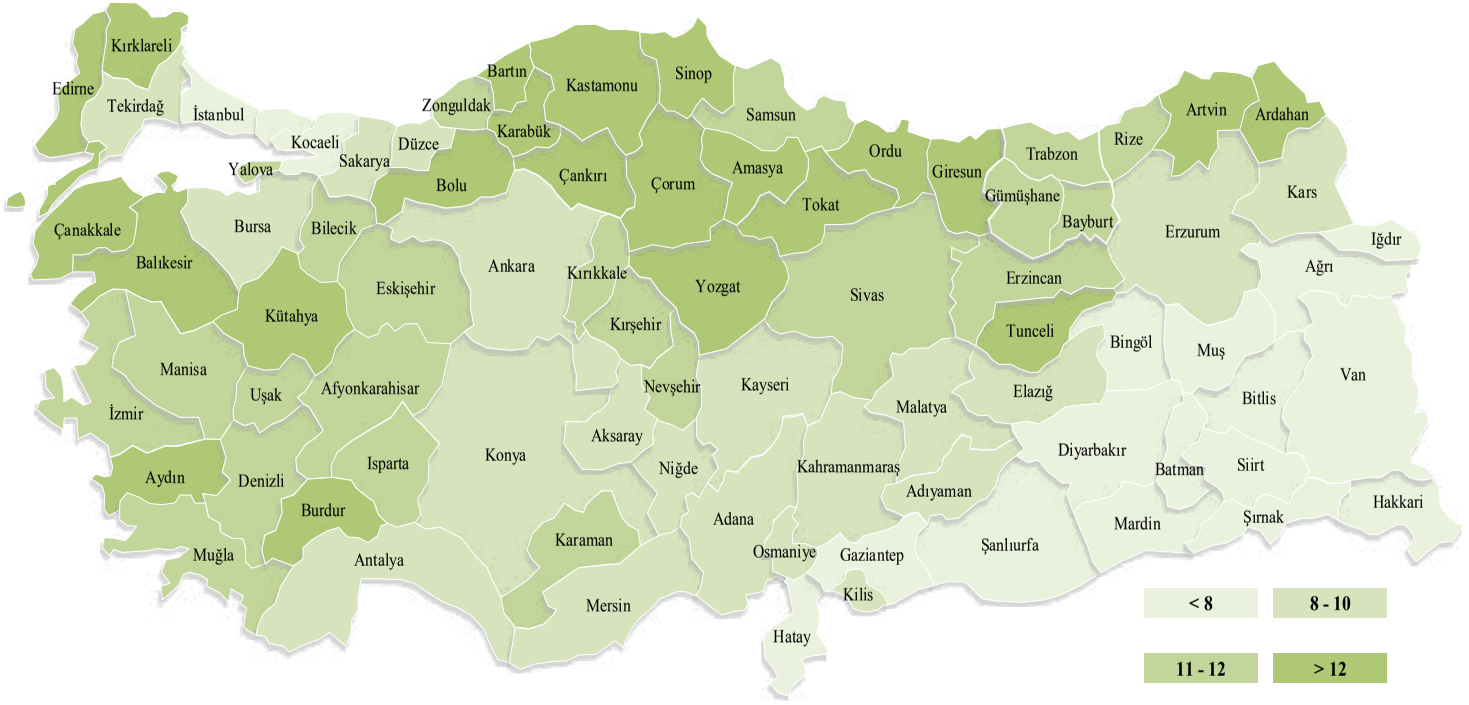
Source: TURKSTAT, UNPD

Figure 1.8. 65 and Over Aged Population Ratio by NUTS-1, (%), 2018



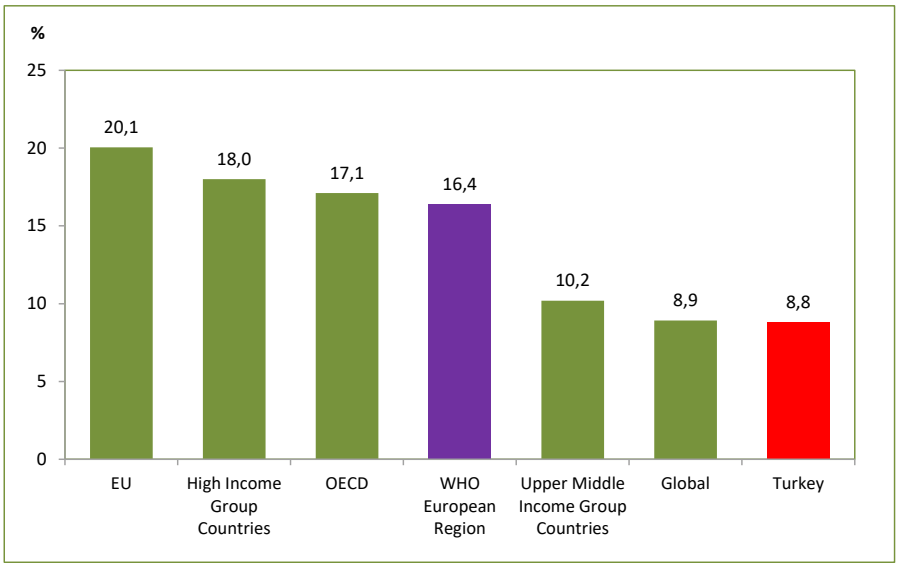
Source: TURKSTAT

Map 1.3. 65 and Over Aged Population Ratio by Provinces, (%), 2018



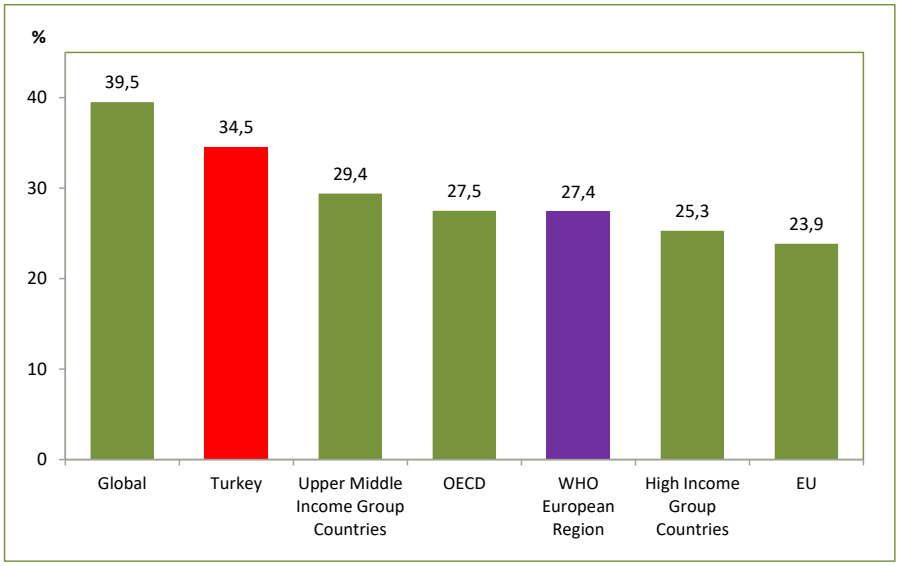
Source: TURKSTAT

Figure 1.9. International Comparison of 65 and Over Aged Population Ratio, (%), 2018



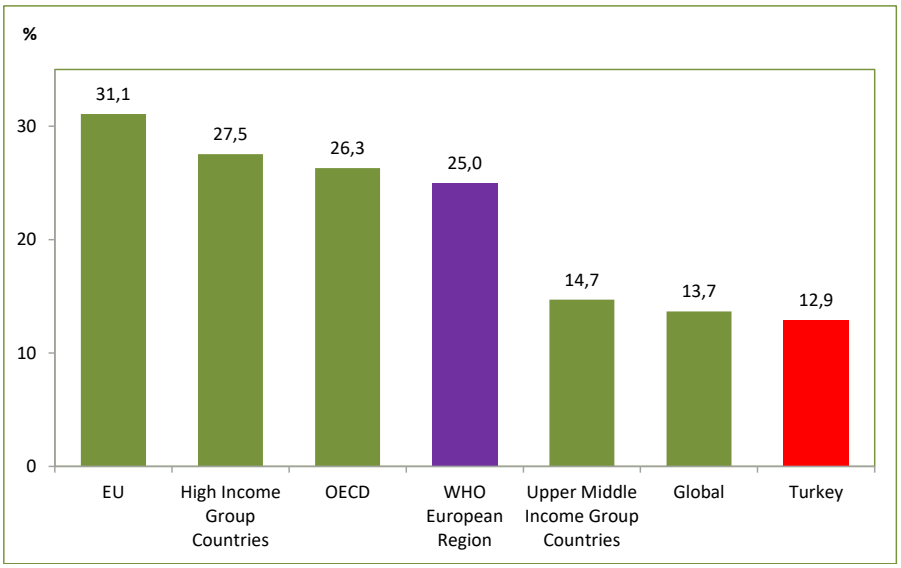
Source: TURKSTAT, UNPD

Figure 1.10.International Comparison of Youth Dependency Ratio, (%), 2018



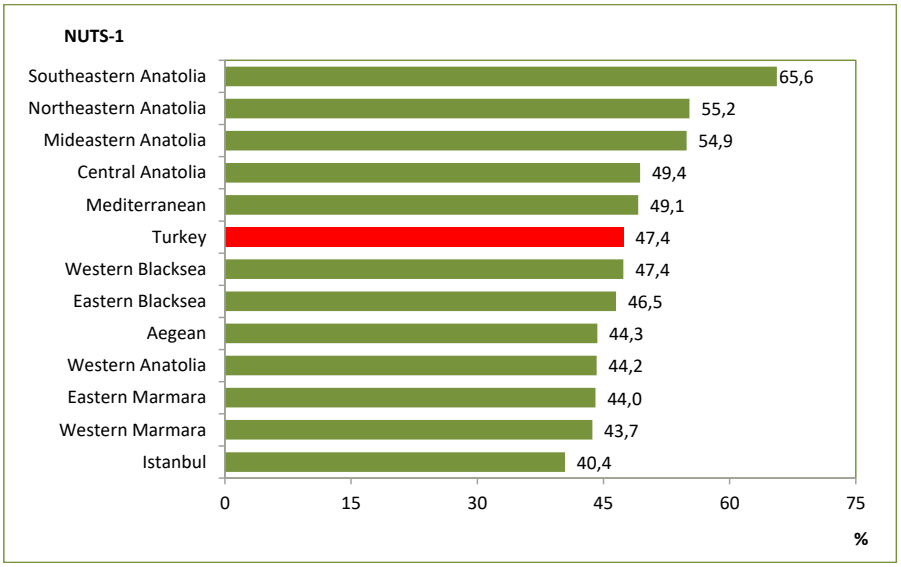
Source: TURKSTAT, UNPD

Figure 1.11.International Comparison of Elderly Dependency Ratio, (%), 2018



Source: TURKSTAT, UNPD

Figure 1.12. Total Age Dependency Ratio by NUTS-1, (%), 2018

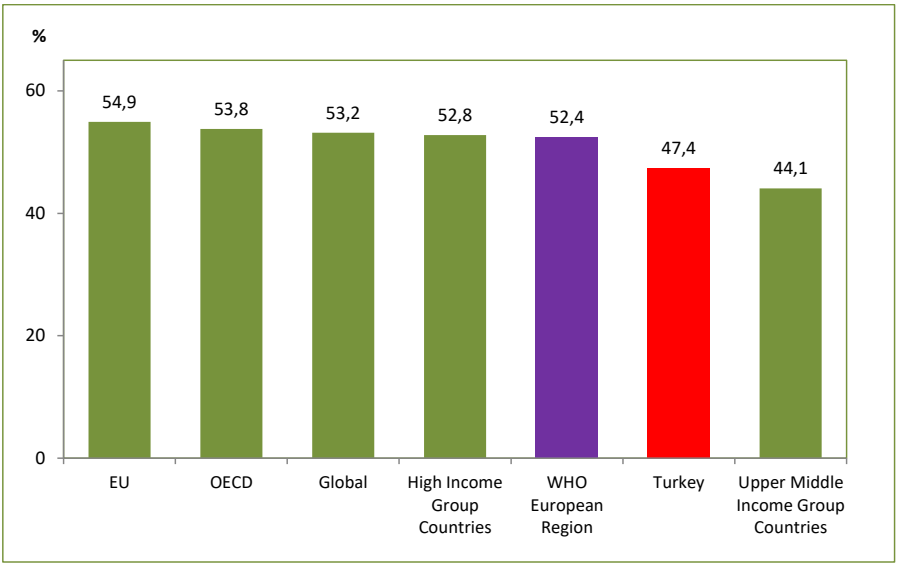


Source: TURKSTAT

Map 1.4. Total Age Dependency Ratio by Provinces, (%), 2018

Source: TURKSTAT

Figure 1.13. International Comparison of Total Age Dependency Ratio, (%), 2018



Source: TURKSTAT, UNPD

Table 1.3. Some General Demographic Indicators by Provinces, 2018

City	Total Population	Rural Population Ratio (%)	Urban Population Ratio (%)	0-14 Aged Population Ratio (%)	65 and Over Aged Population Ratio (%)	Youth Dependency Ratio (Aged 0-14) (%)	Elderly Dependency Ratio (Aged 65 and Over) (%)	Total Age Dependency Ratio (%)
Adana	2.220.125	3,9	96,1	25,3	7,9	37,8	11,8	49,6
Adıyaman	624.513	36,3	63,7	29,3	7,6	46,3	12,0	58,3
Afyonkarahisar	725.568	55,9	44,1	22,3	10,9	33,3	16,3	49,6
Ağrı	539.657	48,7	51,3	35,4	4,5	59,0	7,4	66,4
Amasya	337.508	38,1	61,9	18,5	14,1	27,4	21,0	48,4
Ankara	5.503.985	1,1	98,9	21,2	8,2	30,0	11,7	41,7
Antalya	2.426.356	1,0	99,0	21,9	8,2	31,3	11,7	43,0
Artvin	174.010	73,5	26,5	16,3	15,7	24,0	23,1	47,1
Aydın	1.097.746	5,0	95,0	19,1	12,8	28,1	18,9	47,0
Balıkesir	1.226.575	6,1	93,9	16,9	14,8	24,8	21,7	46,5
Bilecik	223.448	39,4	60,6	18,7	10,9	26,5	15,5	42,0
Bingöl	281.205	58,2	41,8	26,9	6,7	40,5	10,0	50,6
Bitlis	349.396	49,5	50,5	32,9	5,0	52,9	8,0	60,9
Bolu	311.810	37,7	62,3	17,8	13,1	25,8	19,0	44,8
Burdur	269.926	50,1	49,9	17,2	14,4	25,1	21,0	46,1
Bursa	2.994.521	1,6	98,4	21,9	8,9	31,6	12,9	44,5
Çanakkale	540.662	48,4	51,6	15,9	14,5	22,8	20,9	43,7
Çankırı	216.362	61,0	39,0	18,1	14,7	26,9	21,9	48,7
Çorum	536.483	39,7	60,3	19,9	14,4	30,2	22,0	52,2
Denizli	1.027.782	10,7	89,3	20,2	10,7	29,3	15,4	44,7
Diyarbakır	1.732.396	2,6	97,4	33,4	4,8	54,1	7,7	61,8
Edirne	411.528	34,3	65,7	15,1	14,0	21,2	19,7	40,9
Elazığ	595.638	36,6	63,4	22,6	9,3	33,2	13,7	46,9
Erzincan	236.034	40,3	59,7	19,2	12,1	28,0	17,6	45,6
Erzurum	767.848	15,4	84,6	25,9	8,4	39,5	12,9	52,4
Eskişehir	871.187	10,0	90,0	18,1	11,1	25,5	15,7	41,2
Gaziantep	2.028.563	0,5	99,5	32,7	5,3	52,8	8,6	61,4
Giresun	453.912	60,8	39,2	16,6	15,5	24,4	22,9	47,2
Gümüşhane	162.748	75,7	24,3	18,1	11,7	25,7	16,6	42,3
Hakkari	286.470	54,2	45,8	29,2	3,2	43,1	4,8	47,9
Hatay	1.609.856	0,9	99,1	28,2	7,1	43,6	10,9	54,5
Isparta	441.412	41,5	58,5	18,6	12,3	26,8	17,7	44,5
Mersin	1.814.468	1,1	98,9	23,6	8,8	35,0	13,1	48,1
İstanbul	15.067.724	0,1	99,9	22,1	6,7	31,1	9,4	40,4
İzmir	4.320.519	0,5	99,5	18,8	10,9	26,8	15,5	42,3
Kars	288.878	70,1	29,9	27,4	7,9	42,3	12,1	54,4
Kastamonu	383.373	61,6	38,4	16,3	17,1	24,5	25,8	50,3
Kayseri	1.389.680	5,4	94,6	24,6	8,5	36,8	12,6	49,4
Kırklareli	360.860	37,3	62,7	15,4	13,2	21,6	18,5	40,2
Kırşehir	241.868	33,8	66,2	20,0	11,3	29,1	16,5	45,6
Kocaeli	1.906.391	0,0	100,0	23,6	7,0	33,9	10,1	44,0

Source: TURKSTAT

Table 1.3. Some General Demographic Indicators by Provinces, 2018 - Continued

City	Total Population	Rural Population Ratio (%)	Urban Population Ratio (%)	0-14 Aged Population Ratio (%)	65 and Over Aged Population Ratio (%)	Youth Dependency Ratio (Aged 0-14) (%)	Elderly Dependency Ratio (Aged 65 and Over) (%)	Total Age Dependency Ratio (%)
Konya	2.205.609	5,9	94,1	24,3	9,1	36,4	13,7	50,1
Kütahya	577.941	36,6	63,4	18,0	12,6	25,9	18,2	44,1
Malatya	797.036	8,7	91,3	23,3	9,9	34,9	14,8	49,8
Manisa	1.429.643	3,2	96,8	20,5	10,9	29,9	15,9	45,8
Kahramanmaraş	1.144.851	2,1	97,9	28,6	7,8	44,9	12,2	57,1
Mardin	829.195	3,5	96,5	34,2	5,4	56,7	8,9	65,6
Muğla	967.487	1,1	98,9	18,3	12,1	26,2	17,4	43,6
Muş	407.992	67,0	33,0	35,1	4,8	58,3	8,0	66,3
Nevşehir	298.339	55,6	44,4	21,3	11,5	31,8	17,1	48,9
Niğde	364.707	47,7	52,3	23,8	9,7	35,7	14,6	50,3
Ordu	771.932	13,5	86,5	19,1	13,5	28,3	20,1	48,4
Rize	348.608	57,0	43,0	18,4	12,3	26,5	17,7	44,1
Sakarya	1.010.700	3,4	96,6	21,8	9,3	31,6	13,5	45,1
Samsun	1.335.716	3,2	96,8	20,5	11,2	30,0	16,3	46,3
Siirt	331.670	43,3	56,7	34,6	4,7	57,0	7,7	64,7
Sinop	219.733	63,3	36,7	16,8	18,3	25,8	28,2	54,0
Sivas	646.608	42,5	57,5	20,9	12,4	31,3	18,7	49,9
Tekirdağ	1.029.927	0,0	100,0	21,6	8,4	30,9	11,9	42,8
Tokat	612.646	43,1	56,9	19,8	13,1	29,5	19,5	49,0
Trabzon	807.903	11,7	88,3	19,7	11,9	28,7	17,4	46,1
Tunceli	88.198	62,0	38,0	14,1	13,7	19,6	19,0	38,6
Şanlıurfa	2.035.809	0,0	100,0	39,8	3,8	70,7	6,8	77,5
Uşak	367.514	39,3	60,7	19,1	11,7	27,5	16,9	44,4
Van	1.123.784	1,3	98,7	34,5	3,8	56,0	6,2	62,2
Yozgat	424.981	55,0	45,0	21,3	12,8	32,2	19,3	51,5
Zonguldak	599.698	43,6	56,4	18,0	11,9	25,7	17,0	42,6
Aksaray	412.172	45,9	54,1	25,2	8,9	38,3	13,6	51,9
Bayburt	82.274	50,7	49,3	20,7	11,3	30,5	16,6	47,1
Karaman	251.913	35,7	64,3	22,4	10,5	33,3	15,7	49,0
Kırıkkale	286.602	24,3	75,7	19,0	11,5	27,4	16,6	44,0
Batman	599.103	25,6	74,4	34,5	4,4	56,3	7,2	63,5
Şırnak	524.190	41,6	58,4	37,0	3,2	61,7	5,3	67,0
Bartın	198.999	64,0	36,0	16,8	13,8	24,2	19,8	44,0
Ardahan	98.907	77,6	22,4	21,4	12,6	32,4	19,0	51,4
Iğdır	197.456	53,2	46,8	30,0	6,4	47,1	10,1	57,2
Yalova	262.234	40,2	59,8	20,0	11,5	29,2	16,8	46,1
Karabük	248.014	31,6	68,4	16,5	12,8	23,4	18,1	41,5
Kilis	142.541	29,4	70,6	28,6	7,9	45,1	12,4	57,5
Osmaniye	534.415	29,5	70,5	26,8	8,0	41,2	12,3	53,4
Düzce	387.844	48,5	51,5	21,0	9,5	30,2	13,7	43,9
Turkey	82.003.882	12,1	87,9	23,4	8,8	34,5	12,9	47,4

Source: TURKSTAT

Explanations for Chapter 1

☑ Population data for 1990 and 2000 were taken from the "General Census" results, and the 2015-2018 population data from the Address Based Population Registration System (ABPRS).

☑ It has seen increase in urban population ratio due to establishing metropolitan municipalities in 14 provinces and merging of small towns and villages to districts as neighborhood in 30 provinces having metropolitan municipalities' status in 2013.

☑ 4-point Likert was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the Likert borders. The value of the provinces was rounded up to the closest whole number. These whole numbers were taken into account while making the Likert scales.

☑ Totals in distribution tables and figures in the Chapter may not add up to 100% due to rounding.

☑ Values in the tables and figures in the Chapter may not give the sum due to rounding.

The definitions of the indicators in Chapter 1 are as follows:

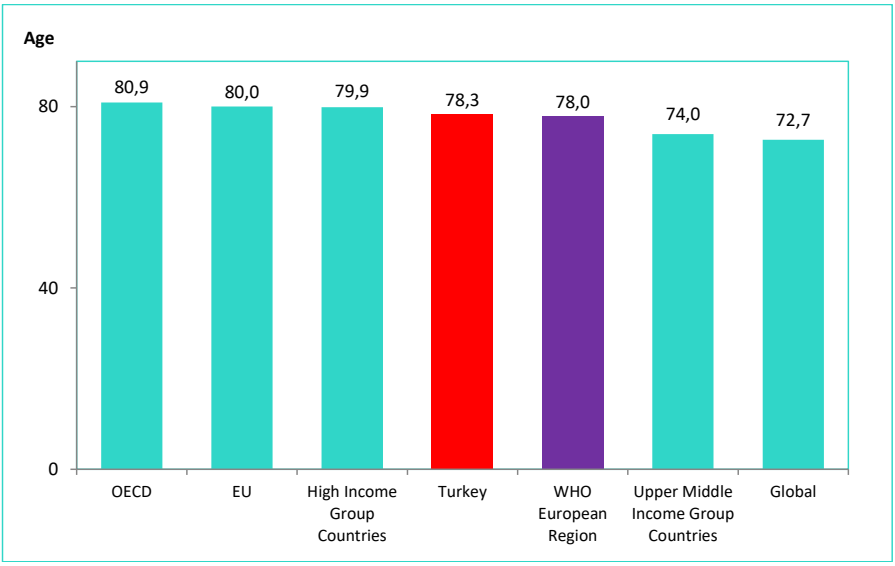
Rural Population Ratio (%)	:	It is the ratio of the population living in settlements with a population of 20.000 and below to the total population.
Urban Population Ratio (%)	:	It is the ratio of the population living in settlements with a population of 20.001 and above to the total population.
0-14 Aged Population Ratio (%)	:	It is the ratio of the 0-14 aged population to the total population.
65 and Over Aged Population Ratio (%)	:	It is the ratio of the 65 and over aged population to the total population.
Youth Dependency Ratio (Aged 0-14) (%)	:	It is the ratio of younger dependents (aged 0-14) to the working-age population (from 15 to 64).
Elderly Dependency Ratio (Aged 65 and Over) (%)	:	It is the ratio of old age dependents (aged 65 and over) to the working-age population (from 15 to 64).
Total Age Dependency Ratio (%)	:	It is the ratio of total dependents (aged 0-14 and aged 65 and over) to the working-age population (from 15 to 64).
Annual Population Growth Rate (‰)	:	It is the increase in the number of individuals in 1.000 population in a given year compared to the previous year.
Crude Birth Rate (‰)	:	It indicates the number of live births per 1.000 population in a given year. (Number of live births/Mid-year population)x1.000
Crude Death Rate (‰)	:	It indicates the number of deaths per 1.000 population in a given year. (Number of deaths/Mid-year population)x1.000
Total Fertility Rate	:	It represents the average number of live births that would be born to a female during her reproductive life (from 15 to 49).

Chapter 2 | Mortality

Figure 2.1. Life Expectancy at Birth by Years and Sex, (Age)

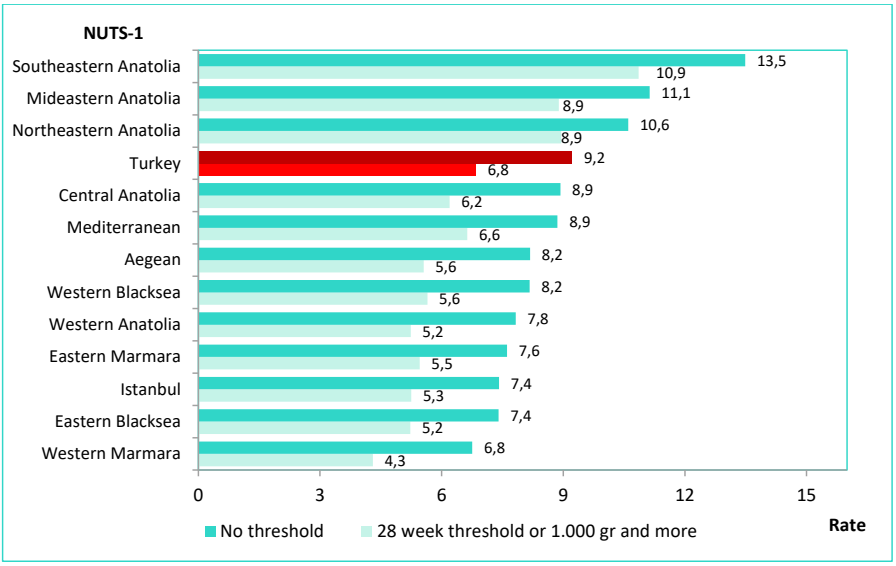
Source: TURKSTAT Population Projections for 2002-2012, TURKSTAT Life Tables for 2013-2018

Figure 2.2. International Comparison of Life Expectancy at Birth, 2018



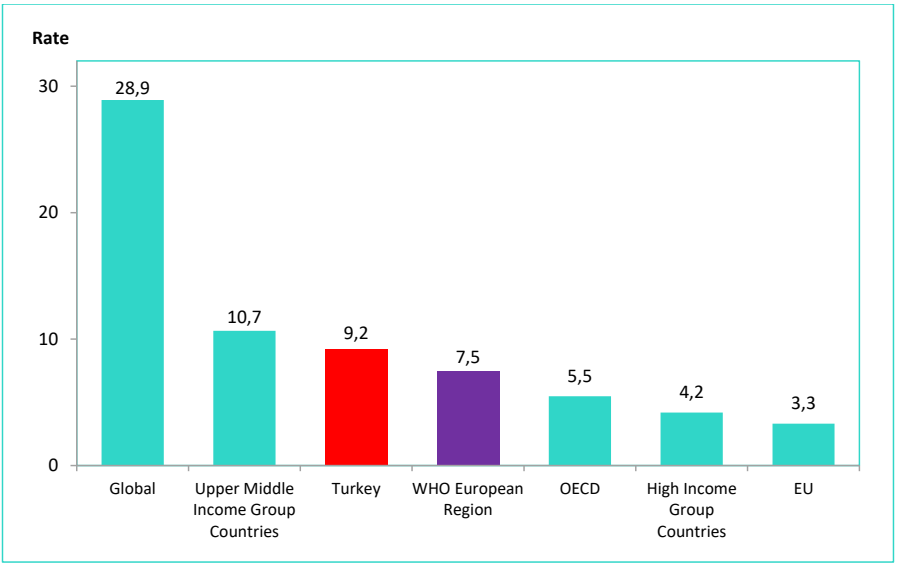
Source: TURKSTAT Life Tables 2016-2018 Press Release (No. 30712 of 24 September 2019), UNPD
Note: The values of the groups in the figure were calculated by the Department of Health Statistics based on the expected life expectancy at the birth of the countries.

Figure 2.3. Infant Mortality Rate by NUTS-1, (per 1.000 Live Births), 2018



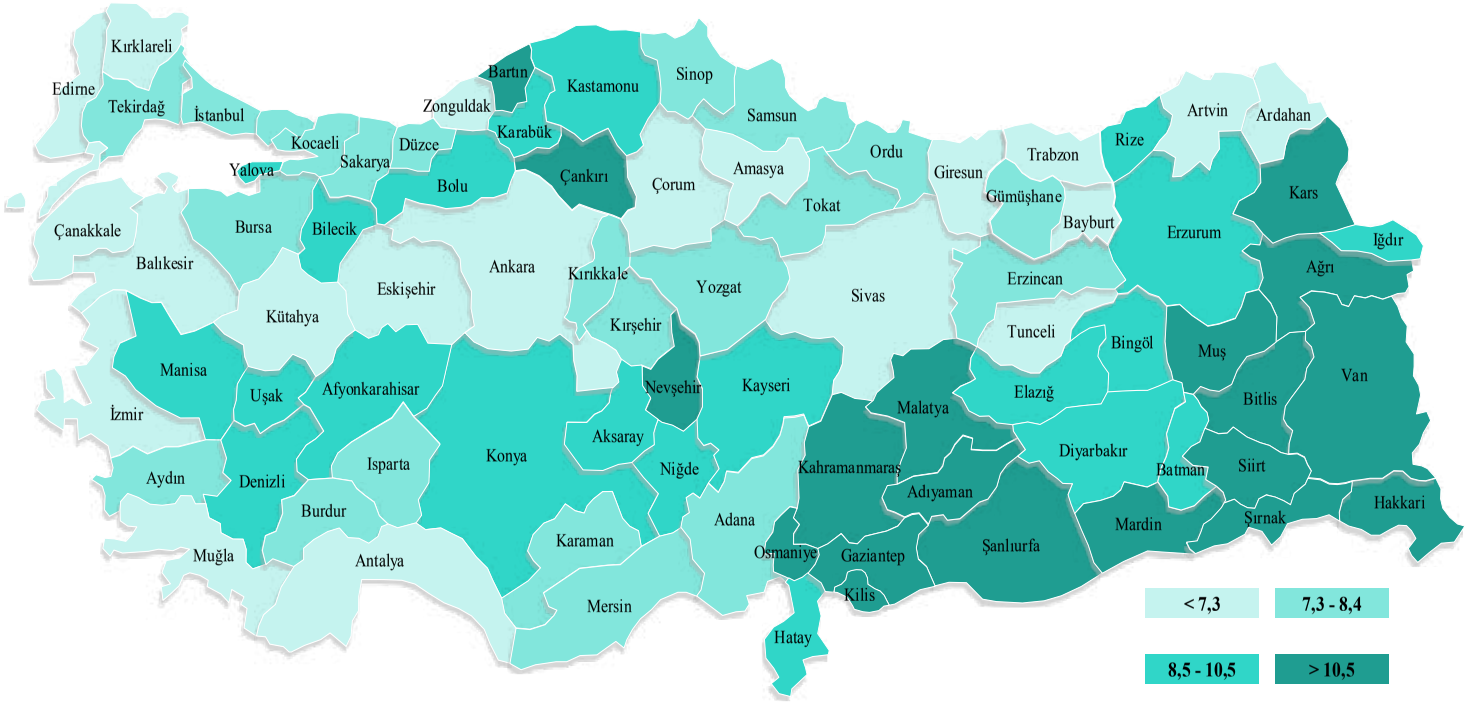
Source: General Directorate of Public Health

Figure 2.4. International Comparison of Infant Mortality Rate, (per 1.000 Live Births), 2018



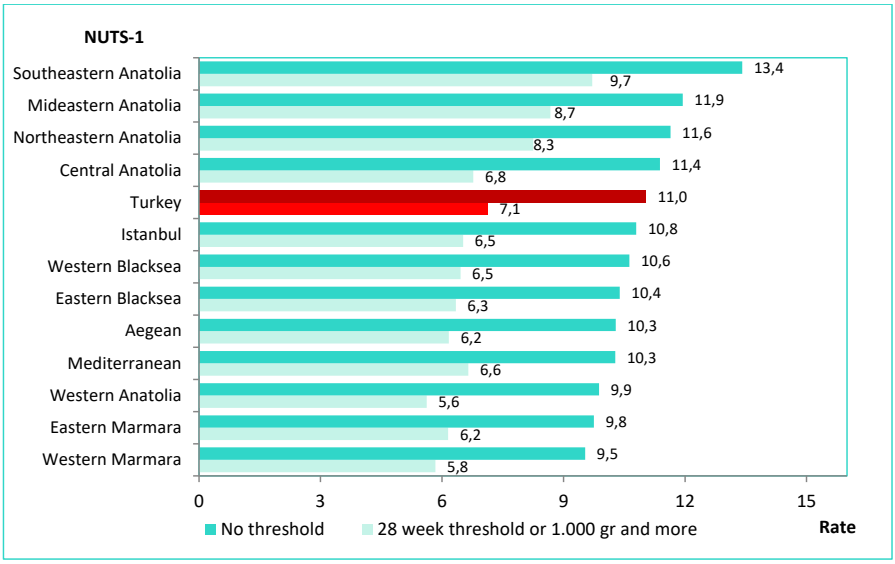
Source: General Directorate of Public Health, UN IGME 2019

Map 2.1. Infant Mortality Rate by Provinces, (per 1.000 Live Births), No Threshold, 2018



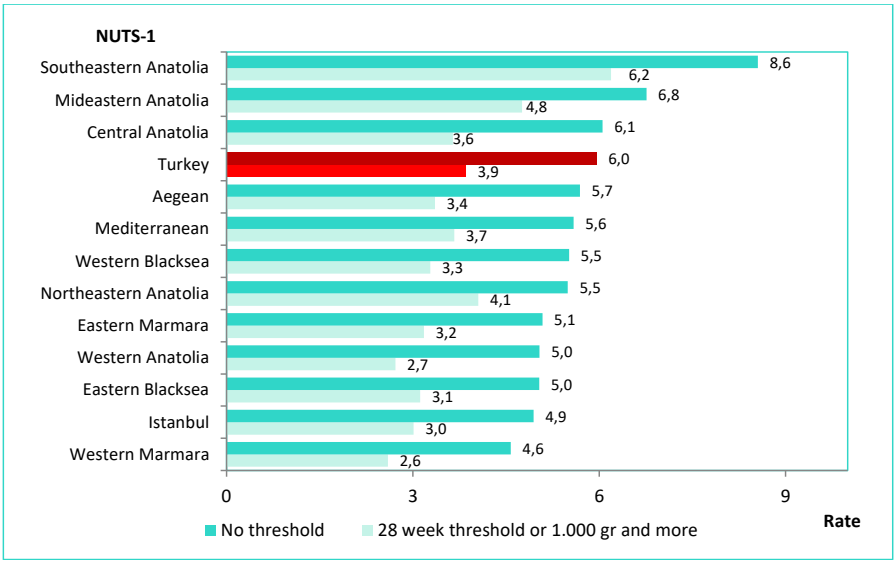
Source: General Directorate of Public Health

Figure 2.5. Perinatal Mortality Rate by NUTS-1, (per 1.000 Births), 2018



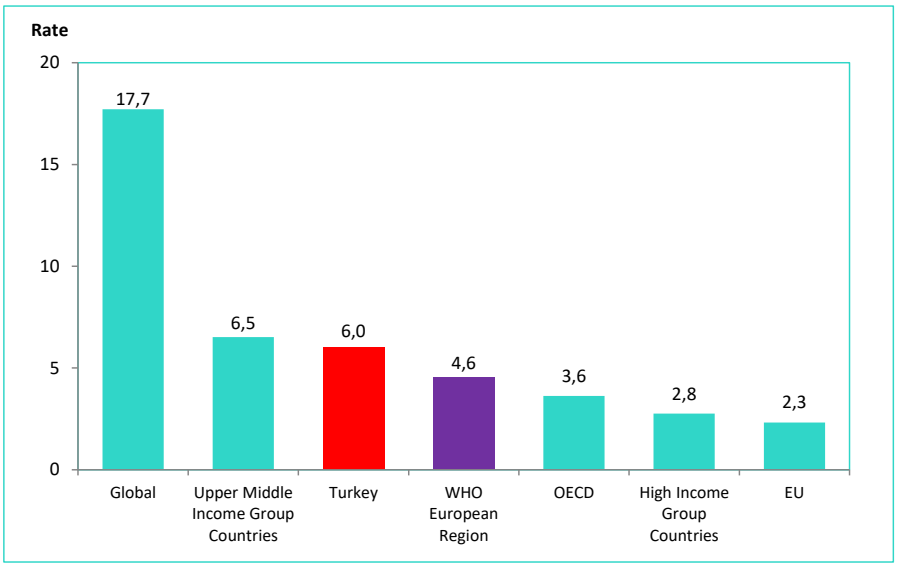
Source: General Directorate of Public Health

Figure 2.6. Neonatal Mortality Rate by NUTS-1, (per 1.000 Live Births), 2018



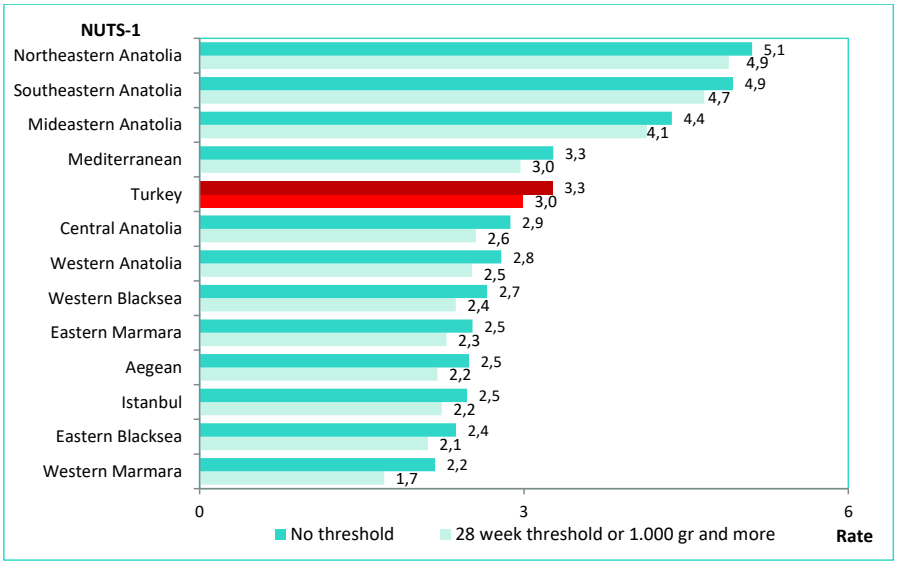
Source: General Directorate of Public Health

Figure 2.7. International Comparison of Neonatal Mortality Rate, (per 1.000 Live Births), 2018



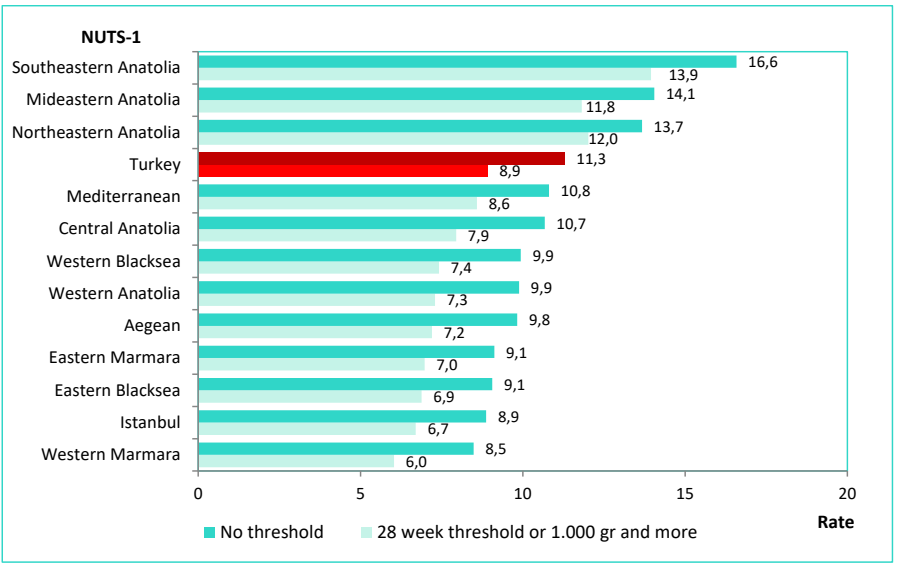
Source: General Directorate of Public Health, UN IGME 2019

Figure 2.8. Postneonatal Mortality Rate by NUTS-1, (per 1.000 Live Births), 2018



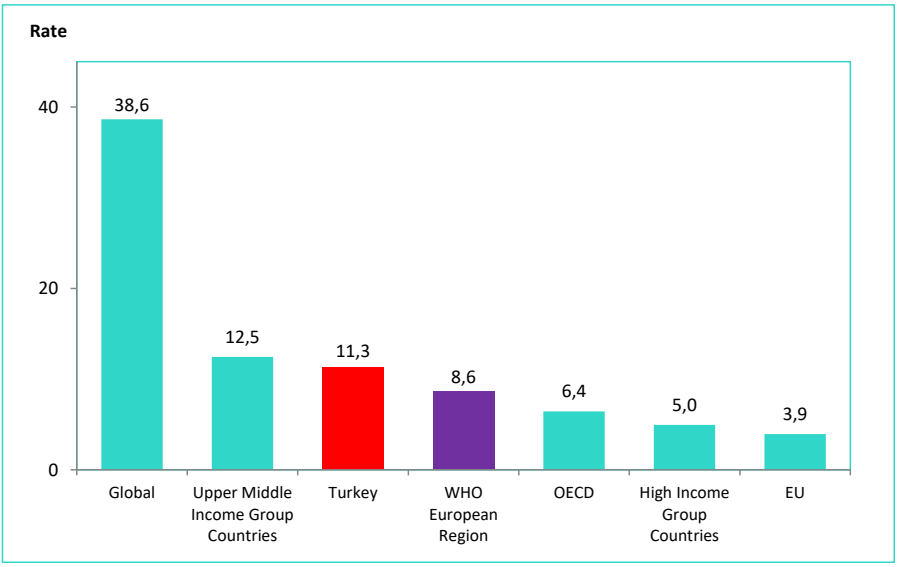
Source: General Directorate of Public Health

Figure 2.9. Under-5 Mortality Rate by NUTS-1, (per 1.000 Live Births), 2018



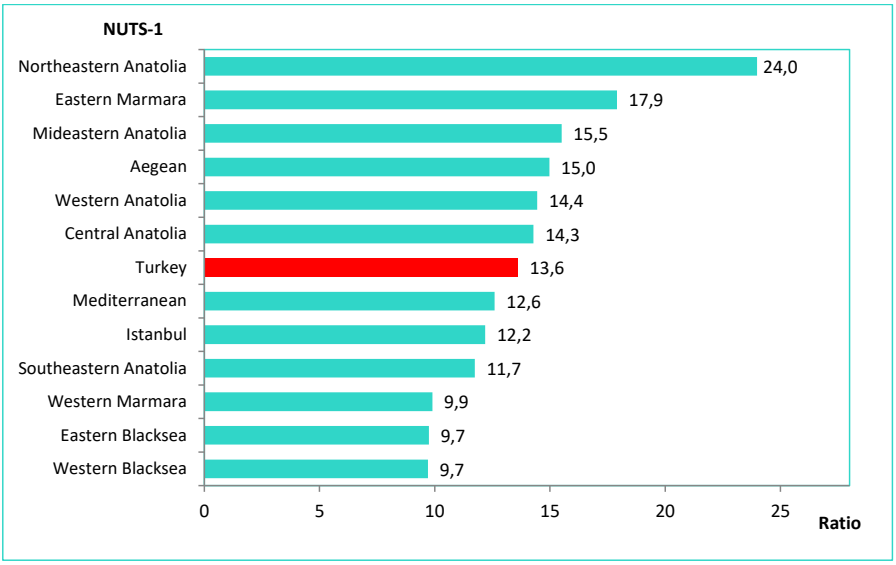
Source: General Directorate of Public Health

Figure 2.10. International Comparison of Under-5 Mortality Rate, (per 1.000 Live Births), 2018



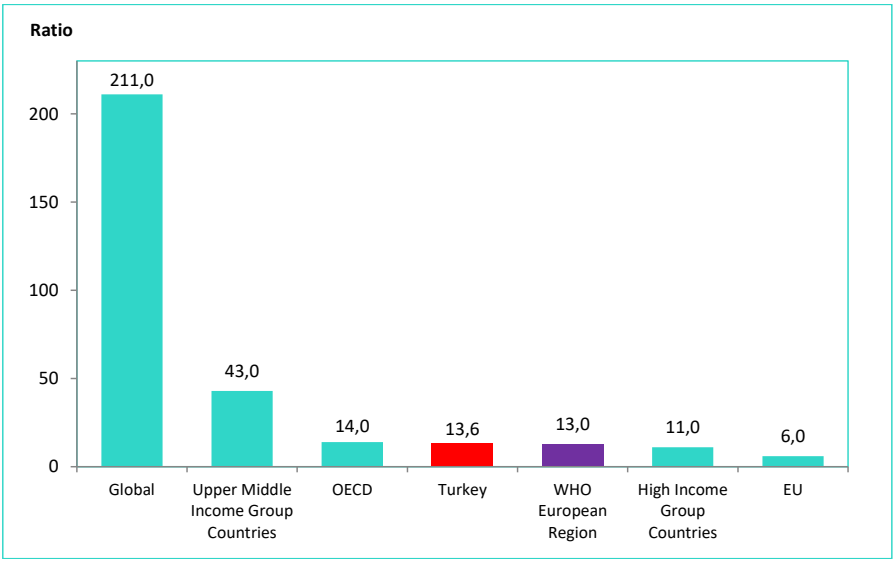
Source: General Directorate of Public Health, UN IGME 2019

Figure 2.11. Maternal Mortality Ratio by NUTS-1, (per 100.000 Live Births), 2018



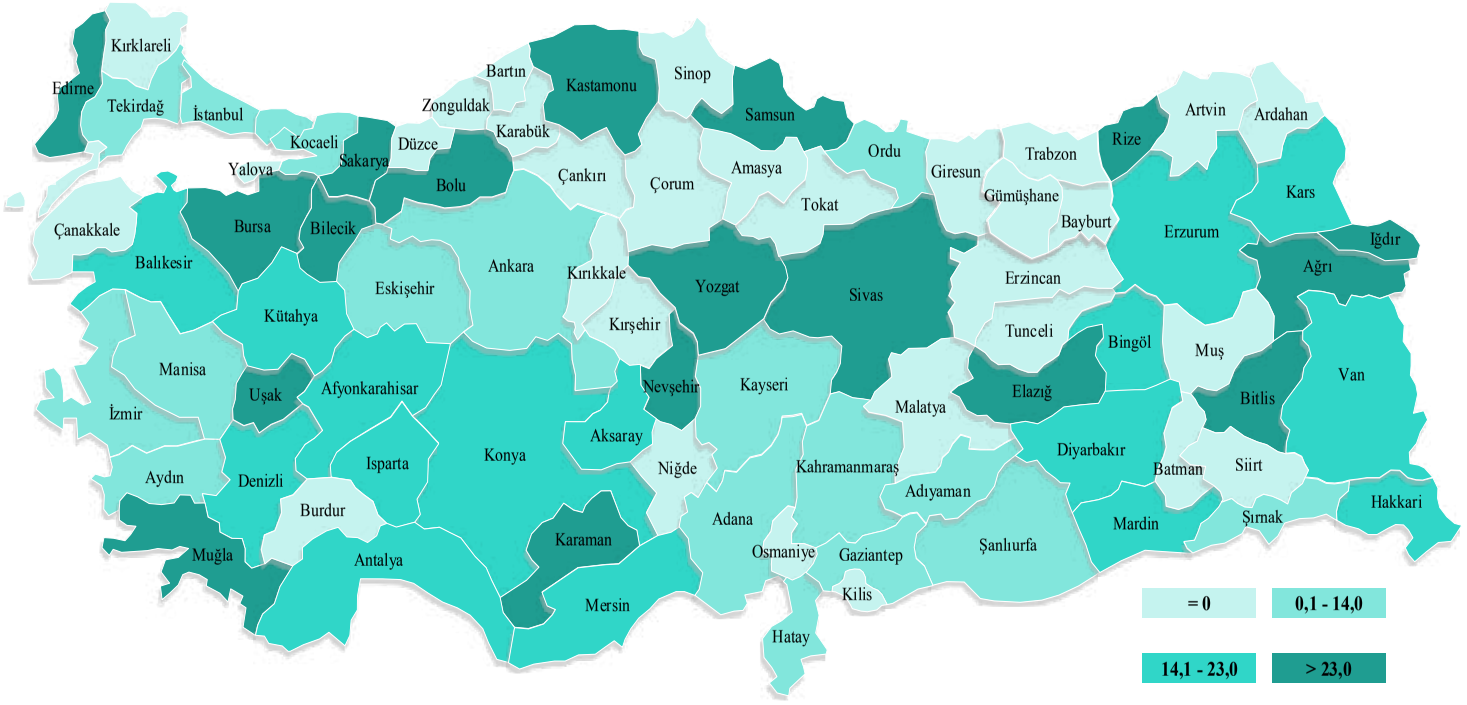
Source: General Directorate of Public Health

Figure 2.12. International Comparison of Maternal Mortality Ratio, (per 100.000 Live Births), 2017



Source: General Directorate of Public Health, UNICEF Trends in Maternal Mortality: 2000 to 2017
Note: Turkey's data belongs to the year 2018.

Map 2.2. Maternal Mortality Ratio by Provinces, (per 100.000 Live Births), 2018



Source: General Directorate of Public Health

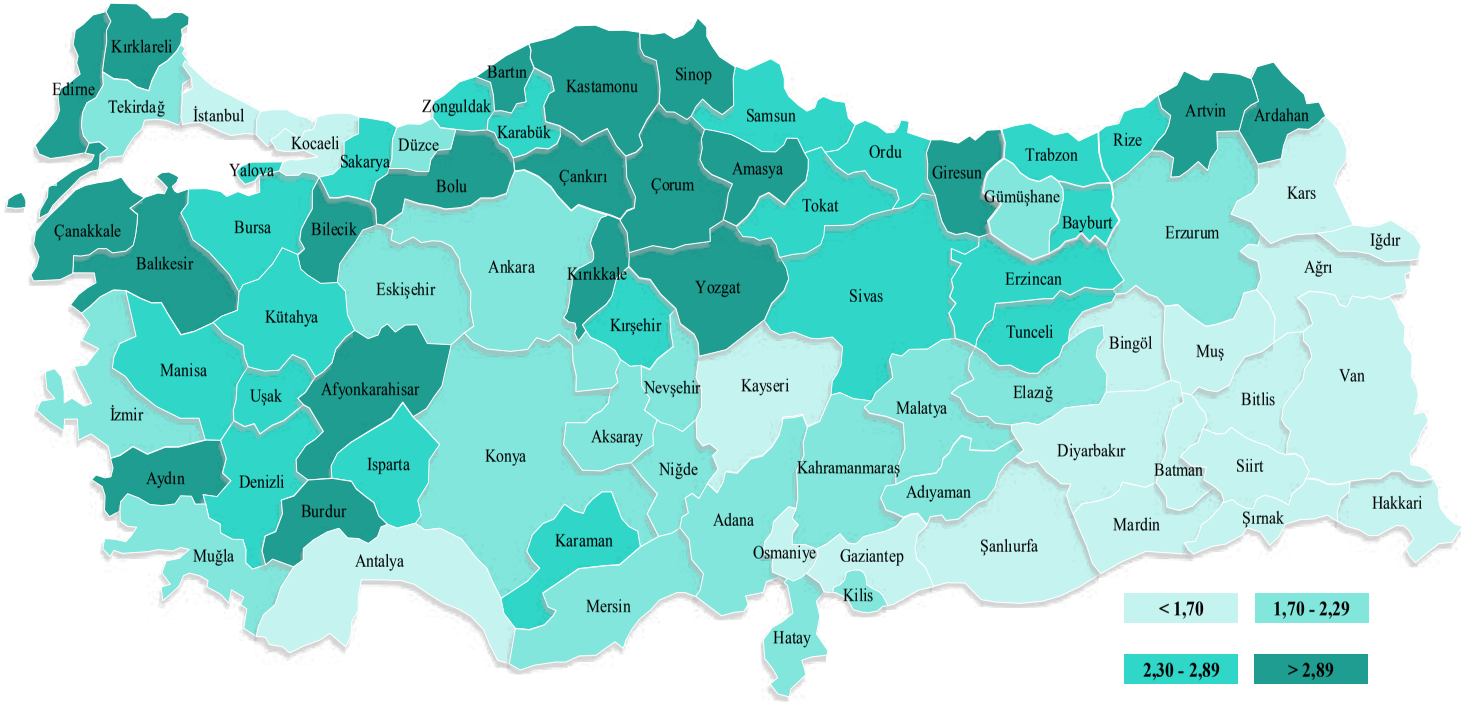
Table 2.1. Distribution of Causes of Death by the ICD-10 Main Diagnosis Codes and Sex, (%), 2016, 2017, 2018

ICD-10 Main Diagnosis Group	Code	2016			2017			2018		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Certain Infectious and Parasitic Diseases	A00-B99	1,96	2,16	2,05	2,25	2,62	2,42	2,48	2,90	2,67
Neoplasms	C00-D48	23,11	15,03	19,43	22,89	15,04	19,32	23,35	15,47	19,75
Diseases of the Blood and Bloodforming Organs and Certain Disorders Involving the Immune Mechanism	D50-D89	0,26	0,32	0,29	0,26	0,33	0,29	0,24	0,33	0,28
Endocrine, Nutritional and Metabolic Diseases	E00-E90	3,84	6,25	4,93	3,78	5,96	4,77	3,75	5,98	4,77
Mental and Behavioural Disorders	F00-F99	0,11	0,15	0,13	0,11	0,15	0,13	0,11	0,14	0,12
Diseases of the Nervous System and Sense Organs	G00-H95	3,92	5,88	4,81	3,92	6,00	4,87	3,98	6,06	4,93
Diseases of the Circulatory System	I00-I99	36,05	43,70	39,52	36,09	43,52	39,46	35,33	42,18	38,45
Diseases of the Respiratory System	J00-J99	12,44	10,89	11,73	12,43	11,16	11,85	13,13	11,72	12,48
Diseases of the Digestive System	K00-K93	2,34	2,57	2,44	2,29	2,54	2,40	2,28	2,55	2,40
Diseases of the Skin and Subcutaneous Tissue	L00-L99	0,03	0,08	0,05	0,04	0,08	0,06	0,06	0,10	0,08
Diseases of the Musculoskeletal System and Connective Tissue	M00-M99	0,19	0,39	0,28	0,18	0,38	0,27	0,20	0,39	0,29
Diseases of the Genitourinary System	N00-N99	3,31	4,00	3,63	3,37	4,02	3,67	3,44	4,20	3,79
Pregnancy, Childbirth and the Puerperium	O00-O99	-	0,13	0,06	-	0,13	0,06	-	0,13	0,06
Certain Conditions Originating in the Perinatal Period	P00-P96	2,01	1,88	1,96	1,98	1,81	1,91	1,98	1,76	1,90
Congenital Malformations, Deformations and Chromosomal Abnormalities	Q00-Q99	1,28	1,37	1,33	1,20	1,29	1,25	1,20	1,26	1,23
Symptoms, Signs and Abnormal Clinical and Laboratory Findings, Not Elsewhere Classified	R00-R99	2,24	2,25	2,25	2,28	2,12	2,21	2,59	2,20	2,41
External causes of morbidity and mortality	V01-Y89	6,91	2,95	5,11	6,92	2,87	5,08	5,86	2,62	4,38

Source: TURKSTAT Causes of Death Statistics 2016, 2017, 2018

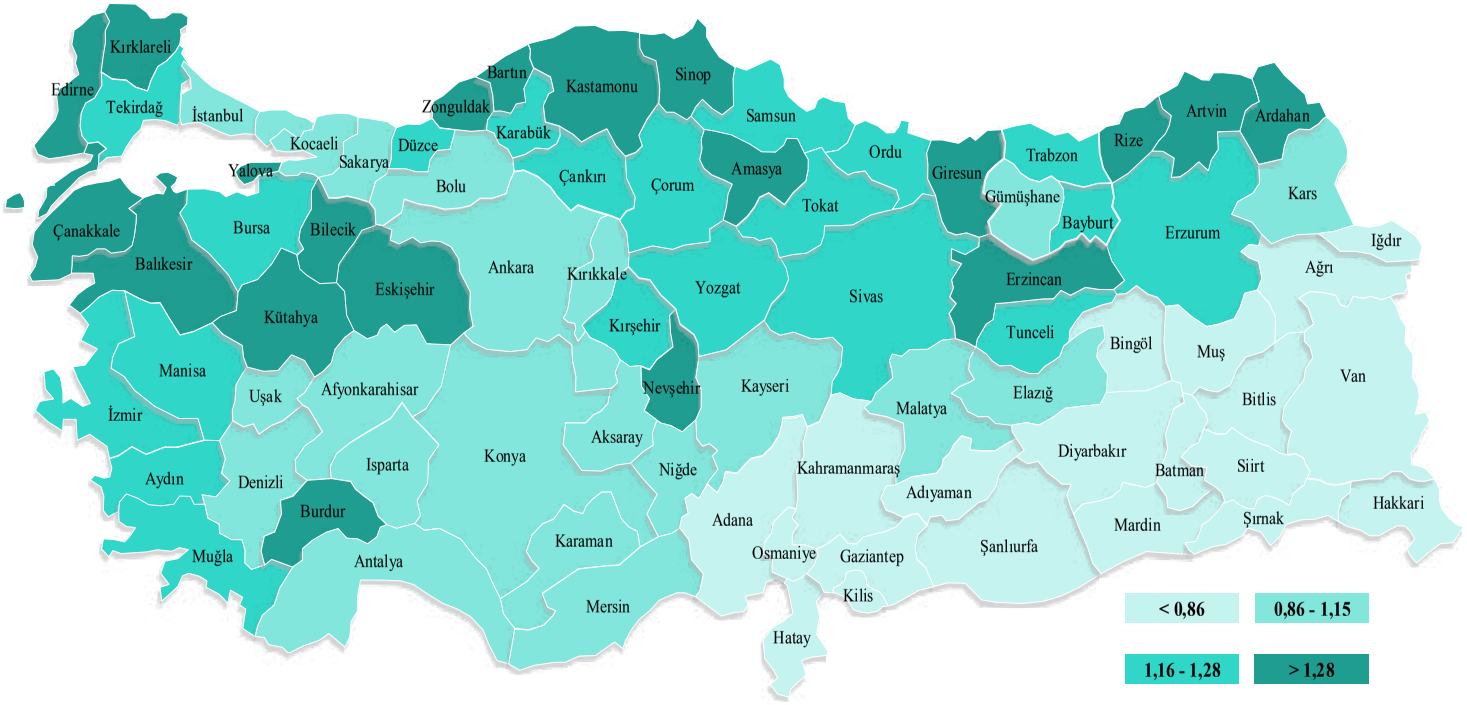
Note: The distribution of causes of death was calculated over the total number of relevant column.

Map 2.3. Diseases of the Circulatory System (ICD 10: I00-I99) Crude Death Rate by Usual Residence and Provinces, (‰), 2018



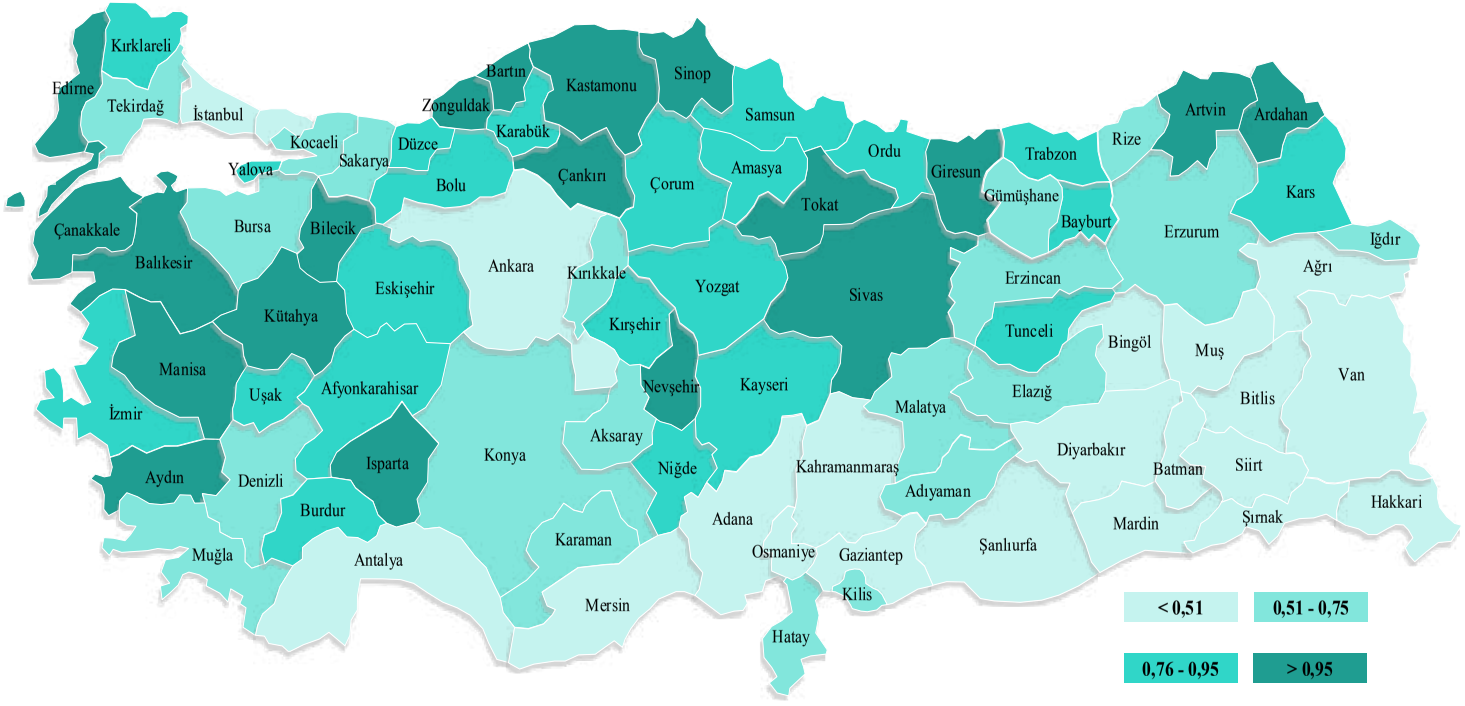
Source: TURKSTAT, Causes of Death Statistics 2018

Map 2.4. Neoplasm (ICD 10: C00-D48) Crude Death Rate by Usual Residence and Provinces, (‰), 2018



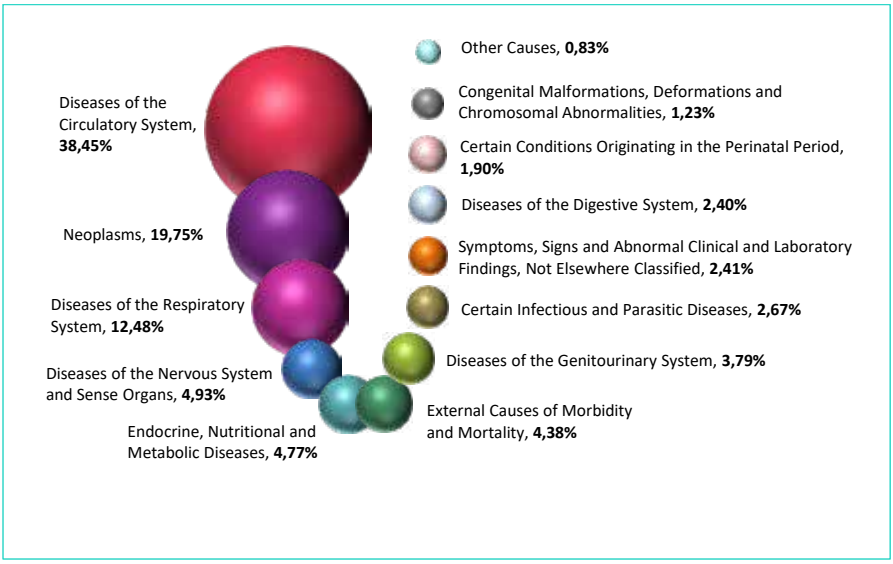
Source: TURKSTAT, Causes of Death Statistics 2018

Map 2.5. Diseases of the Respiratory System (ICD 10: J00-J99) Crude Death Rate by Usual Residence and Provinces, (‰), 2018



Source: TURKSTAT, Causes of Death Statistics 2018

Figure 2.13. Distribution of Causes of Death by the ICD-10 Main Diagnosis Codes, (%), 2018



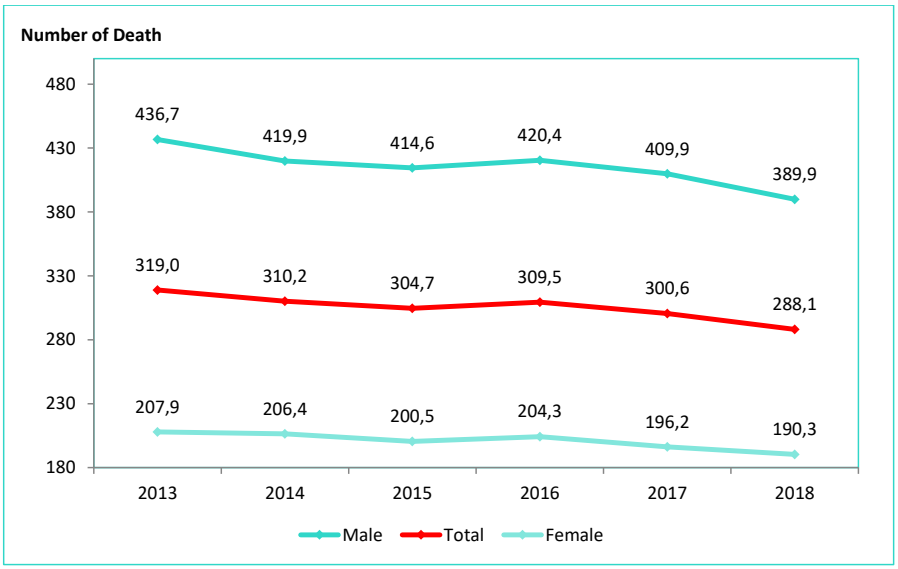
Source: TURKSTAT, Causes of Death Statistics 2018

Table 2.2. Age-Standardized Premature Mortality Rate of Selected Causes by ICD-10 Diagnosis Codes and Sex, (per 100.000, World Standard Population), 2016, 2017, 2018

Selected Causes	Code	2016			2017			2018		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Malignant Neoplasms	C00-C97	157,18	76,14	115,45	152,00	75,12	112,53	147,64	74,64	110,29
Diabetes Mellitus	E10-E14	16,03	13,90	14,95	15,50	12,35	13,90	14,72	11,62	13,15
Diseases of the Circulatory System	I00-I99	166,52	80,73	122,76	165,98	77,14	120,79	154,32	73,59	113,35
Ischemic Heart Disease	I20-I25	91,00	31,34	60,59	89,02	29,91	58,98	81,60	27,55	54,18
Acute Myocardial Infarction	I21-I22	63,62	22,30	42,57	60,70	21,03	40,54	58,39	19,74	38,79
Cerebrovascular Diseases	I60-I69	29,84	20,65	25,13	29,18	19,24	24,10	26,00	18,16	22,02
Chronic Respiratory Diseases	J40-J47	26,32	9,04	17,39	23,60	8,20	15,66	22,80	7,59	14,99
COPD	J40-J44	25,32	7,77	16,25	22,57	7,02	14,56	22,06	6,57	14,11
Asthma	J45-J46	0,86	1,15	1,01	0,89	1,07	0,98	0,66	0,89	0,78
Diseases of the Digestive System	K00-K93	13,15	7,06	10,05	12,44	6,52	9,44	11,92	6,23	9,04

Source: TURKSTAT Causes of Death Statistics, 2016, 2017, 2018
*Note: Mortality rates have been age-standardized by using the **World Standard Population.***

Figure 2.14. Age-Standardized Premature Mortality Rate of Four Main Non-Communicable Disease Groups by Years and Sex, (per 100.000, European Standard Population)

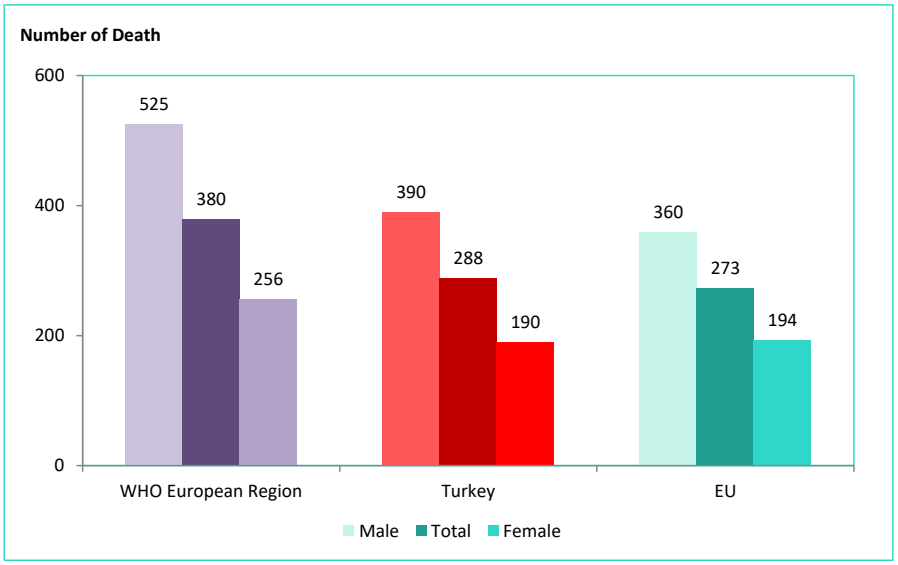


Source: TURKSTAT, Causes of Death Statistics

Note: Mortality rates have been age-standardized by using the ***European Standard Population.***

Four Main Non-communicable Disease Group: Malignant Neoplasms (C00-097), Diabetes Mellitus (E10-E-14), Diseases of the Circulatory System (I00-I99), Chronic Respiratory Diseases (J40-J47).

Figure 2.15. International Comparison of Age-Standardized Premature Mortality Rate of Four Main Non-Communicable Disease Groups, (per 100.000, European Standard Population), 2015



Source: TURKSTAT Causes of Death Statistics 2018, European Health Information Gateway/WHO-Europe

Note: Mortality rates have been age-standardized by using the ***European Standard Population.***
Turkey's data belongs to the year 2018.

Four Main Non-communicable Disease Group: Malignant Neoplasms (C00-097), Diabetes Mellitus (E10-E-14), Diseases of the Circulatory System (I00-I99), Chronic Respiratory Diseases (J40-J47).

Explanations for Chapter 2

☑ Infant, Perinatal, Neonatal, Postneonatal and Under-five child mortality rates are published in the form of "deaths of live births (show any evidence of life) with minimum threshold of 28 weeks or 1.000 gr and more" and "deaths of live births (show any evidence of life) regardless of gestational age and birth weight (No Threshold)".

☑ **Infant Mortality Rate:** It is calculated as, in a society, number of infants who die before completing one year in live births, multiplying by 1.000 to the ratio of the number of live born infants in the same year in the same society.

☑ **Perinatal Mortality Rate:** It is acquired by adding the number of the babies who are born alive and die in 7 days (Early Neonatal) in a year in a society to the number of the dead births in the same year and it is divided by the number of total births (live+dead) in the same year and multiplied by 1.000.

☑ **Neonatal Mortality Rate:** It is calculated as, in a society, in a year, the number of newborn deaths occurring in 28 days to the number of live born infants multiplying by 1.000 in the same society in the same year.

☑ **Postneonatal Mortality Rate:** It is calculated as, in a society, in a year, the number of newborn deaths occurring in 29 days and 364 days to the number of live born infants multiplying by 1.000 in the same society in the same year

☑ **Under-Five Mortality Rate:** It is calculated as, in a society, in a year, number of children who died without completing five years, to the ratio of the number of live births multiplying by 1.000 in the same society in the same year.

☑ **Maternal Mortality Ratio:** The number of mothers who die due to pregnancy in a year in a society, multiplying by 100.000 to the ratio of the number of live-born babies in the same society in the same year.

☑ **Premature Mortality Rate:** It gives age standardized mortality rates per 100.000 populations for cause of death in 30-70 aged intervals. To calculate aged standardized mortality rates, World Standard Population of WHO and European Standard Population of Eurostat were used. These standardized rates weight population and deaths in the age groups to obtain similar age structure. Thus, the differences due to population age structure are eliminated and the comparison between the countries is healthier. The detail information for World and European standard populations exist in following links:

http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=16106&Itemid=270&lang=en

http://ec.europa.eu/eurostat/documents/3859598/5926869/KS-RA-13-028-EN.PDF/

☑ 4-point Likert was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the Likert borders.

☑ The value of the provinces was rounded up to 1 decimal place while making Map 2.1 and Map 2.2. The value of the provinces was rounded up to 2 decimal place while making Map 2.3, Map 2.4 and Map 2.5 in the Chapter. These numbers were taken into account while making the Likert scales.

☑ Values in the tables and figures in the Chapter may not give the sum due to rounding.

TURKSTAT Causes of Death Statistics

Definition	:	These statistics are based on underlying causes of death.
Classification	:	International Classification of Disease (ICD-10) is used for the evaluation of cause of death statistics.
Scope of Data	:	Data includes cover all death cases detected by physicians from all localities including provinces and sub-district centers.
Sources of Data	:	Hospitals, family health centers, institutions of municipal medicine, institutions of forensic medicine and other health institutions.

Data Compilation System	:	Death certificate is filled out by the physicians in the hospitals, family health centers, institutions of municipal medicine, institutions of forensic medicine and other health institutions via Death Notification System (DNS).
Data Processing	:	Coding the diseases at the sections for the determination of causes of death are done according to International Classification of Diseases (ICD-10) and underlying causes of death are determined in TURKSTAT Regional Offices.

Chapter 3 | Morbidity

Table 3.1. Number of Cases of the Infectious Diseases by Years

		2002	2014	2015	2016	2017	2018
AIDS	**Local Case**	**37**	**102**	**94**	**94**	**106**	**88***
	Imported Case	6	29	28	11	19	20
	Total Case	**43**	**131**	**122**	**105**	**125**	**108**
Measles	**Local Case**	**7.810**	**451**	**235**	**0**	**48**	**412**
	Imported Case		114	107	9	36	304
	Total Case	**7.810**	**565**	**342**	**9**	**84**	**716**
Tuberculosis	**Local Case**	**18.043**	**12.331**	**11.703**	**11.305**	**10.748**	**10.334**
	Imported Case		777	847	881	1.073	1.242
	Total Case	**18.043**	**13.108**	**12.550**	**12.186**	**11.821**	**11.576**
Malaria	**Local Case**	**10.184**	**0**	**0**	**0**	**0**	**0**
	Imported Case	40	249	221	209	214	238
	Total Case	**10.224**	**249**	**221**	**209**	**214**	**238**

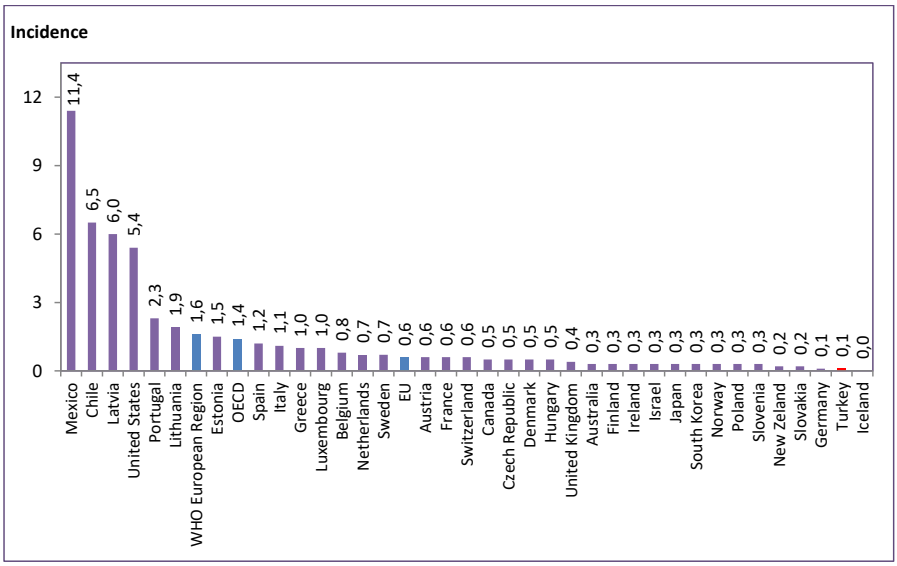
Source: General Directorate of Public Health
**One case reported as "unknown nationality" was included in the local cases.*
Note: The number of Tuberculosis cases indicates the sum of new and relapse cases.

Table 3.2. Infectious Diseases Incidence by Years, (per 100.000 Population)

	2002	2014	2015	2016	2017	2018
AIDS	0,07	0,17	0,15	0,13	0,15	0,13
Measles	11,8	0,7	0,4	0,01	0,09	0,87
Tuberculosis	32,0	16,9	15,9	15,3	14,6	14,1
Malaria	15,4	0,3	0,3	0,26	0,26	0,29

Source: General Directorate of Public Health
Note: Tuberculosis incidence data for the year 2002 is taken from WHO, TB (Tuberculosis) Database, data for other years is taken from General Directorate of Public Health, TB Database.

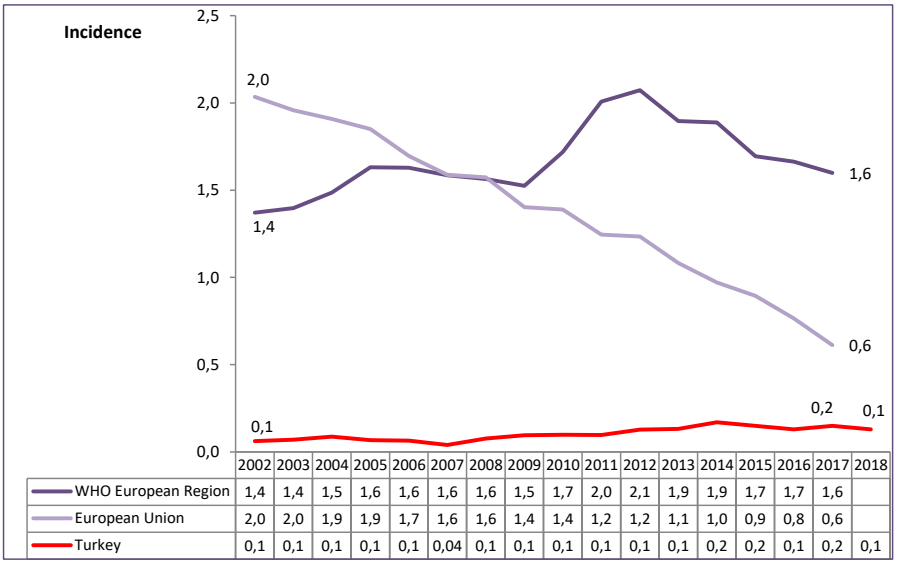
Figure 3.1. International Comparison of AIDS Incidence, (per 100.000 Population), 2017



Source: General Directorate of Public Health, ECDC HIV-AIDS Surveillance in Europe 2018, OECD Health Data 2019

Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

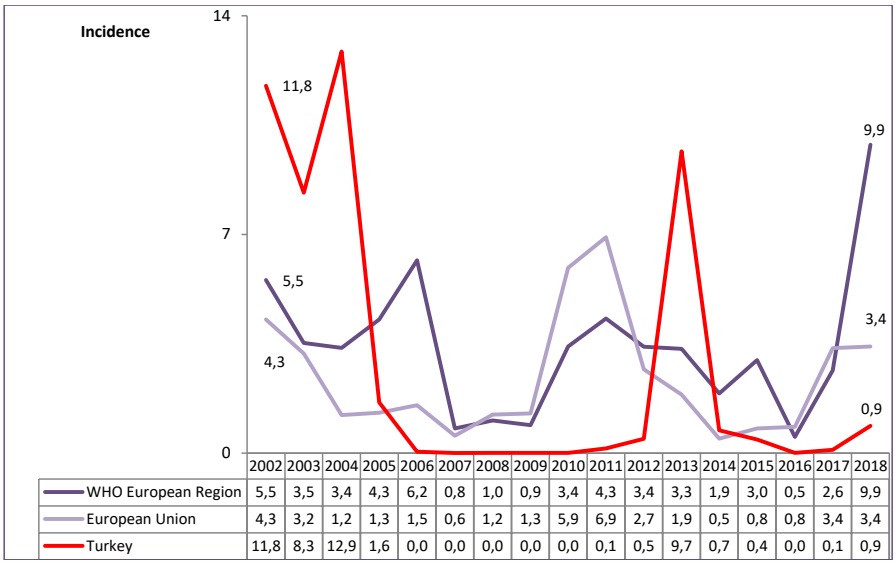
Figure 3.2. International Comparison of AIDS Incidence by Years, (per 100.000 Population)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
WHO European Region	1,4	1,4	1,5	1,6	1,6	1,6	1,6	1,5	1,7	2,0	2,1	1,9	1,9	1,7	1,7	1,6	
European Union	2,0	2,0	1,9	1,9	1,7	1,6	1,6	1,4	1,4	1,2	1,2	1,1	1,0	0,9	0,8	0,6	
Turkey	0,1	0,1	0,1	0,1	0,1	0,04	0,1	0,1	0,1	0,1	0,1	0,1	0,2	0,2	0,1	0,2	0,1

Source: General Directorate of Public Health, ECDC HIV-AIDS Surveillance Reports

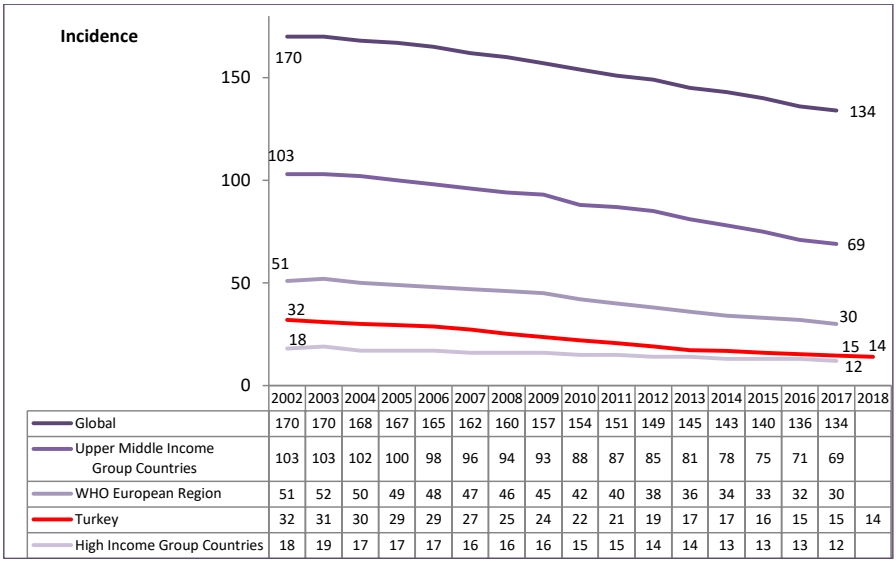
Figure 3.3. International Comparison of Measles Incidence by Years, (per 100.000 Population)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
WHO European Region	5,5	3,5	3,4	4,3	6,2	0,8	1,0	0,9	3,4	4,3	3,4	3,3	1,9	3,0	0,5	2,6	9,9
European Union	4,3	3,2	1,2	1,3	1,5	0,6	1,2	1,3	5,9	6,9	2,7	1,9	0,5	0,8	0,8	3,4	3,4
Turkey	11,8	8,3	12,9	1,6	0,0	0,0	0,0	0,0	0,0	0,1	0,5	9,7	0,7	0,4	0,0	0,1	0,9

Source: General Directorate of Public Health, WHO European Health Information Gateway

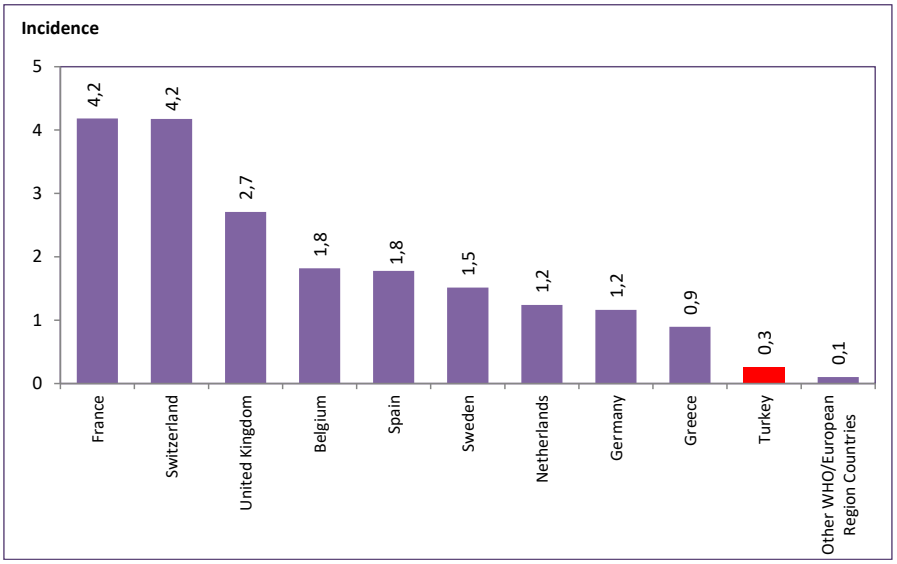
Figure 3.4. International Comparison of Tuberculosis Incidence by Years, (per 100.000 Population)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Global	170	170	168	167	165	162	160	157	154	151	149	145	143	140	136	134	
Upper Middle Income Group Countries	103	103	102	100	98	96	94	93	88	87	85	81	78	75	71	69	
WHO European Region	51	52	50	49	48	47	46	45	42	40	38	36	34	33	32	30	
Turkey	32	31	30	29	29	27	25	24	22	21	19	17	17	16	15	15	14
High Income Group Countries	18	19	17	17	17	16	16	16	15	15	14	14	13	13	13	12	

Source: General Directorate of Public Health, WHO Global Health Observatory Database
Note: Tuberculosis incidence data for the year 2002-2004 is taken from WHO, TB (Tuberculosis) Database, data for other years is taken from General Directorate of Public Health, TB Database.

Figure 3.5. International Comparison of Malaria Incidence (Imported Cases), (per 100.000 Population), 2017



Source: General Directorate of Public Health, World Malaria Report 2018, UNPD
Note: Turkey's number of local cases for the year 2018 is "0" (zero). The values in the figure represent only imported case values. Population data from countries were obtained from UNPD.

Table 3.3. Total Cancer Incidence by Years and Sex, (per 100.000, World Standard Population)

	2002	2010	2011	2012	2013	2014	2015	2016
Male	154,2	261,4	275,0	277,7	267,9	246,8	247,6	259,9
Female	113,0	168,7	182,2	188,2	186,5	173,6	177,5	183,2
Total	133,5	215,1	228,6	233,0	227,2	210,2	212,6	221,6

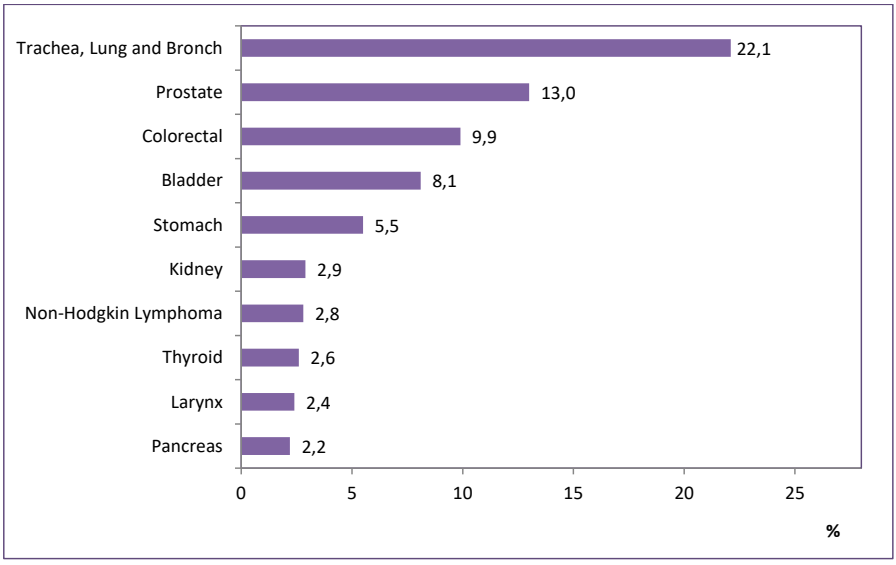
Source: General Directorate of Public Health

Table 3.4. Incidence of the Most Common 10 Types of Cancer Among Men by Years, (per 100.000, World Standard Population)

	2002	2010	2011	2012	2013	2014	2015	2016
Trachea, Lung and Bronch	42,2	61,0	62,3	60,4	59,3	52,5	52,5	57,7
Prostate	11,5	33,8	37,1	39,2	36,4	32,9	33,1	35,0
Colorectal	11,8	20,7	22,4	24,7	24,4	22,8	23,1	25,3
Bladder	12,4	20,7	20,9	22,3	21,1	19,3	20,2	21,1
Stomach	11,6	16,1	17,1	16,4	15,9	14,3	14,2	14,2
Kidney	3,0	5,5	6,9	7,0	7,0	6,4	6,8	7,4
Non-Hodgkin Lymphoma	1,4	7,0	7,2	7,7	6,9	7,2	6,9	7,2
Larynx	6,9	7,7	8,1	7,8	7,0	6,2	6,6	6,2
Thyroid	0,5	4,7	5,1	5,4	5,6	5,5	6,0	6,2
Pancreas	3,1	5,7	5,6	5,8	6,3	5,1	5,6	5,7

Source: General Directorate of Public Health

Figure 3.6. Distribution of the Most Common 10 Cancer Types Among Men in the Total Cancer, (%), 2016



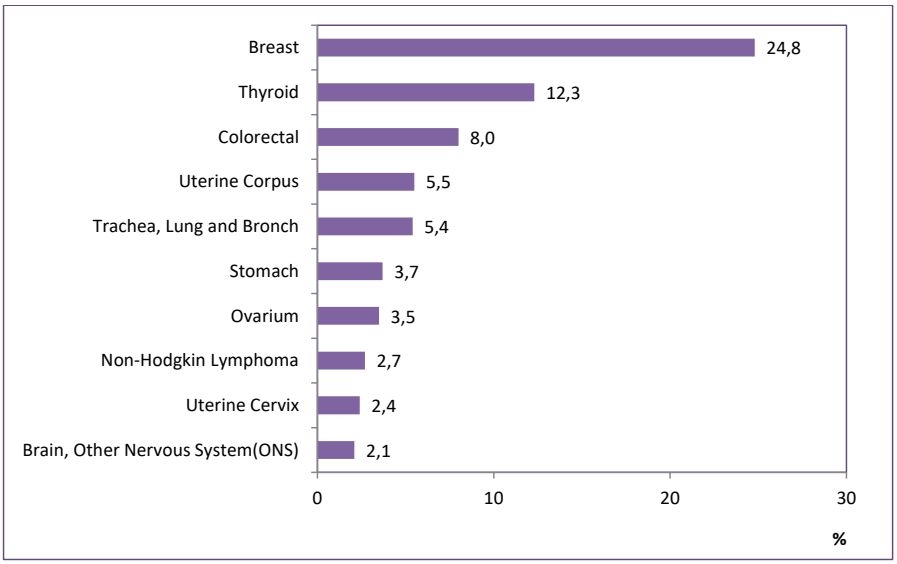
Source: General Directorate of Public Health

Table 3.5. Incidence of the Most Common 10 Types of Cancer Among Females by Years, (per 100.000 Population, World Standard Population)

	2002	2010	2011	2012	2013	2014	2015	2016
Breast	31,9	38,6	44,2	46,8	45,9	43,0	43,8	45,6
Thyroid	3,5	18,1	20,4	20,3	21,3	20,7	21,7	22,9
Colorectal	9,3	13,1	13,3	15,2	15,3	13,8	14,4	14,2
Uterine Corpus	4,3	9,6	10,5	10,1	9,9	9,8	10,0	10,5
Trachea Lung and Bronch	5,2	8,0	7,8	9,3	10,0	8,7	9,0	9,8
Stomach	6,0	7,2	7,9	7,8	7,1	6,5	6,3	6,6
Ovarium	5,9	6,6	7,3	7,3	7,0	6,1	6,4	6,4
Non-Hodgkin Lymphoma	1,2	5,3	5,0	5,2	5,3	5,0	4,9	5,1
Uterine Cervix	3,9	4,0	4,5	4,5	4,6	4,0	4,5	4,3
Brain, Other Nervous System(ONS)	3,8	4,4	4,5	4,7	4,7	4,1	4,1	4,0

Source: General Directorate of Public Health

Figure 3.7. Distribution of the Most Common 10 Cancer Types Among Females in the Total Cancer, (%), 2016



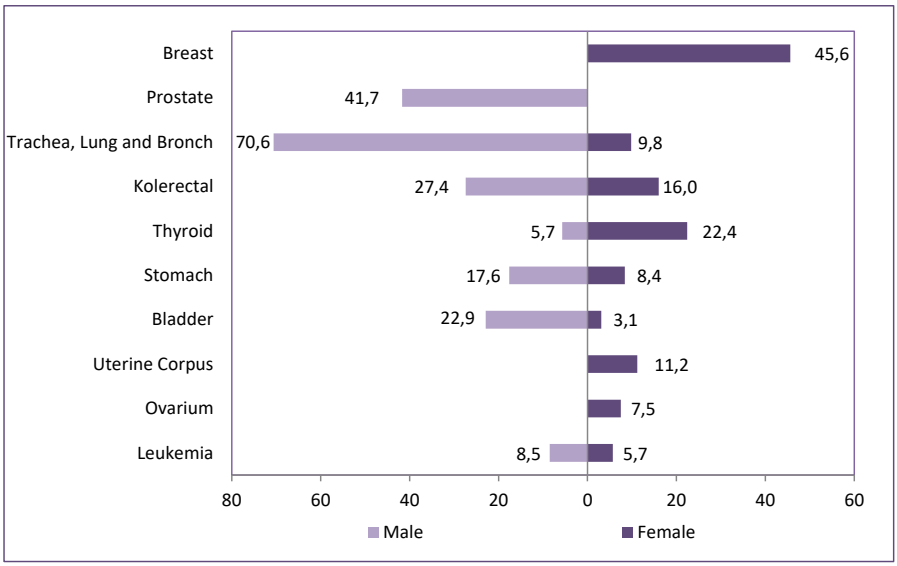
Source: General Directorate of Public Health

Table 3.6. Cancer Incidence by Sex, (per 100.000, World Standard Population), 2016

ICD-10		Male	Female
C00-96	**All Cancers**	**259,9**	**183,2**
C00-14	**Mouth, Pharynx**	**4,9**	**2,4**
C00	Lip	1,0	0,3
C01-C02	Tongue	0,7	0,6
C03-C06	Mouth	0,7	0,5
C07-C08	Salivary Glands	0,5	0,4
C09	Tonsil	0,3	0,1
C10	Other Oropharynx	0,1	0,0
C11	Nasopharynx	1,2	0,4
C12-C13	Hypopharynx	0,3	0,1
C14	Pharynx, unspecified	0,1	0,0
C15-26	**Digestion Organs**	**54,0**	**29,7**
C15	Esophagus	2,0	1,2
C16	Stomach	14,2	6,6
C17	Small Intestine	0,6	0,4
C18	Colon	15,7	9,6
C19-C20	Rectum	9,6	4,6
C21	Anus	0,3	0,2
C22	Liver	4,3	1,8
C23-C24	Gall bladder etc.	1,5	1,4
C25	Pancreas	5,7	3,6
C26	Other Digestion Organs	0,1	0,3
C30-34,C37-C38	**Respiratory Organs**	**64,9**	**10,8**
C30-C31	Nose, sinuses etc.	0,4	0,2
C32	Larynx	6,2	0,4
C33-C34	Trachea, Bronchus, Lung	57,7	9,8
C37-C38	Other Thoracic Organs	0,6	0,4
C40-C41	**Bone**	**1,0**	**0,8**
C43	**Melanoma**	**1,7**	**1,2**
C44	**Other Skin**	**25,9**	**17,0**
C45	**Mesothelioma**	**0,9**	**0,5**
C46	**Kaposi's sarcoma**	**0,8**	**0,3**
C47;C49	**Connective, Soft tissue**	**2,1**	**1,7**
C50	**Breast**	**0,8**	**45,6**
C51-58	**Female Genital Organs**	**-**	**23,1**
C51	Vulva	-	0,5
C52	Vagina	-	0,2
C53	Cervix uteri	-	4,3
C54	Corpus uteri	-	10,5
C55	Uterus unspecified	-	0,7
C56	Ovarium	-	6,4
C57	Other Female Genital	-	0,5
C58	Placenta	-	0,0
C60-63	**Male Genital Organs**	**38,7**	**-**
C60	Penis	0,1	-
C61	Prostate	35,0	-
C62	Testicle	3,6	-
C63	Other male genital	0,0	-
C64-68	**Urinary Organs**	**29,3**	**6,8**
C64	Kidney	7,4	3,7
C65	Renal Pelvis	0,3	0,1
C66	Ureter	0,3	0,1
C67	Bladder	21,1	2,9
C68	Other Urinary Organs	0,2	0,0
C69	**Eye**	**0,3**	**0,2**
C70-C72	**Brain, nervous system**	**5,4**	**4,0**
C73	**Thyroid**	**6,2**	**22,9**
C74-75	**Other Endocrine Glands**	**0,4**	**0,5**
C74	Adrenal gland	0,3	0,3
C75	Other Endocrine	0,1	0,2
C81-85,88,90-96	**Lymphoid and hematopoietic**	**17,7**	**12,4**
C81	Hodgkin's disease	1,8	1,3
C82-C85;C96	Non-Hodgkin lymphoma	7,2	5,1
C88	Immunoproliferative diseases	0,0	0,0
C90	Multiple Myeloma	2,5	1,7
C91	Lymphoid Leukemia	3,2	2,0
C92-C94	Myeloid Leukemia	2,6	2,0
C95	Leukemia, unspecified	0,4	0,3
C39,C48,C76,C77,C80	**Other&Unspecified**	**4,9**	**3,3**

Source: General Directorate of Public Health

Figure 3.8. Incidence of the Most Common 10 Types of Cancer by Sex, (per 100.000 Population, World Standard Population), 2018



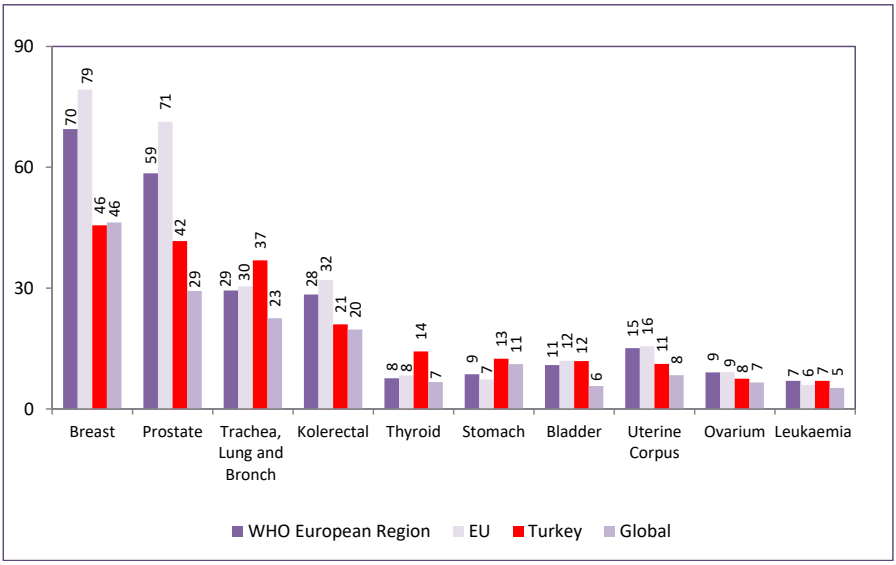
Source: IARC, GLOBOCAN 2018
Note: Cancer incidence is WHO's estimation for 2018.

Table 3.7. International Comparison of Cancer Incidence by Sex (per 100.000 Population, World Standard Population), 2018

Rank	Country	Male	Country	Female	Country	Total
1	Australia	579,9	Australia	363,0	Australia	468,0
2	New Zealand	526,0	New Zealand	358,3	New Zealand	438,1
3	Ireland	430,8	Hungary	330,6	Ireland	373,7
4	Hungary	427,1	Belgium	329,9	Hungary	368,1
5	France	405,6	Canada	329,7	United States	352,2
6	United States	393,2	Denmark	325,5	Belgium	345,8
7	Latvia	375,7	Ireland	322,9	France	344,1
8	Belgium	371,1	United States	321,2	Denmark	340,4
9	Norway	369,8	Netherlands	318,9	Norway	337,8
10	Slovenia	367,6	Norway	311,3	Netherlands	334,1
	Turkey **(41)**	284,2	Turkey **(74)**	182,3	Turkey **(53)**	225,1
	Global	218,6	Global	182,6	Global	197,9

Source: IARC, GLOBOCAN 2018
Note: Values in parentheses indicate the rank of Turkey in world rankings. Cancer incidence is WHO's estimation for 2018.

Figure 3.9. International Comparison of Incidence of the Most Common 10 Types of Cancer in Turkey, (per 100.000, World Standard Population), 2018



Source: IARC, GLOBOCAN 2018
Note: Cancer incidence is WHO's estimation for 2018.

Table 3.8. Distribution of Hospital Discharges by the ICD-10 Main Diagnosis Groups and Sex, (%), Turkey, 2016, 2017, 2018

ICD-10 Main Diagnosis Group	Code	2016			2017			2018		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Certain Infectious and Parasitic Diseases	A00-B99	3,1	2,2	2,6	2,9	2,0	2,4	2,7	1,9	2,3
Neoplasms	C00-D48	4,4	3,5	3,9	4,4	3,5	3,9	4,6	3,5	4,0
Diseases of the Blood and Blood-Forming Organs and Certain Disorders Involving the Immune Mechanism	D50-D89	1,6	2,4	2,0	1,7	2,7	2,3	1,8	2,9	2,4
Endocrine, Nutritional and Metabolic Diseases	E00-E90	2,6	3,8	3,3	2,5	3,7	3,2	2,5	3,5	3,1
Mental and Behavioral Disorders	F00-F99	1,6	0,8	1,2	1,6	0,7	1,2	1,6	0,7	1,1
Diseases of the Nervous System	G00-G99	1,9	1,6	1,7	1,9	1,6	1,8	2,2	1,7	1,9
Diseases of the Eye and Adnexa	H00-H59	4,8	4,2	4,4	5,1	4,4	4,7	5,2	4,5	4,8
Diseases of the Ear and Mastoid Process	H60-H95	0,7	0,5	0,6	0,7	0,6	0,6	0,6	0,5	0,5
Diseases of the Circulatory System	I00-I99	9,5	6,3	7,8	9,6	6,3	7,8	9,8	6,5	8,0
Diseases of the Respiratory System	J00-J99	16,0	9,8	12,6	16,2	10,1	12,9	16,0	10,0	12,7
Diseases of the Digestive System	K00-K93	12,3	10,9	11,5	12,2	10,8	11,4	12,6	11,2	11,8
Diseases of the Skin and Subcutaneous Tissue	L00-L99	3,8	2,2	3,0	3,7	2,2	2,9	3,6	2,1	2,8
Diseases of the Musculoskeletal System and Connective Tissue	M00-M99	3,6	4,9	4,3	3,5	4,9	4,3	3,6	5,2	4,5
Diseases of the Genitourinary System	N00-N99	7,9	7,8	7,8	8,1	8,0	8,0	8,1	8,0	8,0
Pregnancy, Childbirth and the Puerperium	O00-O99	-	20,8	11,3	-	20,4	11,0	-	19,9	10,8
Certain Conditions Originating in the Perinatal Period	P00-P96	2,6	1,9	2,2	2,4	1,7	2,0	2,3	1,7	2,0
Congenital Malformations, Deformations and Chromosomal Abnormalities	Q00-Q99	0,9	0,4	0,7	0,9	0,4	0,6	0,9	0,4	0,6
Symptoms, Signs and Abnormal Clinical and Laboratory Findings, Not Elsewhere Classified	R00-R99	3,0	2,6	2,8	3,0	2,6	2,8	3,1	2,7	2,9
Injury, Poisoning and Certain other Consequences of External Causes	S00-T98	7,0	3,8	5,3	7,0	3,9	5,3	6,1	3,6	4,8
Factors Influencing Health Status and Contact with Health Services	Z00-Z99	12,6	9,7	11,1	12,5	9,6	10,9	12,7	9,6	11,0
Total		100	100	100	100	100	100	100	100	100

Source: General Directorate of Health Services, Diagnosis-Related Groups Database
Note: The distribution of diagnosis code was calculated over the total number of relevant column.

Table 3.9. Distribution of the Status of 15 and Over Aged Females Regarding Making Self-Examination of Breast, (%), 2016

Self-Examination	%
Once a Month	19,7
Once in Three Months	7,9
Once in More Than Three Months	11,9
Never	60,6

Source: TURKSTAT, Turkey Health Interview Survey 2016

Table 3.10. Distribution of the Status of 15 and Over Aged Females Regarding Having Mammography, (%), 2016

Mammography Examination Period	%
Within the Past One Year	9,0
More Than One Year But Less Than Two Years	7,1
More Than Two Years But Less Than Three Years	3,6
More Than Three Years But Less Than Five Years	4,0
More Than Five Years	5,2
Never	71,1

Source: TURKSTAT, Turkey Health Interview Survey 2016

Table 3.11. Distribution of the Status of 15 and Over Aged Females Regarding Having Smear Test, (%), 2016

Smear Test Period	%
Within the Past One Year	10,9
More Than One Year But Less Than Two Years	7,9
More Than Two Years But Less Than Three Years	3,6
More Than Three Years But Less Than Five Years	3,2
More Than Five Years	5,1
Never	69,3

Source: TURKSTAT, Turkey Health Interview Survey 2016

Table 3.12. Percentage of 15 and Over Aged Individuals Having Difficulty in Performing Personal Care by Sex, (%), 2016

Personal Care Activities	Male	Female	Total
Getting In and Out of a Bed or Chair	2,9	5,4	4,2
Dressing and Undressing	2,8	3,9	3,3
Bathing or Showering	2,6	3,9	3,3
Using Toilets	2,5	3,7	3,1
Feeding Yourself	2,0	3,0	2,5

Source: TURKSTAT, Turkey Health Interview Survey 2016

Table 3.13. Percentage of Major Diseases Seen in Children (0-6 Age Group) in the Past 6 Months by Sex, (%), 2016

Disease/Health Problem	Male	Girl	Total
Upper Respiratory Tract Infection (Tonsillitis, Middle Ear Infections, Pharyngitis, etc.)	42,6	42,6	42,6
Diarrhea	31,6	33,0	32,3
Lower Respiratory Tract Infection (Pneumonia, etc.)	11,0	11,1	11,1
Communicable Diseases (Varicella, Mumps etc.)	9,4	9,0	9,2
Oral and Dental Health Problems	7,7	7,0	7,3
Anemia (Iron Deficiency Anemia, etc.)	5,8	4,9	5,4
Urinary Tract Infection	2,8	5,4	4,1
Skin Diseases	3,2	2,6	2,9
Bone Deformities Caused by Vitamin D Lack	1,5	2,1	1,8

Source: TURKSTAT, Turkey Health Interview Survey 2016

Table 3.14. Percentage of Major Diseases Seen in Children (7-14 Age Group) in the Past 6 Months by Sex, (%), 2016

Disease/Health Problem	Male	Girl	Total
Oral and Dental Health Problems	23,7	23,2	23,4
Visual Problems	12,2	15,1	13,6
Infectious Diseases	7,6	8,3	7,9
Skin Diseases	4,8	6,9	5,8
Diseases Related with Nutrition	3,4	3,1	3,3
Hearing Problems	2,0	2,6	2,3
Musculoskeletal System Diseases	2,2	1,4	1,8
Mental Health Problems	1,4	1,3	1,3

Source: TURKSTAT, Turkey Health Interview Survey 2016

Table 3.15. Percentage of Major Diseases Seen in 15 and Over Aged Individuals in the Past 12 Months by Sex, (%), 2016

Disease/Health Problem	Male	Female	Total
Low Back Disorders (Lumbago, Back Hernia, Other Back Defections)	21,4	32,8	27,1
Neck Disorders (Neck Pain, Neck Hernia, Other Neck Defections)	11,5	24,6	18,1
High Blood Pressure (Hypertension)	11,1	20,5	15,8
Allergy (Such as Rhinitis, Eye Inflammation, Dermatitis, Food Allergy or Other)(Allergic Asthma Excluded)	7,5	13,9	10,8
Diabetes	7,1	10,9	9,1
Asthma (Allergic Asthma Included)	5,2	10,3	7,8
Arthrosis	4,9	10,5	7,7
Chronic Obstructive Pulmonary Disease (Chronic Bronchitis, Emphysema)	5,7	8,8	7,3
Depression	4,9	9,4	7,2
Coronary Heart Disease (Angina Pectoris, Chest Pain, Spasm)	5,9	7,1	6,5
Kidney Problems	5,2	7,5	6,4
Urinary Incontinence, Problems in Controlling the Bladder	3,9	7,8	5,9
Alzheimer	5,1	6,1	5,6
Myocardial Infarction (Heart Attack)	2,1	2,0	2,1
Cirrhosis of the Liver, Liver Dysfunction	1,1	1,8	1,5
Stroke (Cerebral Hemorrhage, Cerebral Thrombosis)	1,0	0,8	0,9

Source: TURKSTAT, Turkey Health Interview Survey 2016
Note: Alzheimer was evaluated for individuals in the 65+ age group.

Table 3.16. Distribution of 15 and Over Aged Patients with Hypertension, Diabetes Mellitus and High Cholesterol Diagnosis by Sex, (%), 2017

Time of Diagnosis	Diseases	Male	Female	Total
Diagnosed Within Past 12 Months	Hypertension	4,3	9,8	7,1
	Diabetes	3,4	5,2	4,3
	High Cholesterol	3,6	6,1	4,8
Diagnosed But Not Within Past 12 Months	Hypertension	8,0	10,2	9,1
	Diabetes	4,2	5,4	4,8
	High Cholesterol	4,9	5,7	5,3
Diagnosed At Any Time (Prevalence)	Hypertension	12,3	20,0	16,2
	Diabetes	7,6	10,6	9,1
	High Cholesterol	8,5	11,8	10,1

Source: Ministry of Health, National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017
Note: The data is based on self-reported.

Table 3.17. Distribution of 15 and Over Aged Individuals' General Health Status by Sex and Age Groups, (%), 2016

Age Group	Health Status	Male	Female	Total
15-24	Very Good/Good	90,2	88,9	89,5
	Bad/Very Bad	3,1	1,5	2,3
25-34	Very Good/Good	82,9	79,2	81,1
	Bad/Very Bad	3,1	3,5	3,3
35-44	Very Good/Good	74,1	59,8	67,0
	Bad/Very Bad	5,5	7,7	6,6
45-54	Very Good/Good	58,8	39,5	49,2
	Bad/Very Bad	8,8	18,0	13,4
55-64	Very Good/Good	52,5	29,2	40,7
	Bad/Very Bad	11,4	25,9	18,7
65-74	Very Good/Good	33,2	20,1	26,1
	Bad/Very Bad	23,1	36,9	30,5
75+	Very Good/Good	17,8	11,5	14,0
	Bad/Very Bad	36,4	46,6	42,6
Total	Very Good/Good	69,8	57,5	63,5
	Bad/Very Bad	7,9	13,4	10,7

Source: TURKSTAT, Turkey Health Interview Survey 2016

Table 3.18. Distribution of 15 and Over Aged Individuals Wearing Glasses or Lenses by Sex, (%), 2012, 2014, 2016

Type of Wearing	2012			2014			2016		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Wearing	28,9	31,4	30,2	32,3	36,2	34,3	33,7	37,6	35,6
Not Wearing	71,0	68,5	69,7	67,5	63,7	65,6	66,3	62,3	64,3
Profoundly Deaf	0,1	0,1	0,1	0,2	0,1	0,1	0,1	0,1	0,1

Source: TURKSTAT, Turkey Health Interview Survey 2012, 2014, 2016

Table 3.19. Distribution of 15 and Over Aged Individuals Having Vision Problem by Sex and Age Groups, (%), 2012, 2014, 2016

Age Group	2012			2014			2016		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-24	1,3	1,0	1,2	1,5	1,9	1,7	1,6	1,6	1,6
25-34	0,9	2,4	1,6	1,3	2,0	1,7	1,3	1,4	1,4
35-44	1,6	2,8	2,2	2,1	5,4	3,7	2,1	4,4	3,3
45-54	5,0	8,8	6,9	7,7	13,0	10,3	7,8	11,1	9,4
55-64	6,8	12,0	9,5	10,6	15,6	13,2	9,4	17,0	13,3
65-74	13,8	22,0	18,3	15,1	19,8	17,6	16,4	20,2	18,5
75+	28,3	36,3	33,1	23,1	32,5	28,8	23,8	37,2	31,9
Total	4,0	6,9	5,5	5,1	8,6	6,9	5,3	8,6	6,9

Source: TURKSTAT, Turkey Health Interview Survey 2012, 2014, 2016
Note: Those who could not see / see at all despite the use of glasses / lenses were included in the calculation.

Table 3.20. Distribution of 15 and Over Aged Individuals Wearing a Hearing Aid by Sex, (%), 2012, 2014, 2016

Type of Wearing	2012			2014			2016		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Wearing	4,7	4,7	4,7	3,9	3,4	3,6	4,1	4,0	4,1
Not Wearing	95,2	95,2	95,2	95,7	96,4	96,0	95,7	95,8	95,8
Profoundly Deaf	0,1	0,1	0,1	0,4	0,3	0,3	0,1	0,2	0,1

Source: TURKSTAT, Turkey Health Interview Survey 2012, 2014, 2016

Table 3.21. Distribution of 15 and Over Aged Individuals Having Hearing Problem by Sex and Age Groups, (%), 2012, 2014, 2016

Age Group	2012			2014			2016		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-24	0,6	0,3	0,5	1,8	0,9	1,3	0,3	1,0	0,6
25-34	0,6	0,3	0,4	1,3	1,8	1,6	1,6	0,8	1,2
35-44	0,9	1,0	0,9	2,3	3,0	2,7	1,5	1,6	1,5
45-54	1,2	1,6	1,4	4,4	6,4	5,4	3,4	4,9	4,1
55-64	1,8	4,0	2,9	7,0	8,3	7,7	4,6	6,2	5,4
65-74	7,4	8,1	7,8	15,4	14,1	14,7	15,5	14,5	15,0
75+	22,4	21,7	22,0	37,7	34,6	35,8	33,0	35,8	34,7
Total	1,9	2,5	2,2	4,8	5,8	5,3	3,9	5,0	4,5

Source: TURKSTAT, Turkey Health Interview Survey 2012, 2014, 2016
Note: Those who could not hear / hear at all despite the wear of hearing aids were included in the calculation.

Explanations for Chapter 3

☑ There is no record for the distinction between the local and imported cases for the measles and tuberculosis cases in 2002.

☑ The date of case notification is based on confirmation time in HIV/AIDS surveillance system. The case number is calculated by using the notified cases with having positive confirmation test result. Annual case number would be change due to the value of current year including notifications for confirmed cases of previous year. Case number and incidence values are calculated by using the notified cases with having positive confirmation test result as of 31 January 2019.

☑ The data regarding cancer were obtained from *Ankara, Antalya, Bursa, Edirne, Erzurum, Eskişehir, İzmir, Samsun, Trabzon, Gaziantep, Malatya, İstanbul and Mersin* which collects data with Active Cancer Registry System and ensures adequate quality standards. **Active Cancer Registry System**; the data searched one by one in the patient files and electronic databases by the cancer registry personnel are transferred to the cancer registry forms. These forms are entered to Canreg-4 computer programs in the Provincial Public Health Directorate Cancer Registry Centers. After the duplication check and other quality control activities are performed, they were sent to the General Directorate of Public Health in the electronic environment.

☑ **World Standard Population:** Cancer is seen more frequently in elderly populated country compared to youngest populated. Therefore, "age standardized rate" is used by weighting according to age from "World Standard Population" table.

☑ Totals in distribution tables and figures in the Chapter may not add up to 100% due to rounding.

TURKSTAT, Turkey Health Interview Survey 2016

Research is based on self-reported.

☑ **Coverage:** All the individuals living in Turkey were covered. Institutional population (soldiers, individuals living in dormitories, prisons, hospitals at the long-terms, homes for the elderly, etc.) are excluded.

☑ **Estimation Level:** The survey is designed in order to produce estimators for only Turkey. Thus, the total sample size necessary was found to be 9.470 households.

☑ **Sampling Distribution:** In 8.325 of these households the questionnaire was completed. The questionnaire was completed by 23.606 people.

☑ **Period of the field study:** Field study of the survey was implemented on April in 2008, on May-June in 2010 and 2012 for only one month. But it was implemented on August-October in 2014 and 2016 for three months.

Ministry of Health, National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017

☑ **Coverage:** 15 and over aged citizens of the Republic of Turkey, living in Turkey, are covered. Institutional population (hotel, individuals living in dormitories, prisons, hospitals in the long period, etc.) are excluded.

☑ **Estimation Level:** The survey is designed to produce estimators for total of Turkey. For this aim, the total sample size was determined as 8.650 households.

☑ **Sampling Distribution:** Of the 8.650 households visited, 6.053 people 15 and over aged participated in the first and second step of study, of whom 3.352 also completed step 3 (2.701 people out of the 6.053 selected did not want to participate).

☑ **Period of the Field Study:** Field study of the survey was implemented in April-September 2017.

☑ The data in this study includes 3 steps namely “a questionnaire”,” physical measure” and “biochemical measures”.

Step 1 consists of evaluation based on a questionnaire that investigates exposure to four behavioral risk factors: Tobacco consumption, alcohol consumption, low consumption of fruits and vegetables, and physical inactivity.

Step 2 considers the physical measurement of variables such as blood pressure, height, weight and waist and hip circumference to assess exposure to biological risk factors such as high blood pressure, overweight and obesity.

Step 3 adds biochemical measurements by taking blood and urine samples for the detection of high levels of glycemia, hypercholesterolemia and sodium intake.

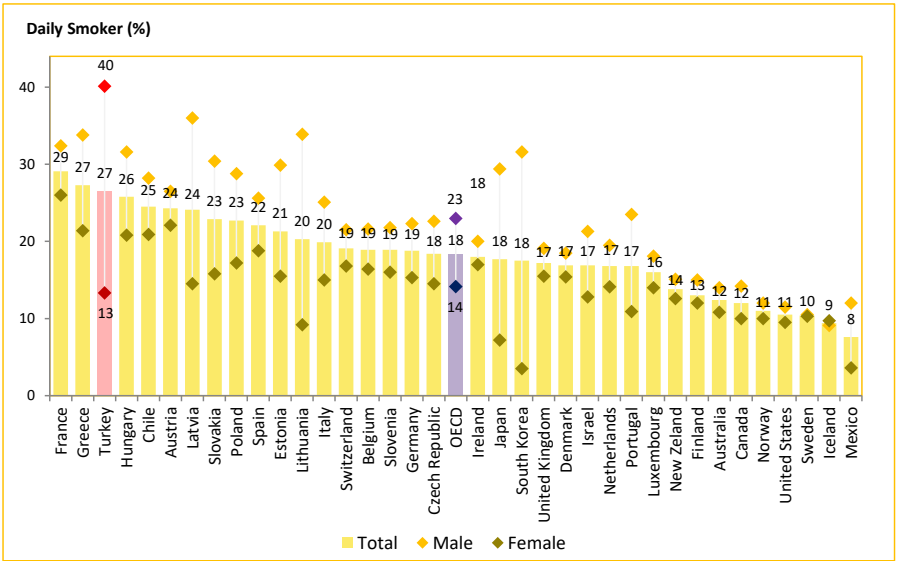
Chapter 4 | Risk Factors

Table 4.1. Distribution of Individuals Using Tobacco Product by Sex and Age Groups, (%), 2012, 2014, 2016

Tobacco Consumption	Age Group	2012			2014			2016		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Daily Smoker	15-24	24,1	4,6	14,3	31,4	5,7	18,5	28,2	7,8	18,1
	25-34	45,9	14,9	30,5	51,2	18,8	35,1	49,6	16,6	33,2
	35-44	44,4	17,3	30,9	49,9	19,7	34,9	50,6	19,6	35,2
	45-54	42,0	13,4	27,7	48,7	16,5	32,7	45,3	17,7	31,6
	55-64	27,9	7,4	17,4	38,2	10,2	24,0	35,0	10,9	22,8
	65-74	17,8	3,8	10,1	22,4	3,4	12,1	24,2	4,4	13,5
	75+	12,6	0,8	5,6	8,9	2,4	5,0	10,7	1,0	4,8
	Turkey	**35,9**	**10,8**	**23,2**	**41,8**	**13,1**	**27,3**	**40,1**	**13,3**	**26,5**
Occasional Smoker	15-24	4,3	1,5	2,9	6,1	3,7	4,9	3,6	3,0	3,3
	25-34	4,6	4,9	4,8	6,9	6,5	6,7	5,1	6,1	5,6
	35-44	4,9	4,4	4,6	6,4	6,8	6,6	5,0	5,9	5,4
	45-54	4,1	3,1	3,6	4,4	4,8	4,6	4,1	4,1	4,1
	55-64	4,1	0,5	2,3	3,6	3,3	3,4	2,5	2,3	2,4
	65-74	2,7	0,9	1,7	5,2	2,2	3,6	1,9	1,3	1,6
	75+	2,9	1,2	1,9	2,9	1,4	2,0	2,8	2,0	2,3
	Turkey	**4,3**	**2,9**	**3,6**	**5,6**	**4,8**	**5,2**	**4,0**	**4,1**	**4,1**
Non-Smoker	15-24	6,5	5,0	5,7	10,2	7,5	8,8	3,4	2,1	2,7
	25-34	11,7	11,2	11,5	12,6	12,8	12,7	9,3	6,6	8,0
	35-44	18,2	9,8	14,0	20,6	13,0	16,8	16,6	8,2	12,4
	45-54	26,3	10,6	18,5	29,6	14,1	21,9	24,5	8,7	16,7
	55-64	38,0	10,1	23,8	43,4	14,5	28,8	39,5	9,0	24,1
	65-74	44,9	7,4	24,4	51,8	10,9	29,7	47,4	7,7	26,0
	75+	42,2	5,7	20,4	58,7	8,4	28,4	47,3	5,4	22,0
	Turkey	**19,8**	**8,9**	**14,3**	**23,8**	**11,8**	**17,7**	**19,3**	**6,7**	**12,9**
Never Smoker	15-24	65,1	88,9	77,1	52,3	83,2	67,7	64,9	87,0	75,9
	25-34	37,8	69,0	53,3	29,3	61,8	45,5	36,0	70,7	53,3
	35-44	32,5	68,5	50,5	23,1	60,4	41,7	27,8	66,3	47,0
	45-54	27,6	72,9	50,2	17,2	64,6	40,8	26,1	69,5	47,7
	55-64	30,0	82,0	56,5	14,8	72,1	43,8	22,9	77,8	50,7
	65-74	34,5	88,0	63,8	20,5	83,5	54,6	26,5	86,6	58,9
	75+	42,3	92,3	72,1	29,5	87,8	64,6	39,2	91,6	70,9
	Turkey	**40,0**	**77,3**	**59,0**	**28,7**	**70,3**	**49,8**	**36,6**	**75,9**	**56,5**

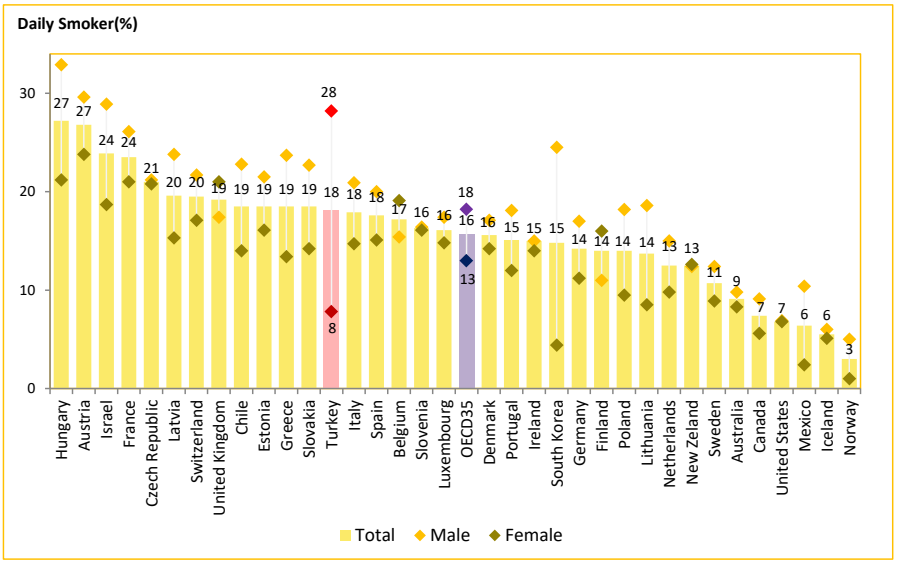
Source: TURKSTAT, Turkey Health Interview Survey 2012, 2014, 2016

Figure 4.1. International Comparison of Distribution of 15 and Over Aged Individuals Using Tobacco Product by Sex, (%), 2017



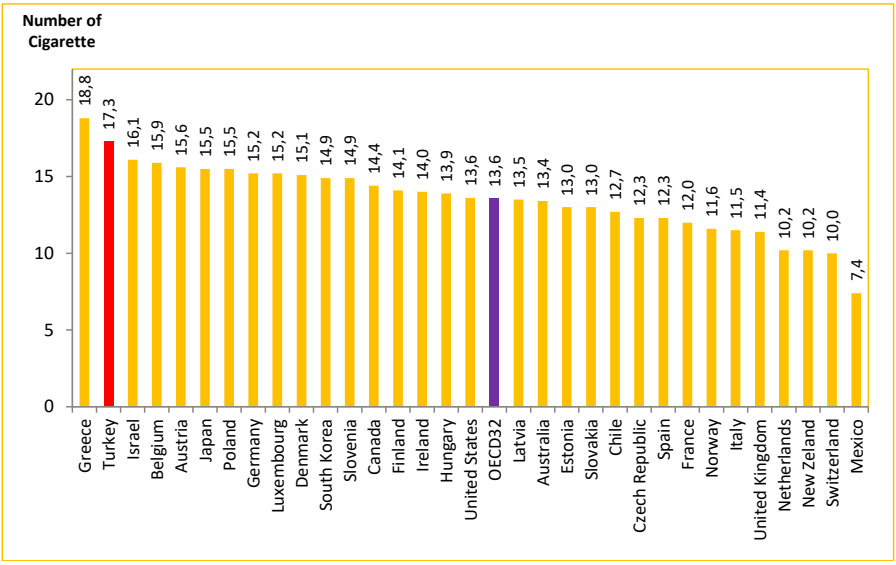
Source: TURKSTAT Turkey Health Interview Survey 2016, OECD Health Data 2019
Note: Turkey's data belongs to the year 2016. Countries' data belong to the year of 2017 or nearest.

Figure 4.2. International Comparison of Distribution of 15-24 Aged Individuals Using Tobacco Product by Sex, (%), 2017



Source: TURKSTAT Turkey Health Interview Survey 2016, OECD Health Data 2019
Note: Turkey's data belongs to the year 2016. Countries' data belong to the year of 2017 or nearest.

Figure 4.3. International Comparison of the Average Number of Daily Cigarette per Individuals Using Cigarette in 15 and Over Aged, 2017



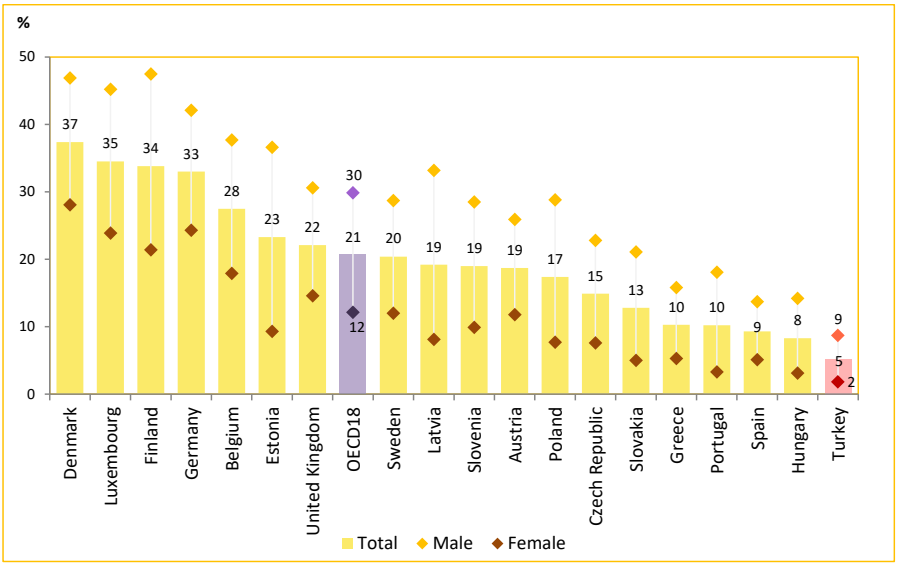
Source: TURKSTAT Turkey Health Interview Survey 2016, OECD Health Data 2019
Note: Turkey's data belongs to the year 2016. Countries' data belong to the year of 2017 or nearest.

Table 4.2. Distribution of 15 and Over Aged Individuals' Alcohol Consumption by Sex and Age Groups, (%), 2012, 2014, 2016

Alcohol Consumption	Age Group	2012			2014			2016		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Consumes	15-24	11,7	3,2	7,4	20,9	5,8	13,3	13,1	5,4	9,3
	25-34	21,7	6,2	14,0	31,0	10,0	20,5	24,1	8,7	16,5
	35-44	21,2	5,0	13,1	27,4	6,7	17,1	25,2	6,4	15,9
	45-54	20,3	3,5	11,9	25,6	4,7	15,2	19,2	3,7	11,5
	55-64	15,2	1,9	8,4	22,6	2,9	12,6	19,7	3,8	11,6
	65-74	8,2	0,6	4,0	11,2	1,3	5,8	11,5	1,0	5,9
	75+	3,0	0,1	1,3	4,4	0,5	2,0	5,5	0,6	2,5
	Turkey	**17,2**	**3,8**	**10,4**	**24,3**	**5,8**	**14,9**	**19,3**	**5,3**	**12,2**
Doesn't Consume	15-24	6,7	4,0	5,3	11,9	7,1	9,5	5,9	3,9	4,9
	25-34	12,2	5,6	8,9	22,4	11,5	17,0	16,0	7,0	11,5
	35-44	15,4	4,6	10,0	31,0	10,9	21,0	21,4	4,9	13,2
	45-54	19,6	4,2	11,9	34,2	8,3	21,3	23,8	5,8	14,8
	55-64	24,8	2,9	13,6	39,7	6,8	23,1	28,7	4,4	16,4
	65-74	26,6	2,1	13,2	44,0	5,5	23,2	30,4	3,6	16,0
	75+	24,5	1,4	10,7	37,0	2,5	16,2	25,8	1,8	11,3
	Turkey	**15,3**	**4,2**	**9,7**	**27,6**	**8,6**	**18,0**	**19,1**	**5,0**	**11,9**
Never Consume	15-24	81,6	92,8	87,3	67,2	87,1	77,2	81,0	90,6	85,8
	25-34	66,1	88,2	77,1	46,6	78,6	62,5	59,9	84,3	72,0
	35-44	63,5	90,5	76,9	41,6	82,4	61,9	53,4	88,7	71,0
	45-54	60,1	92,3	76,2	40,2	87,0	63,5	57,0	90,5	73,6
	55-64	60,0	95,2	78,0	37,7	90,3	64,3	51,6	91,9	72,0
	65-74	65,3	97,3	82,8	44,8	93,1	71,0	58,1	95,4	78,2
	75+	72,5	98,5	88,0	58,6	97,1	81,7	68,8	97,5	86,2
	Turkey	**67,4**	**92,0**	**79,9**	**48,2**	**85,6**	**67,1**	**61,6**	**89,8**	**75,8**

Source: TURKSTAT, Turkey Health Interview Survey 2012, 2014, 2016

Figure 4.4. International Comparison of Distribution of 15 and Over Aged Consumers Who Consumed 6 or More Alcoholic Beverages at One Time in the Last 30 Days by Sex, (%), 2014



Source: Ministry of Health National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017, EUROSTAT EHIS 2014
Note: Turkey's data belongs to the year 2017.

Table 4.3. Distribution of Height and Weight Averages by Sex and Age Groups, (Self-Reported), 2016

Age Group	Weight (kg)			Height (cm)		
	Male	Female	Total	Male	Female	Total
15-24	68,9	58,2	63,6	173,9	162,7	168,4
25-34	77,7	64,5	71,1	175,5	162,8	169,1
35-44	81,4	71,0	76,2	173,9	162,2	168,1
45-54	81,3	74,9	78,2	172,2	160,7	166,5
55-64	80,6	76,2	78,4	171,2	160,0	165,5
65-74	77,2	73,7	75,3	170,1	158,9	164,1
75+	72,8	67,5	69,6	168,3	156,7	161,3
Turkey	**77,4**	**68,4**	**72,8**	**173,2**	**161,4**	**167,2**

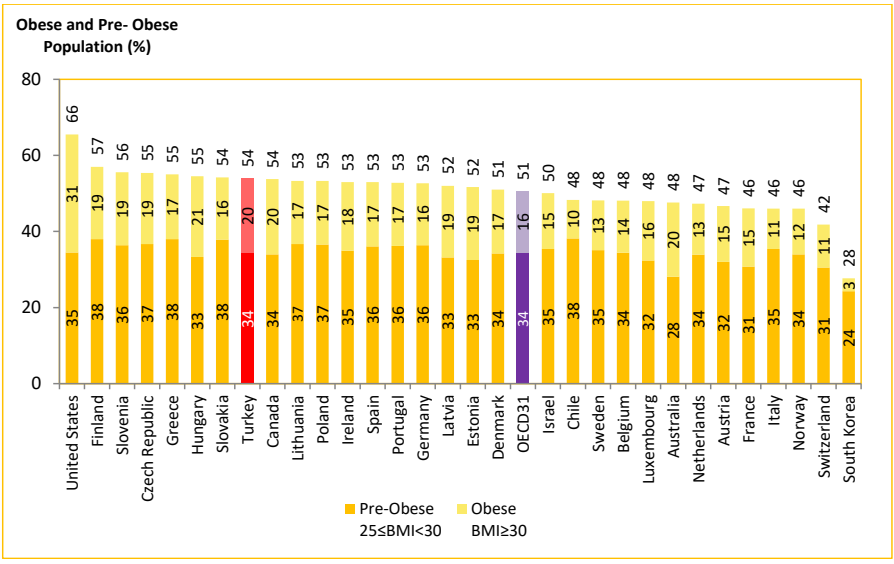
Source: TURKSTAT, Turkey Health Interview Survey 2016

Table 4.4. Distribution of Body Mass Index of 15 and Over Aged Individuals by Sex, (Self-Reported), (%), 2012, 2014, 2016

Year	Sex	Underweight	Normal	Pre-Obese	Obese
2012	Male	2,7	44,7	39,0	13,7
	Female	5,1	43,6	30,4	20,9
	Total	**3,9**	**44,2**	**34,8**	**17,2**
2014	Male	2,8	43,7	38,2	15,3
	Female	5,5	40,7	29,3	24,5
	Total	**4,2**	**42,2**	**33,7**	**19,9**
2016	Male	2,5	43,8	38,6	15,2
	Female	5,6	40,4	30,1	23,9
	Total	**4,0**	**42,1**	**34,3**	**19,6**

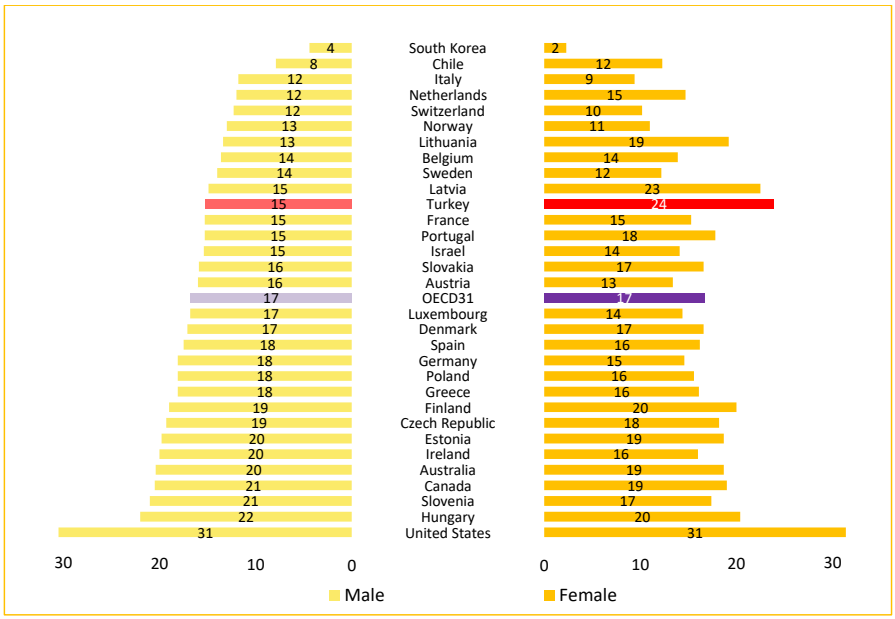
Source: TURKSTAT, Turkey Health Interview Survey 2012, 2014, 2016
Note: The phrase "overweight" has been changed with "pre-obese".

Figure 4.5. International Comparison of 15 and Over Aged Obese and Pre-Obese Individuals (Self-Reported), (%), 2017



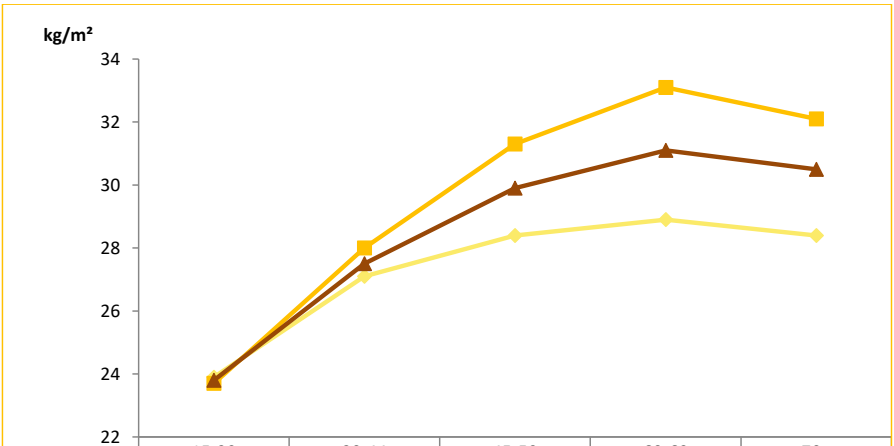
Source: TURKSTAT Turkey Health Interview Survey 2016, OECD Health Data 2019
Note: Turkey's data belongs to the year 2016. Countries' data belong to the year of 2017 or nearest.

Figure 4.6. International Comparison of 15 and Over Aged Obese (BMI≥30) Individuals by Sex (Self-Reported), (%), 2017



Source: TURKSTAT Turkey Health Interview Survey 2016, OECD Health Data 2019
Note: Turkey's data belongs to the year 2016. Countries' data belong to the year of 2017 or nearest.

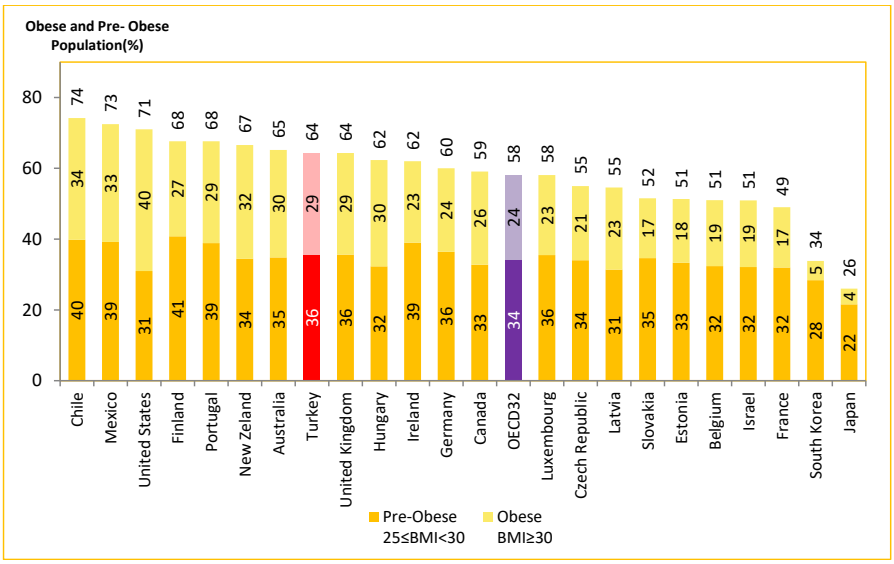
Figure 4.7. Distribution of Body Mass Index by Sex and Age Groups, (Measured), kg/m², 2017



	15-29	30-44	45-59	60-69	70+
Male	23,9	27,1	28,4	28,9	28,4
Female	23,7	28,0	31,3	33,1	32,1
Total	23,8	27,5	29,9	31,1	30,5

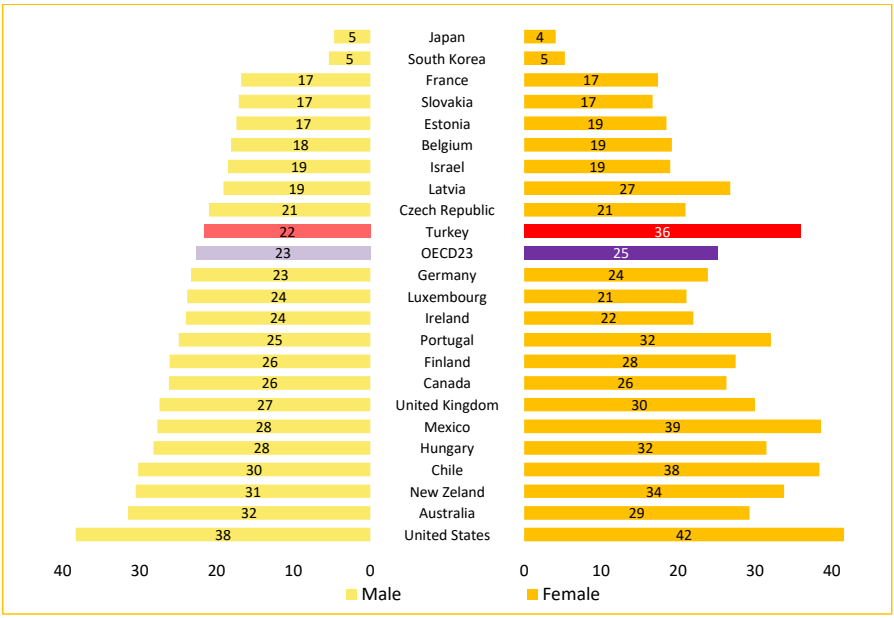
Source: Ministry of Health, National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017

Figure 4.8. International Comparison of 15 and Over Aged Obese and Pre-Obese Individuals (Measured), (%), 2017



Source: Ministry of Health National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017, OECD Health Data 2019
Note: Countries' data belong to the year of 2017 or nearest.

Figure 4.9. International Comparison of 15 and Over Aged Obese (BMI≥30) Individuals by Sex (Measured), (%), 2017



Source: Ministry of Health National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017, OECD Health Data 2019
Note: Countries' data belong to the year of 2017 or nearest.

Table 4.5. Distribution of Anthropometric Measurements of 2^{nd} Grade Students in Primary School by Z-Score, (%), 2016

Anthropometric Measurements	Boy	Girl	Total
Obesity (2<BAZ)	11,3	8,5	9,9
Overweight (1<BAZ≤2)	13,6	15,7	14,6
Normal (-2<BAZ≤1)	73,5	74,5	74,0
Wasting (BAZ≤-2)	1,7	1,3	1,5
Underweight (WAZ<-2)	2,0	1,9	2,0
Stunting (HAZ<-2)	2,3	2,4	2,3

Source: Ministry of Health, Turkish Childhood (2^{nd} Grade Students in Primary School) Obesity Research (COSI-TUR-2016)
Note: BAZ: Body Mass Index Z-Score by Age, WAZ: Weight Z-Score by Age, HAZ: Height Z- Score by Age

Table 4.6. Distribution of Feeding Time with Only Breast Milk, Average of Feeding Time with Breast Milk and BMI Z-Scores Obesity Ratio for 2^{nd} Grade Students in Primary School by NUTS-1, (%), 2016

NUTS-1	Feeding Time with Only Breast Milk (Month)	Average of Feeding Time with Breast Milk (Month)	BMI Z-Scores Obesity Ratio (%)
Istanbul	4,5	15,5	13,4
Western Marmara	4,4	14,7	12,8
Aegean	4,4	15,4	15,9
Eastern Marmara	4,3	16,0	9,2
Western Anatolia	4,4	16,1	10,5
Mediterranean	4,7	15,1	9,2
Central Anatolia	4,5	15,7	9,9
Western Blacksea	4,9	16,5	12,8
Eastern Blacksea	4,5	15,7	12,0
Northeastern Anatolia	4,4	16,6	5,5
Mideastern Anatolia	4,5	16,2	5,4
Southeastern Anatolia	4,3	14,8	4,5
Total	**4,5**	**15,6**	**9,9**

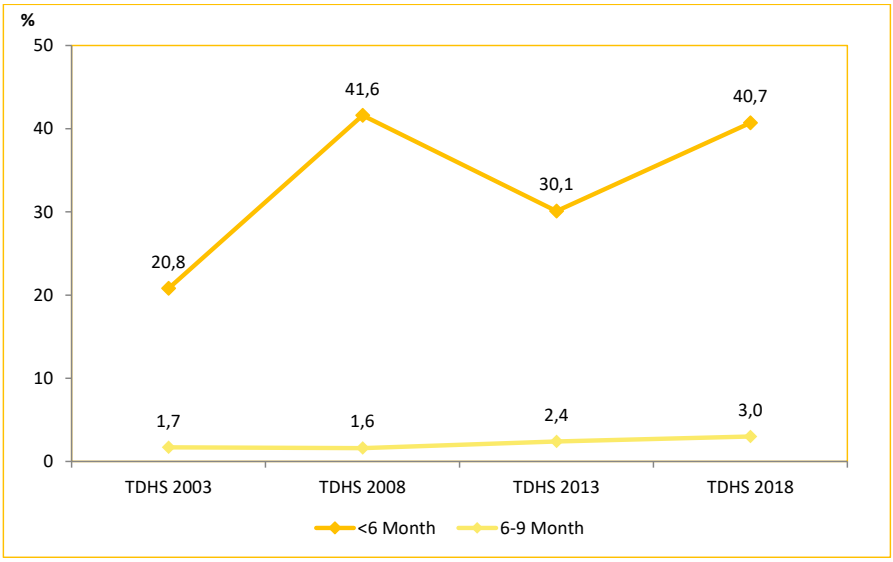
Source: Ministry of Health, Turkish Childhood (2^{nd} Grade Students in Primary School) Obesity Research (COSI-TUR-2016)

Table 4.7. Distribution of Breastfeeding Status of Children Under Two Years by Age (in Months), (%), 2018

Breastfeeding Status \ Age (in Months)	0-3	0-5	6-9	12-15	12-23	20-23
Not breastfeeding	5,5	7,5	17,1	34,4	47,3	66,5
Exclusively breastfed	52,4	40,7	3,0	0,0	0,0	0,0
Breastfeeding and consuming plain water only	14,6	15,3	3,4	0,8	0,7	0,0
Breastfeeding and consuming non milk liquids*	1,3	1,8	3,0	0,6	0,4	0,0
Breastfeeding and consuming other milk	24,2	22,9	2,0	0,2	0,3	0,8
Breastfeeding and consuming complementary foods	2,0	11,8	71,6	64,0	51,3	32,7
Total	**100**	**100**	**100**	**100**	**100**	**100**

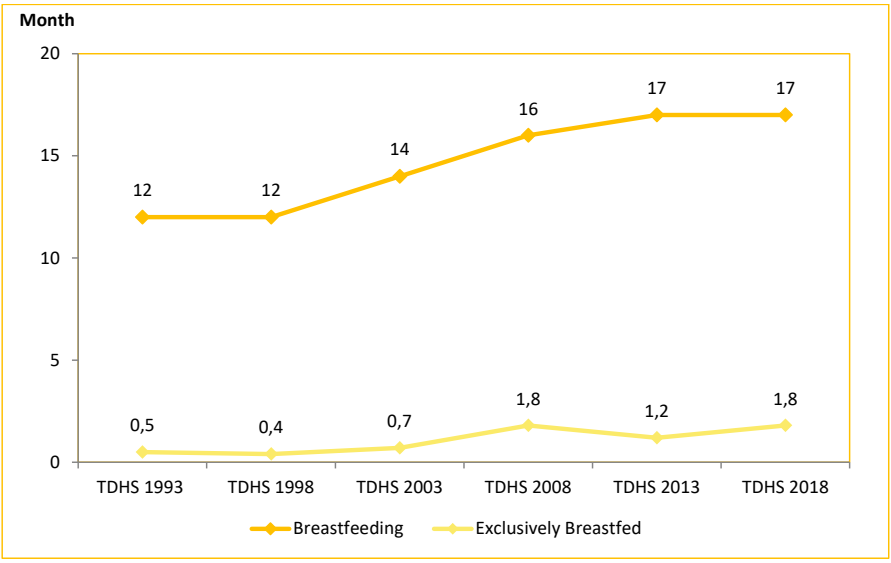
Source: TDHS 2018
* *Non-milk liquids include juice, juice drinks, clear broth or other liquids.*

Figure 4.10. Distribution of Exclusive Breastfeeding of Infants in First 6 Months and 6-9 Months by Years, (%)



Source: TDHS 2003, 2008, 2013, 2018

Figure 4.11. Median Duration of Breastfeeding Among Children Under 3 Age by Years, (in Month)



Source: TDHS 2018

Table 4.8. Distribution of the Consumption Frequencies of Some Foods and Drinks by 2^{nd} Grade Students in Primary School (Self-Reported by Families), (%), 2016

Foods	Every Day	4-6 Times a Week	1-3 Times a Week	Less than Once a Week	Never
Fresh Fruit	50,4	24,5	18,5	4,6	1,9
Cheese	39,8	19,1	20,1	7,6	13,4
Yoghurt, Ayran (Drink made of yoghurt and water)	37,3	30,0	22,1	5,7	4,9
Whole Milk	22,9	17,8	23,5	12,8	23,0
Low-Fat/Semi-Skimmed Milk	14,7	13,2	21,6	13,5	37,0
100% Canned Fruit Juice	14,4	14,1	29,6	20,7	21,1
Vegetables(except potatoes)	13,0	25,3	41,8	13,2	6,7
Candy Bars or Chocolate	12,5	20,2	36,3	24,9	6,1
Biscuit, Cake, Cookie, etc.	11,9	25,3	39,2	20,0	3,5
Flavoured Milk	9,6	11,7	23,9	18,6	36,2
Carbonated Drinks Including Sugar	7,7	10,7	28,2	28,2	25,2
Chips, Pop Corn	7,6	13,7	29,6	34,6	14,5
Meat	7,0	26,3	41,8	18,9	6,1
Freshly Squeezed Fruit Juice	6,8	10,7	29,9	22,7	29,9
Pudding with Milk	4,7	11,1	31,0	32,6	20,5
Pizza, Turkish Bread with Ground Meat, Fried Potato Chips, Burger etc.	3,8	11,8	33,0	38,7	12,7
Fish	2,2	9,5	33,4	40,3	14,6
Kefir	1,7	2,1	5,3	5,7	85,3
Diet Carbonated Drinks (except milk)	1,2	1,4	4,2	4,6	88,6

Source: Ministry of Health, Turkish Childhood (2^{nd} Grade Students in Primary School) Obesity Research (COSI-TUR-2016)

Table 4.9. Distribution of Eating Fresh Fruit Habits by Sex and Age Groups, (%), 2014, 2016

Fruit Consumption	Age Group	2014			2016		
		Male	Female	Total	Male	Female	Total
Once a Day or More	15-24	40,4	43,3	41,8	47,9	48,5	48,2
	25-34	42,1	46,9	44,5	43,4	51,1	47,2
	35-44	44,7	47,6	46,2	46,3	50,7	48,5
	45-54	48,9	54,0	51,4	54,2	57,1	55,7
	55-64	55,6	56,9	56,3	59,4	60,0	59,7
	65-74	54,1	51,0	52,5	60,5	59,1	59,7
	75+	48,9	51,5	50,5	58,0	50,9	53,7
	Turkey	**45,9**	**49,0**	**47,5**	**50,2**	**53,1**	**51,6**
4-6 Times a Week	15-24	17,7	19,0	18,4	18,2	17,0	17,6
	25-34	20,1	15,9	18,0	16,8	15,7	16,3
	35-44	18,4	16,1	17,3	17,9	16,6	17,2
	45-54	17,7	15,9	16,8	16,7	15,5	16,1
	55-64	15,3	17,3	16,3	15,8	16,4	16,1
	65-74	19,5	19,8	19,6	16,5	15,7	16,0
	75+	21,9	17,8	19,4	18,6	20,8	20,0
	Turkey	**18,4**	**17,1**	**17,7**	**17,2**	**16,4**	**16,8**
1-3 Times a Week	15-24	31,5	27,2	29,4	25,9	25,7	25,8
	25-34	26,7	25,7	26,2	30,4	25,8	28,1
	35-44	27,6	24,7	26,1	25,9	24,4	25,2
	45-54	23,8	20,0	21,9	21,8	20,9	21,4
	55-64	20,7	19,0	19,9	20,0	18,4	19,2
	65-74	19,5	21,0	20,3	18,7	19,0	18,9
	75+	21,6	21,4	21,5	20,6	22,2	21,6
	Turkey	**26,1**	**23,7**	**24,9**	**24,9**	**23,2**	**24,0**
Less Than Once a Week	15-24	7,6	7,1	7,4	6,4	6,6	6,5
	25-34	8,9	8,4	8,7	7,1	5,3	6,2
	35-44	7,6	8,6	8,1	8,1	6,5	7,3
	45-54	7,4	7,2	7,3	5,9	5,3	5,6
	55-64	5,9	5,0	5,4	3,7	4,5	4,1
	65-74	4,9	6,6	5,8	3,8	4,9	4,4
	75+	6,2	8,0	7,2	2,1	4,8	3,7
	Turkey	**7,5**	**7,5**	**7,5**	**6,2**	**5,7**	**5,9**
Never	15-24	2,8	3,4	3,1	1,6	2,3	1,9
	25-34	2,1	3,1	2,6	2,3	2,2	2,2
	35-44	1,7	3,0	2,3	1,8	1,8	1,8
	45-54	2,2	2,9	2,5	1,4	1,2	1,3
	55-64	2,5	1,8	2,1	1,0	0,7	0,9
	65-74	2,1	1,6	1,8	0,6	1,4	1,0
	75+	1,5	1,4	1,4	0,7	1,2	1,0
	Turkey	**2,2**	**2,8**	**2,5**	**1,6**	**1,7**	**1,6**

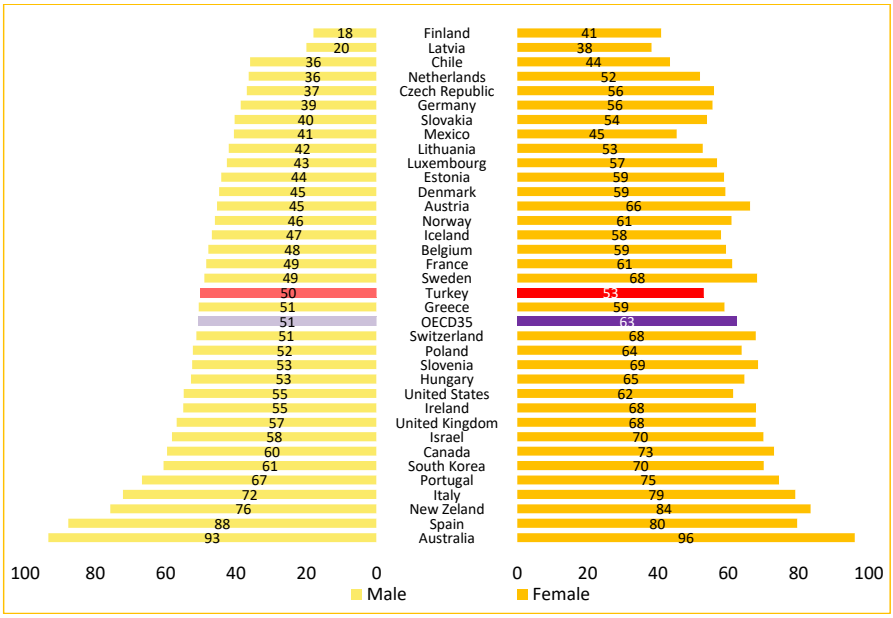
Source: TURKSTAT, Turkey Health Interview Survey 2014, 2016

Table 4.10. Distribution of Eating Vegetable or Salad Habits by Sex and Age Groups, (%), 2014, 2016

Vegetable or Salad Consumption	Age Group	2014			2016		
		Male	Female	Total	Male	Female	Total
Once a Day or More	15-24	52,0	59,2	55,6	53,9	58,3	56,1
	25-34	56,1	61,3	58,7	53,2	62,1	57,6
	35-44	58,3	63,8	61,0	59,9	63,7	61,8
	45-54	59,2	66,1	62,6	64,5	67,3	65,9
	55-64	66,4	68,7	67,5	65,4	66,2	65,8
	65-74	63,2	60,4	61,7	66,5	64,4	65,4
	75+	55,1	61,2	58,7	58,8	55,1	56,6
	Turkey	**57,7**	**62,9**	**60,3**	**59,0**	**62,8**	**60,9**
4-6 Times a Week	15-24	19,9	18,7	19,3	19,4	20,5	19,9
	25-34	20,9	19,4	20,1	21,0	20,3	20,7
	35-44	19,6	17,7	18,7	19,7	19,8	19,8
	45-54	20,7	18,8	19,7	17,8	18,3	18,0
	55-64	18,6	17,0	17,8	17,7	20,0	18,9
	65-74	23,1	22,6	22,9	18,1	17,9	18,0
	75+	25,2	18,9	21,4	19,7	23,1	21,7
	Turkey	**20,4**	**18,8**	**19,6**	**19,3**	**19,9**	**19,6**
1-3 Times a Week	15-24	22,0	18,2	20,1	21,1	17,1	19,1
	25-34	18,6	16,4	17,5	20,9	15,5	18,2
	35-44	18,9	15,5	17,2	16,5	14,1	15,3
	45-54	17,0	12,5	14,8	13,8	11,8	12,8
	55-64	12,8	12,0	12,4	15,0	12,1	13,6
	65-74	10,7	13,7	12,3	12,3	14,3	13,3
	75+	15,7	15,4	15,5	18,7	17,5	18,0
	Turkey	**17,9**	**15,2**	**16,6**	**17,6**	**14,6**	**16,1**
Less Than Once a Week	15-24	4,4	2,6	3,5	4,2	3,3	3,8
	25-34	3,5	2,4	2,9	3,7	1,6	2,6
	35-44	2,6	2,6	2,6	3,2	2,0	2,6
	45-54	2,5	2,0	2,2	3,4	2,4	2,9
	55-64	1,5	1,5	1,5	1,5	1,6	1,6
	65-74	2,0	3,1	2,6	2,8	2,7	2,8
	75+	3,3	3,5	3,4	1,8	2,7	2,4
	Turkey	**3,0**	**2,4**	**2,7**	**3,3**	**2,3**	**2,8**
Never	15-24	1,7	1,3	1,5	1,4	0,8	1,1
	25-34	1,0	0,5	0,8	1,2	0,5	0,8
	35-44	0,6	0,4	0,5	0,6	0,4	0,5
	45-54	0,7	0,6	0,7	0,5	0,3	0,4
	55-64	0,7	0,9	0,8	0,5	0,0	0,2
	65-74	1,0	0,2	0,5	0,3	0,7	0,5
	75+	0,7	1,0	0,9	1,1	1,6	1,4
	Turkey	**1,0**	**0,7**	**0,8**	**0,9**	**0,5**	**0,7**

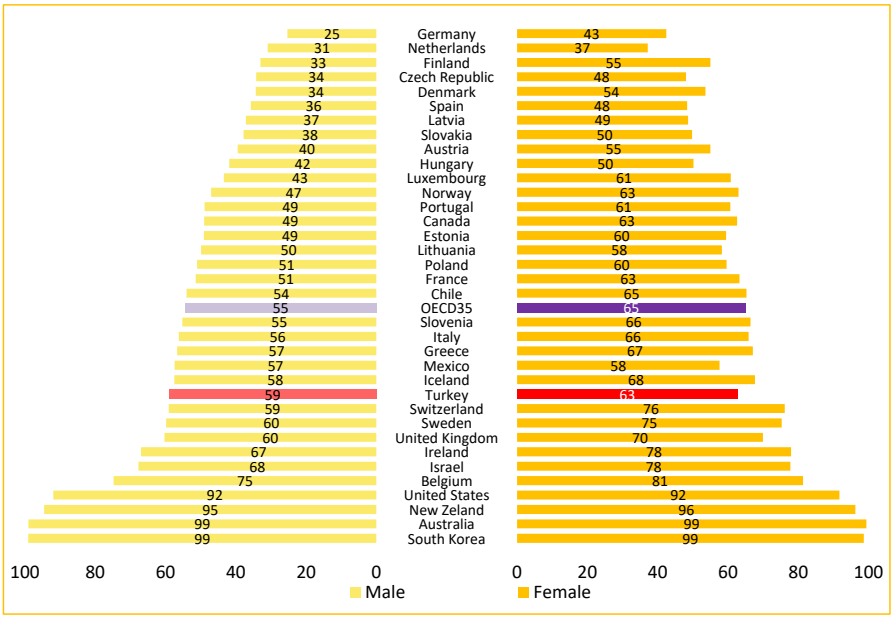
Source: TURKSTAT, Turkey Health Interview Survey 2014, 2016

Figure 4.12. International Comparison of Distribution of 15 and Over Aged Individuals' Fruit Consumption Once a Day or More by Sex, (%), 2017



Source: TURKSTAT Turkey Health Interview Survey 2016, OECD Health Data 2019
Note: Turkey's data belongs to the year 2016. Countries' data belong to the year of 2017 or nearest.

Figure 4.13. International Comparison of Distribution of 15 and Over Aged Individuals' Vegetable or Salad Consumption Once a Day or More by Sex, (%), 2017



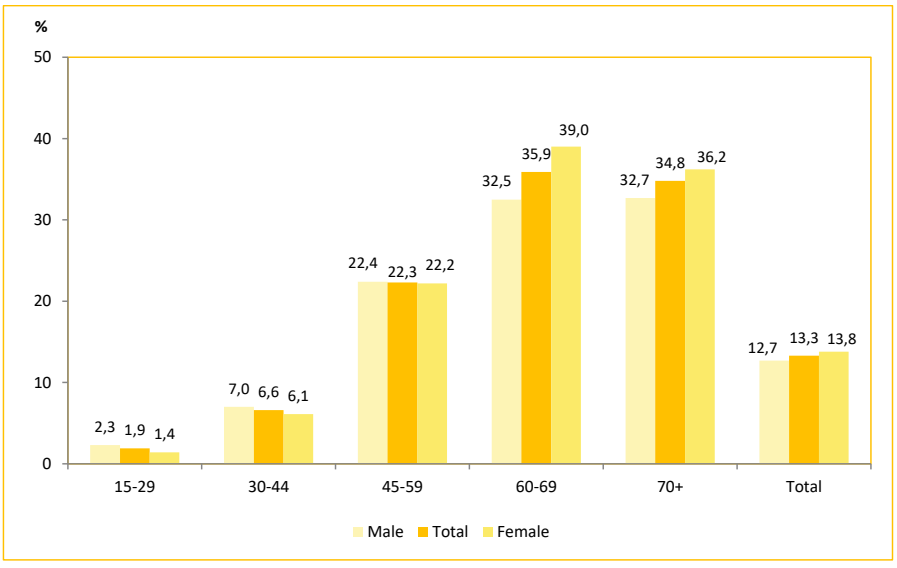
Source: TURKSTAT Turkey Health Interview Survey 2016, OECD Health Data 2019
Note: Turkey's data belongs to the year 2016. Countries' data belong to the year of 2017 or nearest.

Table 4.11. Distribution of 15 and Over Aged Individuals' Benefit from Preventive Services in the Last 12 Months by Sex, (%), 2016

Measurements	Male	Female	Total
Blood Pressure Measurement	41,1	55,9	48,6
Blood Sugar Measurement	32,0	47,2	39,7
Blood Cholesterol Measurement	29,4	43,8	36,7
Faecal Occult Blood Test	9,8	13,0	11,4
Vaccinated Against Flu	2,9	2,4	2,6
Colonoscopy	2,2	2,8	2,5

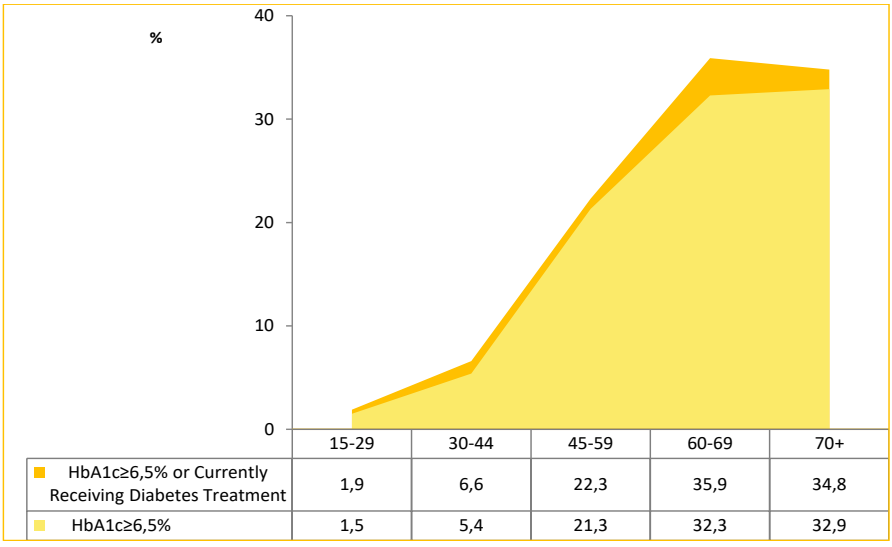
Source: TURKSTAT, Turkey Health Interview Survey 2016

Figure 4.14. Distribution of Individuals with HbA1c≥6,5% or Currently Receiving Diabetes Treatment by Sex and Age Groups, (%), 2017



Source: Ministry of Health, National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017

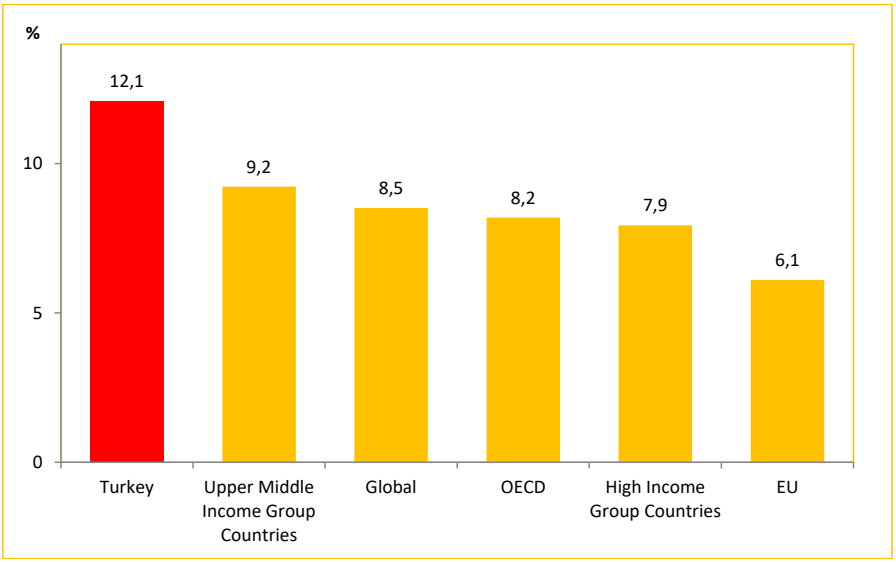
Figure 4.15. Comparison of Distribution of Individuals with HbA1c≥6,5% or Currently Receiving Diabetes Treatment and Individuals with HbA1c≥6,5% by Age Groups, (%), 2017



	15-29	30-44	45-59	60-69	70+
HbA1c≥6,5% or Currently Receiving Diabetes Treatment	1,9	6,6	22,3	35,9	34,8
HbA1c≥6,5%	1,5	5,4	21,3	32,3	32,9

Source: Ministry of Health, National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017

Figure 4.16. International Comparison of Age Standardized Diabetes Prevalence for 20-79 Age Group, (%), (World Standard Population), 2017



Source: IDF Diabetes Atlas 8th Edition, 2017

Note: Diabetes prevalence refers to individuals with Type 1 and Type 2 diabetes in the 20-79 age group. Country values were age-standardized with ***World Standard Population*** *by the IDF group.*

Table 4.12. Distribution of 15 and Over Aged Individuals' Total Cholesterol and Fasting Triglycerides Levels by Sex, (%), 2017

		Male	Female	Total
Total Cholesterol	≥190 mg/dl	20,9	28,5	24,7
	≥240 mg/dl	6,5	9,5	8,0
Low HDL(High Density Lipoprotein)		55,6	49,1	52,3
Fasting Triglycerides	≥150 mg/dl	30,2	21,0	25,6
	≥180 mg/dl	19,9	13,6	16,7

Source: Ministry of Health, National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017

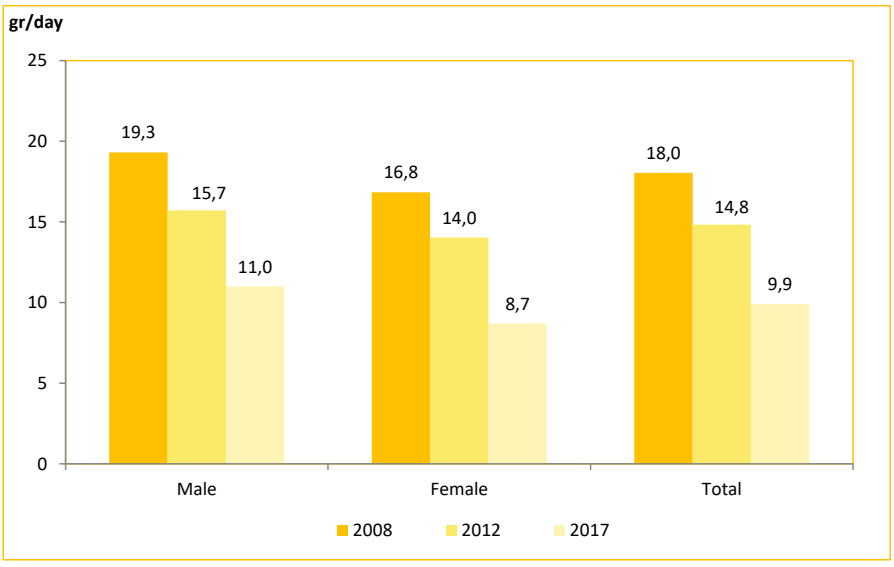
Note: Individuals using drugs were also included in the calculation of total cholesterol. Low HDL threshold was considered as <40 mg/dl for men and <50 mg/dl for women.

Table 4.13. Distribution of 15 and Over Aged Individuals' Salt Consumption Habit by Sex, (%), 2017

Salt Consumption Habit	Male	Female	Total
Always or often add salt before eating or when eating	29,3	26,8	28,1
Always or often add salt when cooking or preparing food at home	25,9	26,1	26,0
Always or often consume processed food high in salt (sausage, processed meat etc.)	27,8	23,3	25,5

Source: Ministry of Health, National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017

Figure 4.17. Distribution of 15 and Over Aged Individuals' Average Consumption of Salt in a Day by Sex and Years, (gram/day)



Source: 2008 SALTurk-I, 2012 SALTurk-II, Ministry of Health National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017

Table 4.14. Distribution of Individuals' Physical Activity Status by Sex and Age Groups, (%), 2017

Age Group	Male			Female			Total		
	Low	Middle	High	Low	Middle	High	Low	Middle	High
15-29	31,7	25,6	42,6	56,2	29,3	14,5	43,8	27,4	28,7
30-44	37,3	23,4	39,2	58,0	28,2	13,9	47,7	25,8	26,5
45-59	37,5	28,5	34,0	58,4	26,3	15,3	48,0	27,4	24,6
60-69	47,2	30,8	22,0	72,1	19,1	8,8	60,2	24,7	15,1
70+	51,5	29,1	19,5	84,9	10,9	4,3	70,6	18,6	10,8
Total	**37,4**	**26,3**	**36,3**	**61,1**	**25,8**	**13,1**	**49,4**	**26,0**	**24,6**

Source: Ministry of Health, National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017

Table 4.15. Distribution of Individuals Who Felt Physical Pain in the Last 4 Weeks by Sex and Age Groups, (%), 2012, 2014, 2016

Age Group	2012			2014			2016		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-24	5,2	7,4	6,3	13,1	16,4	14,7	8,6	13,5	11,0
25-34	8,9	14,5	11,7	13,9	27,1	20,5	11,8	21,1	16,4
35-44	13,7	21,3	17,5	19,5	38,4	28,9	16,0	28,9	22,4
45-54	14,5	32,4	23,4	22,5	45,8	34,1	20,3	40,1	30,2
55-64	18,8	44,0	31,6	24,4	53,1	38,9	19,6	44,4	32,2
65-74	28,4	56,4	43,7	37,1	61,4	50,3	34,7	57,9	47,2
75+	48,8	66,1	59,1	49,0	66,7	59,6	47,7	69,4	60,8
Turkey	**13,3**	**25,2**	**19,3**	**20,0**	**37,3**	**28,7**	**17,0**	**32,0**	**24,6**

Source: TURKSTAT, Turkey Health Interview Survey 2012, 2014, 2016

Table 4.16. Distribution of Individuals Not Able to Walk, Walk Up and Down Stairs without Any Aid or Assistance by Sex and Age Groups, (%), 2012, 2014, 2016

	Age Group	2012			2014			2016		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Not Able to Walk	15-44	2,0	2,5	2,3	1,3	2,1	1,7	1,4	1,1	1,3
	45-54	2,2	4,3	3,2	3,4	10,4	6,8	2,7	7,6	5,1
	55-64	3,9	12,1	8,1	5,2	20,5	12,9	4,3	17,1	10,8
	65-74	11,7	27,5	20,3	15,3	31,9	24,3	15,4	30,2	23,4
	75+	29,9	46,8	39,9	38,3	59,7	51,2	36,0	55,8	48,0
	Turkey	**2,7**	**6,3**	**4,5**	**4,1**	**10,4**	**7,3**	**4,0**	**8,9**	**6,5**
Not Able to Walk Up and Down Stairs	15-44	2,2	3,5	2,8	1,7	3,2	2,4	1,7	2,2	1,9
	45-54	2,1	4,9	3,5	3,9	14,2	9,0	4,2	13,4	8,8
	55-64	5,2	16,1	10,8	7,1	25,2	16,3	6,5	24,1	15,4
	65-74	13,2	30,6	22,8	19,6	40,1	30,7	18,6	38,5	29,3
	75+	34,7	51,2	44,5	42,1	61,3	53,6	39,8	65,7	55,4
	Turkey	**3,1**	**7,4**	**5,3**	**5,1**	**12,8**	**9,0**	**5,0**	**12,4**	**8,7**

Source: TURKSTAT, Turkey Health Interview Survey 2012, 2014, 2016

Table 4.17. Distribution of 15 and Over Aged Individuals Providing Care or Assistance to Persons Suffering from Some Age Problem, Chronic Health Condition or Infirmity by Sex, (%), 2016

	Male	Female	Total
Providing Help	8,9	9,9	9,4
Members of Family	63,1	67,0	65,2
Other	36,9	33,0	34,8
Not Providing Help	91,1	90,1	90,6

Source: TURKSTAT, Turkey Health Interview Survey 2016

Table 4.18. Distribution of Individuals Having Difficulty in Learning and Remembering Events by Sex and Age Groups, (%), 2014, 2016

	Age Group	2014			2016		
		Male	Female	Total	Male	Female	Total
Having Difficulty in Learning	15-44	0,8	2,0	1,4	1,0	2,6	1,8
	45-54	2,6	7,8	5,2	1,7	7,5	4,6
	55-64	3,0	12,8	8,0	1,9	12,3	7,2
	65-74	8,5	22,5	16,1	8,9	20,4	15,1
	75+	22,0	42,2	34,2	20,2	41,5	33,1
	Turkey	**2,5**	**7,5**	**5,0**	**2,4**	**7,8**	**5,1**
Having Difficulty in Remembering	15-44	1,2	1,9	1,6	1,2	1,9	1,5
	45-54	2,1	6,2	4,1	1,5	4,7	3,1
	55-64	2,9	7,0	5,0	2,2	5,9	4,1
	65-74	6,3	12,0	9,4	5,7	12,7	9,5
	75+	15,6	27,3	22,6	17,8	25,6	22,5
	Turkey	**2,3**	**5,1**	**3,7**	**2,2**	**4,8**	**3,5**

Source: TURKSTAT, Turkey Health Interview Survey 2014, 2016

Table 4.19. Distribution of Number of People Who Are So Close by Sex When Individuals Have Serious Personal Problems, (%), 2016

	Male	Female	Total
None	6,3	5,1	**5,7**
1-2 Person	36,5	39,8	**38,2**
3-5 Person	35,0	36,6	**35,8**
6 or More Person	22,2	18,5	**20,3**

Source: TURKSTAT, Turkey Health Interview Survey 2016

Table 4.20. 15 and Over Aged Individuals Distribution by Sex for Status of Getting Help from Neighbours, (%), 2016

	Male	Female	Total
Very Easy/Easy	72,3	76,2	**74,3**
Possible	14,7	13,0	**13,9**
Difficult/Very Difficult	13,0	10,8	**11,9**

Source: TURKSTAT, Turkey Health Interview Survey 2016

Explanations for Chapter 4

☑ Totals in distribution tables and figures in the Chapter may not add up to 100% due to rounding.

☑ Values in the tables and figures in the Chapter may not give the sum due to rounding.

☑ The Body Mass Index (BMI) is calculated by dividing the body weight (kilograms) by the square of the height(meters).

Underweight	:	BMI< 18,5
Normal weight	:	18,5≤ BMI< 25
Pre-Obese	:	25,00 ≤ BMI < 30,00
Obesity	:	BMI ≥ 30,00

☑ **Median:** Value which divides the series into two equal parts. It is used in Figure 4.11 in order to not be affected by outliers.

IDF 8. Diabetes Atlas: To make international comparisons, the prevalence of age and sex specific diabetes of countries was estimated by using statistical models. 221 data sources were used for 131 countries and population data were obtained through UNPD. In these data sources; diabetes was diagnosed with oral glucose tolerance test, self-reported studies, medical records, clinical diagnoses, HbA1c and fasting blood glucose results. Most sources are based on refereed journals and research conducted by WHO's STEPwise approach.

Ministry of Health, Turkish Childhood (2^{nd} Grade Students in Primary School) Obesity Research (COSI-TUR-2016)

☑ Our country was also included in the 3^{rd} stage of Obesity Research implemented in 21 countries in 2013 and 4^{th} stage in 38 countries in 2016. The research was conducted in the cooperation of Ministry of Health, General Directorate of Public Health, Ministry of National Education, Hacettepe University in the framework of the criteria determined by WHO.

☑ The aim of this study is to monitor the growth of the school age children compared to the other countries by participating in an international research. Under the project, the height and weight of the children were measured, a survey regarding the diet and physical activity behaviors of the children was applied to the parents and a survey was conducted regarding the diet and physical activity capacities of participating in the research. It is aimed to monitor the change of the growth of the school age children by repeating the research every three years.

☑ The research was conducted in 79 provinces that can represent Turkey, 585 schools, a 2^{nd} grade with 11.732 students. The field application of the research was carried out in November 2016-February 2017 with 115 teams established in 79 provinces.

☑ Within the scope of the research, those at the age of 6-9 among the 2^{nd} grade students in Primary School were evaluated.

TURKSTAT, Turkey Health Interview Survey 2016

Research is based on self-report.

☑ **Coverage**: All the individuals living in Turkey are covered. Institutional population (soldiers, individuals living in dormitories, prisons, hospitals in the long period, homes for elderly, etc.) are excluded.

☑ **Estimation Level**: The survey is designed to produce estimators for total of Turkey. For this aim, the total sample size was determined as 9.470 households.

☑ **Sampling Distribution**: In 8.325 of these households the questionnaire was completed. The questionnaire was completed by 23.606 people.

☑ **Period of the Field Study:** Field study of the survey was implemented on April in 2008, on May-June in 2010 and 2012 for only one month. But it was implemented on August-October in 2014 and 2016 for three months.

☑ In fruit consumption questions; including freshly squeezed fruit juice, fruit juices or artificially flavored fruit juices prepared from concentrate or processed fruit are excluded. In case of vegetable consumption, including fresh soup and fresh vegetable juice, vegetable juices prepared from concentrate or processed vegetables or artificially flavored vegetable juices were excluded.

Ministry of Health, National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017

☑ **Coverage**: 15 and over aged citizens of the Republic of Turkey, living in Turkey, are covered. Institutional population (hotel, individuals living in dormitories, prisons, hospitals in the long period, etc.) are excluded.

☑ **Estimation Level**: The survey is designed to produce estimators for total of Turkey. For this aim, the total sample size was determined as 8.650 households.

☑ **Sampling Distribution**: Of the 8.650 households visited, 6.053 people 15 and over aged participated in the first and second step of study, of whom 3.352 also completed step 3 (2.701 people out of the 6.053 selected did not want to participate).

☑ **Period of the Field Study**: Field study of the survey was implemented in April-September 2017.

☑ The data in this study includes 3 steps namely "a questionnaire"," physical measure" and "biochemical measures".

Step 1 consists of evaluation based on a questionnaire that investigates exposure to four behavioral risk factors: Tobacco consumption, alcohol consumption, low consumption of fruits and vegetables, and physical inactivity.

Step 2 considers the physical measurement of variables such as blood pressure, height, weight and waist and hip circumference to assess exposure to biological risk factors such as high blood pressure, overweight and obesity.

Step 3 adds biochemical measurements by taking blood and urine samples for the detection of high levels of glycemia, hypercholesterolemia and sodium intake.

☑ Questions on physical activity were adapted from WHO Global Physical Activity Questionnaire, version 2.

High Physical Activity:

- Vigorous-intensity for at least three days, reaching a minimum of 1.500 MET-minutes per week,
- ≥7 days of physical in any domain and intensity, reaching a minimum of 3.000 MET-minutes per week.

Moderate Physical Activity:

- Vigorous-intensity physical activity for ≥3 days for at least 20 minutes a day,
- Moderate- intensity physical activity for ≥5 days for at least 30 minutes a day,
- Physical activity of any intensity and domain for ≥5 days, reaching a minimum of 600 MET – minutes per week.

Low Physical Activity: Participants' physical activity was said to be low if they did not meet the criteria stated for the high or moderate levels.

Salt Intake in Turkish Population Study 2008 SALTurk-I, 2012 SALTurk-II

☑ **Coverage:** Salt Consumption Studies in Turkey SALTurk-I and SALTURK –II 18 and over aged citizens of the Republic of Turkey are covered.

☑ **Estimation Level:** Hypertension rates and age quotas were calculated based on Hypertension Prevalence Study (PatenT- PatenT2). The SALTurk-I study was carried out in 14 provinces, and the SALTurk-II study was conducted on a voluntary basis in 4 major cities.

☑ **Sampling Distribution:** The SALTurk-I study included 1.970 individuals with 24-hour urinary creatinine excretion within the determined limits, and 657 people were included in the SALTurk-II study.

☑ **Period of Field Study:** The SALTurk-I study was conducted in April 2008 and the SALTurk-II study was conducted in February-March 2012.

Chapter 5

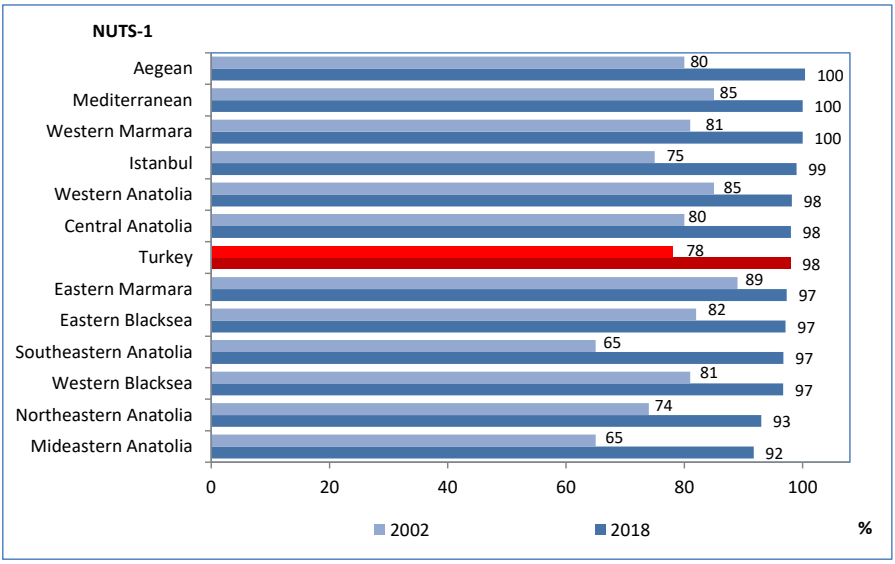
Prevention of Diseases and Protection of Health

Table 5.1. Immunization Coverage by Years, (%)

	2002	2014	2015	2016	2017	2018
DaPT 3	78	96	97	98	96	98
BCG	77	95	96	96	93	96
HBV 3	72	95	97	98	96	98
MMR	82	94	97	98	96	96
CPV 3	-	96	97	98	96	98

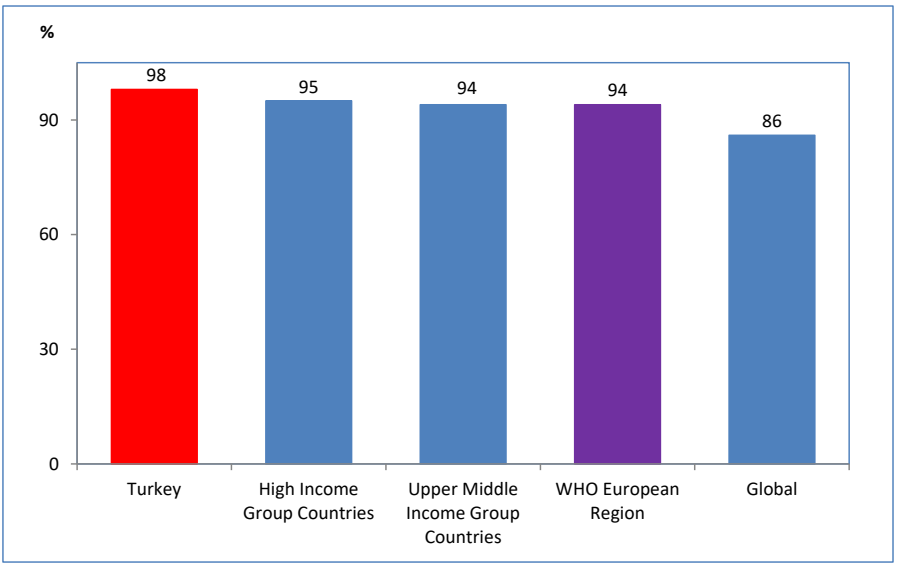
Source: General Directorate of Public Health

Figure 5.1. Third Dose Immunization Coverage of 5-Component Combined Vaccine (DaPT+IPV+Hib) by NUTS-1, (%), 2002, 2018



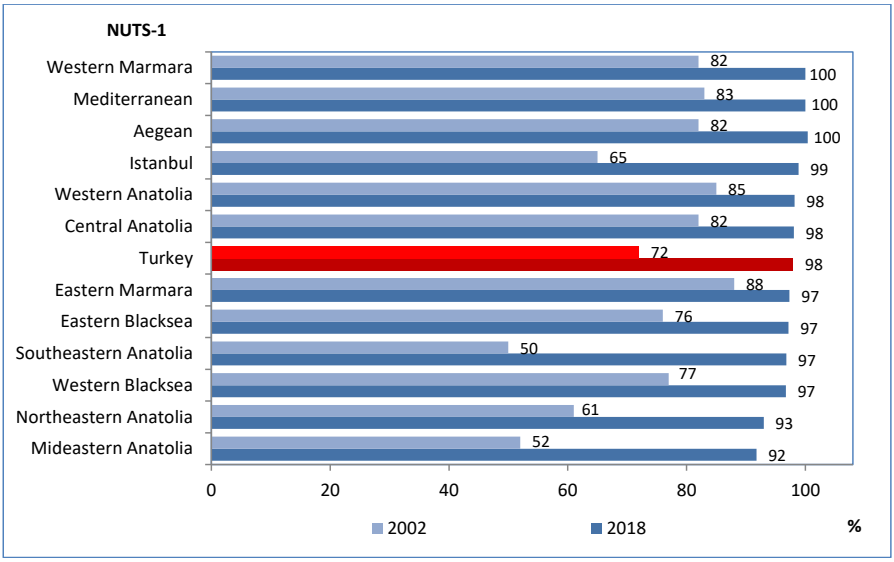
Source: General Directorate of Public Health

Figure 5.2. International Comparison of DaPT+IPV+Hib Immunization Coverage, (%), 2018



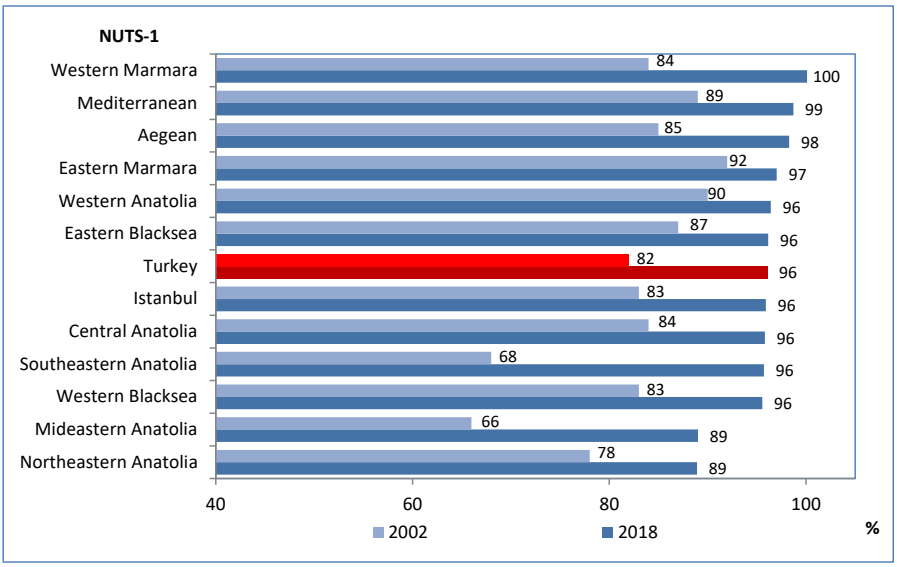
Source: General Directorate of Public Health, WHO Global Health Observatory Database

Figure 5.3. HBV 3 Immunization Coverage by NUTS-1, (%), 2002, 2018



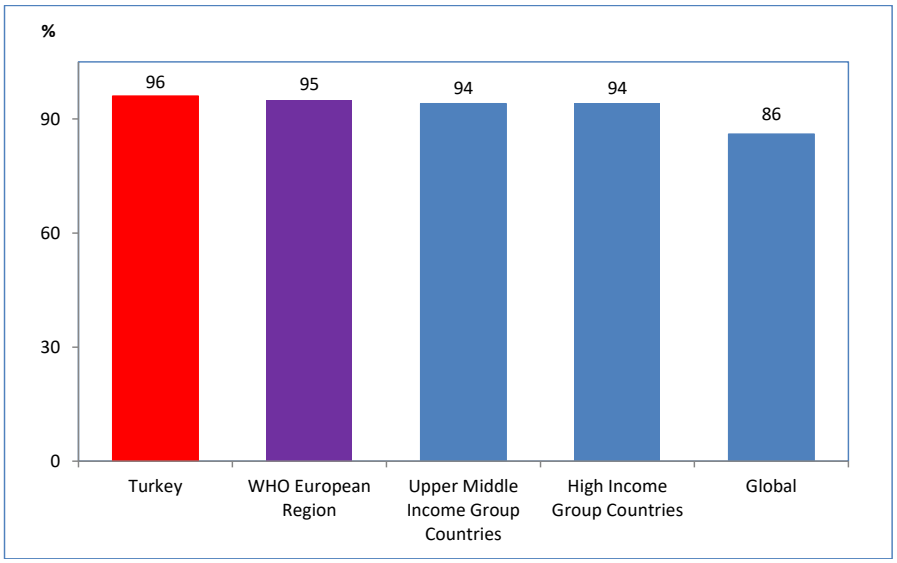
Source: General Directorate of Public Health

Figure 5.4. MMR Immunization Coverage by NUTS-1, (%), 2002, 2018



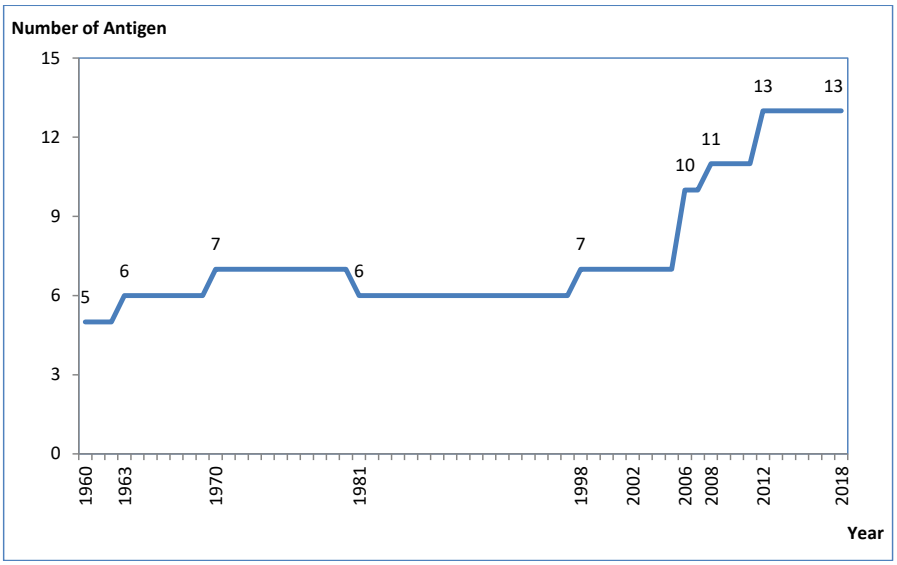
Source: General Directorate of Public Health

Figure 5.5. International Comparison of MMR Immunization Coverage, (%), 2018



Source: General Directorate of Public Health, WHO Global Health Observatory Database

Figure 5.6. Number of Vaccine Antigen by Years and Vaccine Schedule, Ministry of Health



Source: General Directorate of Public Health

Table 5.2. Indicators of Birth and Antenatal Care by Years

	2002	2014	2015	2016	2017	2018
Births at Hospital, (%)	75	98	99	98	98	98
Antenatal Care Coverage (Minimum One Visit) (%)	70,0	96,9	98,0	98,5	99,7	99,5
Cesarean Sections Among Live Births (%)	21,0	51,1	53,1	53,1	53,1	54,9
Primary Cesarean Sections Among Live Births (%)	-	26,3	27,2	26,4	25,7	26,3

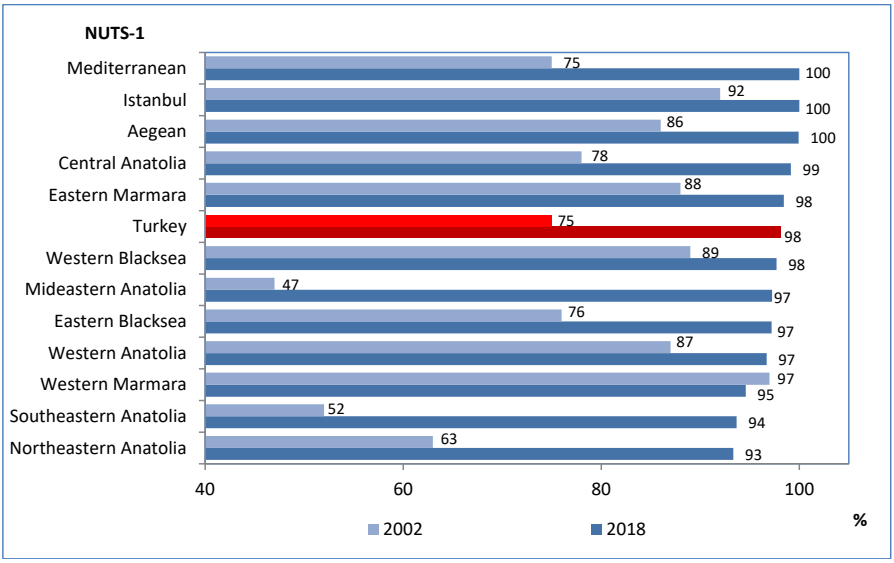
Source: General Directorate of Public Health

Table 5.3. Proportions of Cesarean and Primary Cesarean Section Among All Births Given at Hospital by Years and Sectors, (%)

	Cesarean Sections Among All Hospital Births (%)					Primary Cesarean Sections Among All Hospital Births (%)				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
Ministry of Health	35,5	37,5	38,2	38,7	40,3	15,0	15,9	15,5	15,0	15,5
University	63,8	69,3	69,1	68,2	70,4	32,4	35,9	33,8	33,8	34,7
Private	69,5	70,5	70,5	69,7	70,7	39,6	39,8	39,0	37,8	37,9
Total	52,4	53,9	54,2	54,2	56,0	27,0	27,6	26,9	26,2	26,9

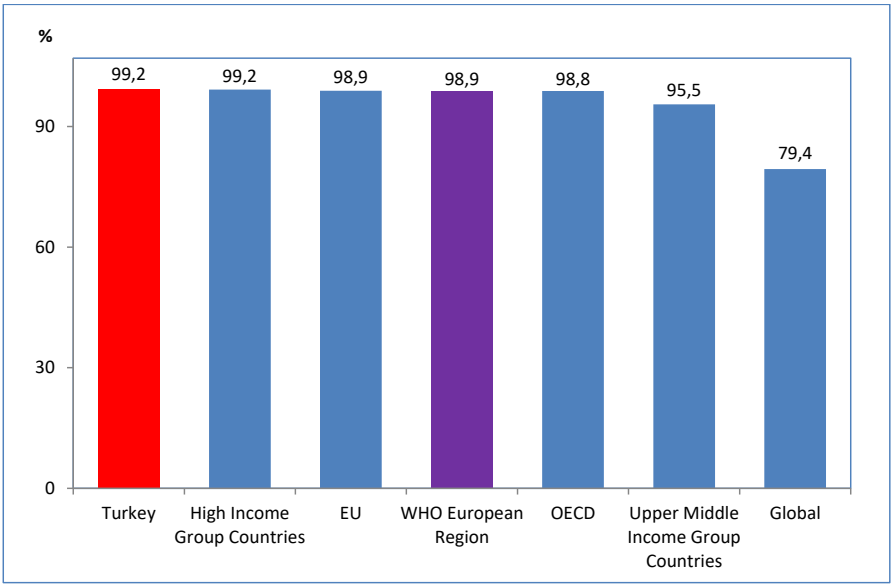
Source: General Directorate of Public Health

Figure 5.7. Proportion of Births at Hospital Among Live Births by NUTS-1, (%), 2002, 2018



Source: General Directorate of Public Health

Figure 5.8. International Comparison of Proportion of Births Attended by Skilled Health Personnel, (%), 2017



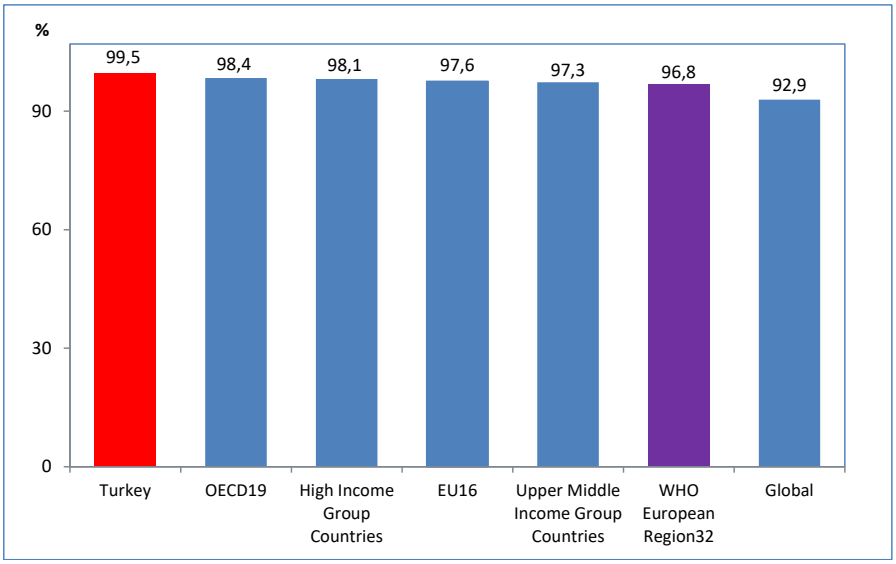
Source: TDHS 2018, UNICEF/WHO Joint Database
Note: Turkey's data belongs to TDHS 2018. Countries' data belong to the year of 2017 or nearest.

Table 5.4. Antenatal Care Coverage (Minimum 1 Visit) by NUTS-1, (%), 2017, 2018

NUTS-1	2017	2018
Istanbul	99,8	99,4
Western Marmara	99,8	99,7
Aegean	99,7	99,7
Eastern Marmara	99,8	99,6
Western Anatolia	99,6	99,0
Mediterranean	99,7	99,5
Central Anatolia	99,7	99,6
Western Blacksea	99,6	99,7
Eastern Blacksea	99,6	99,8
Northeastern Anatolia	99,6	99,7
Mideastern Anatolia	99,8	99,8
Southeastern Anatolia	99,7	99,3
Turkey	99,7	99,5

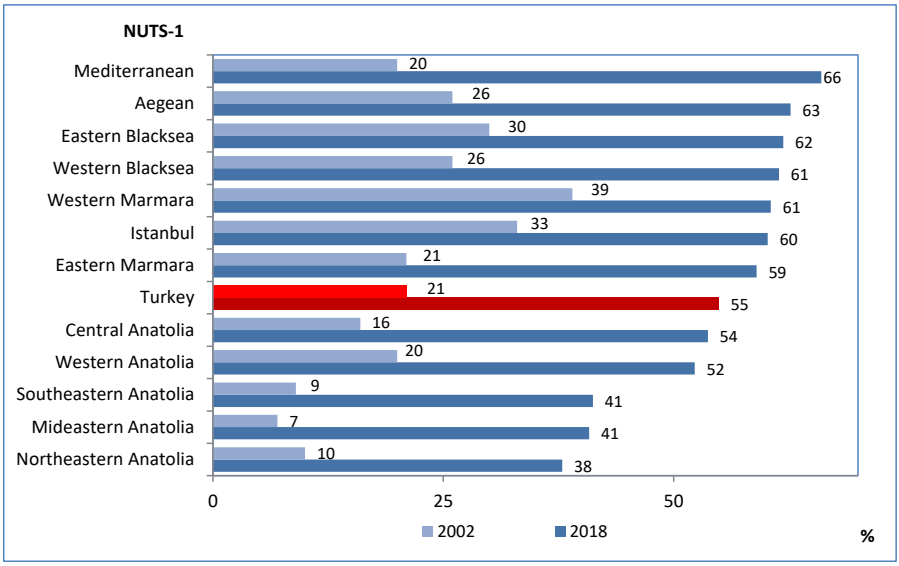
Source: General Directorate of Public Health

Figure 5.9. International Comparison of Antenatal Care Coverage (Minimum 1 Visit), (%), 2018



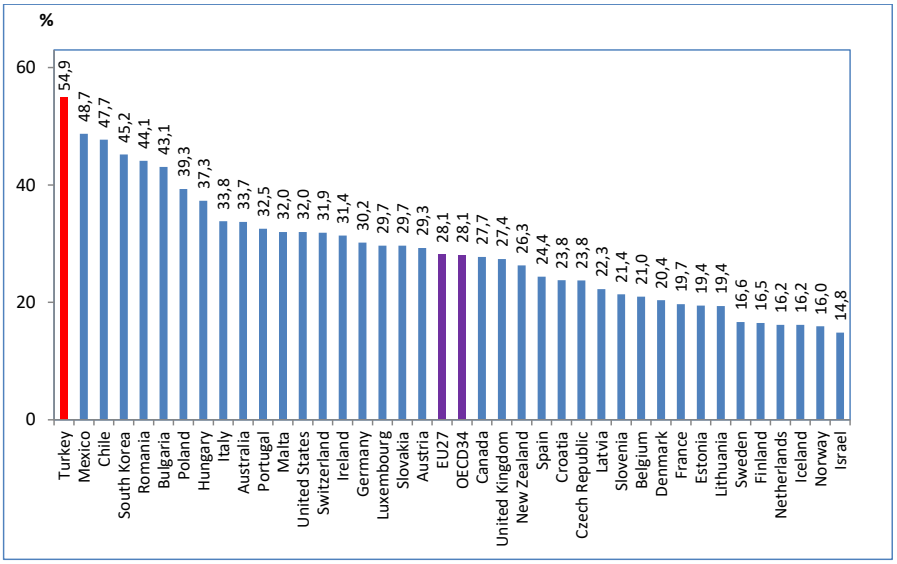
Source: General Directorate of Public Health, UNICEF Database

Figure 5.10. Proportion of Cesarean Sections Among Live Births by NUTS-1, (%), 2002, 2018



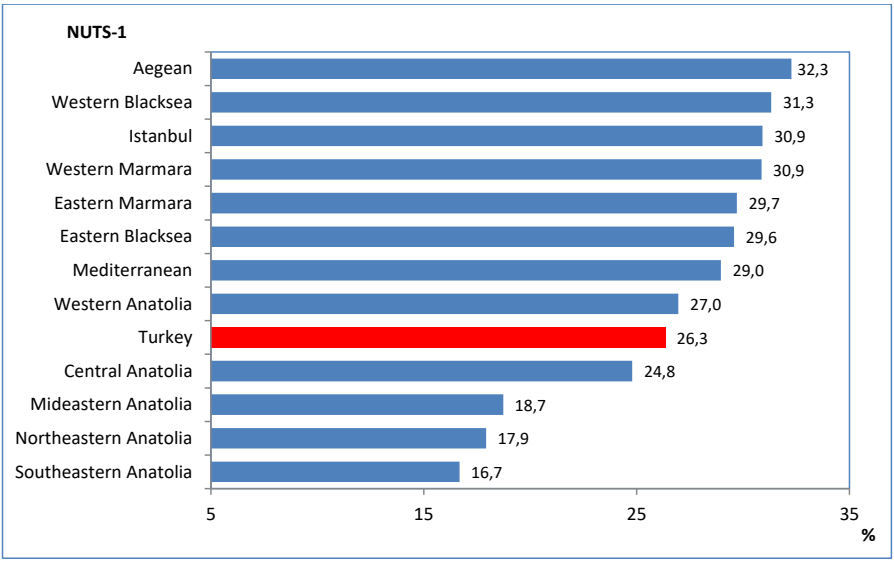
Source: General Directorate of Public Health

Figure 5.11. International Comparison of Proportion of Cesarean Sections Among Live Births, (%), 2017



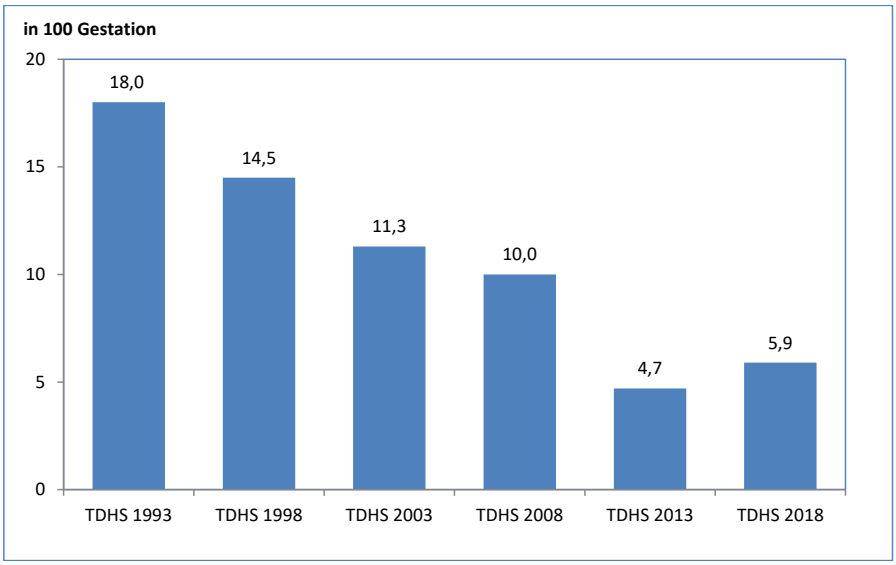
Source: General Directorate of Public Health, EUROSTAT Database, OECD Health Data 2019
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Figure 5.12. Proportion of Primary Cesarean Sections Among Live Births by NUTS-1, (%), 2018



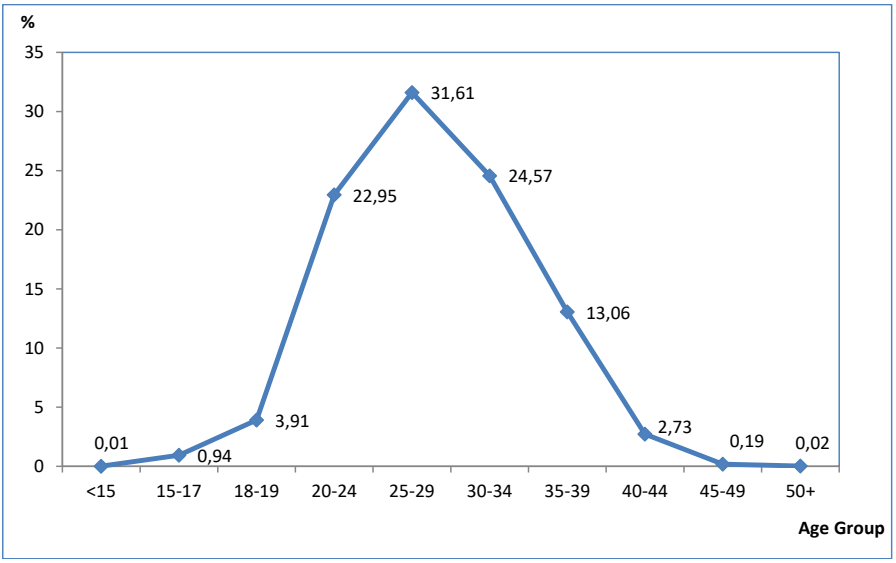
Source: General Directorate of Public Health

Figure 5.13. Proportion of Induced Abortion by Years, (in 100 Gestation)



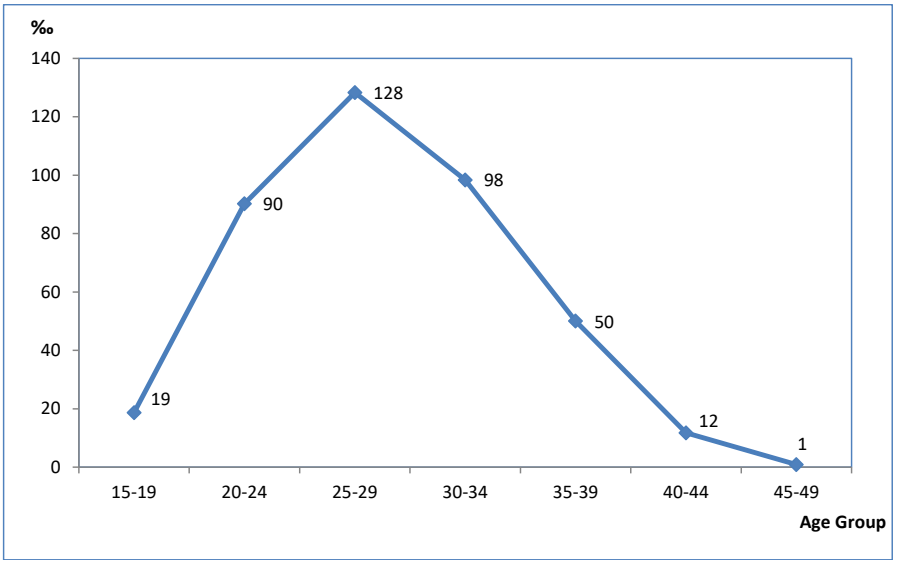
Source: TDHS, 1993, 1998, 2003, 2008, 2013, 2018

Figure 5.14. Proportion of Births by Age Group of Mother Among All Births, (%), 2018



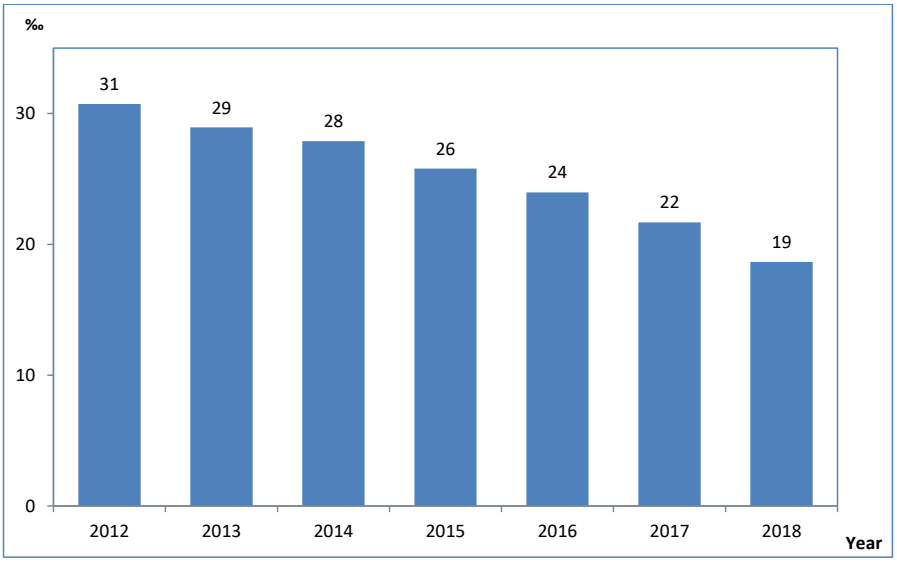
Source: TURKSTAT, Birth Statistics 2018

Figure 5.15. Age-Specific Fertility Rate, (‰), 2018



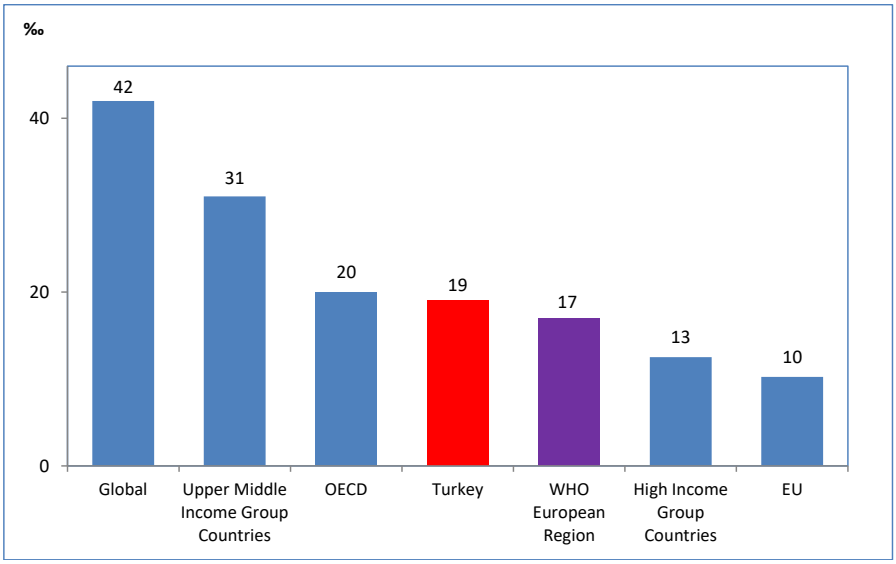
Source: TURKSTAT, Birth Statistics 2018

Figure 5.16. Adolescent Fertility Rate by Years, (‰)



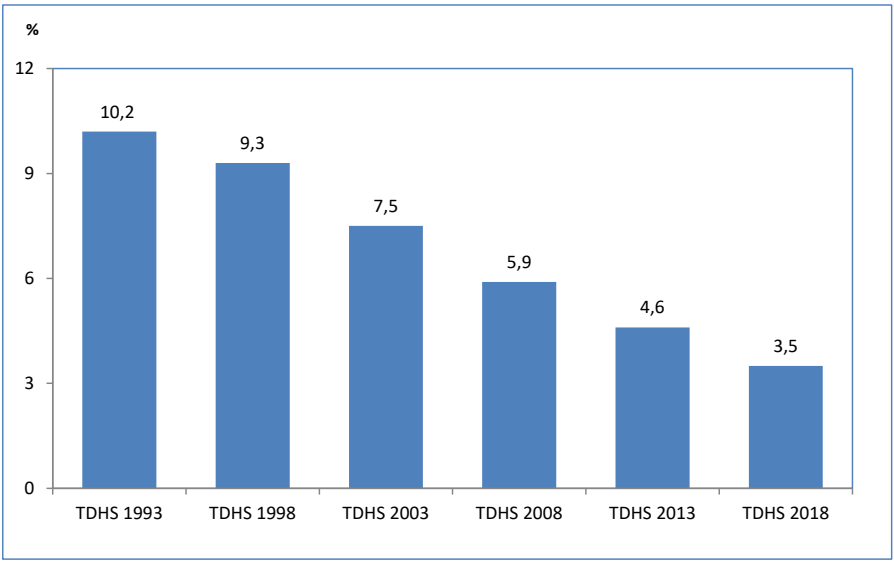
Source: TURKSTAT, Birth Statistics 2018

Figure 5.17. International Comparison of Adolescent Fertility Rate, (‰), 2017



Source: TURKSTAT Birth Statistics 2018, UNPD
Note: Turkey's data belongs to the year 2018.

Figure 5.18. Proportion of Adolescent Mothers Among All Mothers by Years, (%)



Source: TDHS, 1993, 1998, 2003, 2008, 2013, 2018

Table 5.5. Full Follow-Up Ratio of Pregnant, Infant and Child by NUTS-1, (%), 2018

NUTS-1	Pregnancy Follow-Up	Infant Follow-Up	Child Follow-Up
Istanbul	95,9	87,7	93,1
Western Marmara	96,6	94,8	96,8
Aegean	96,5	93,4	96,4
Eastern Marmara	97,1	93,0	95,9
Western Anatolia	93,7	94,0	96,4
Mediterranean	95,8	91,4	94,6
Central Anatolia	96,3	94,5	95,8
Western Blacksea	94,0	95,6	96,5
Eastern Blacksea	94,6	96,3	96,1
Northeastern Anatolia	91,6	87,6	88,3
Mideastern Anatolia	94,5	83,7	86,3
Southeastern Anatolia	93,8	76,4	85,2
Turkey	95,2	88,6	92,8

Source: General Directorate of Public Health

Explanations for Chapter 5

☑ MMR vaccine was administered as measles vaccine alone before the year 2006.

☑ The DaPT vaccine which had been administered until 2008 was introduced in the form of DaPT + IPV + Hib (5 in one vaccine).

☑ CPV 3 vaccination has started in November 2008.

☑ The population that was used to calculate the vaccination coverage is the target population that was calculated by the Ministry of Health.

☑ Values in the tables and figures in the Chapter may not give the sum due to rounding.

☑ **Age-Specific Fertility Rate, (‰):** It represents the average number of live births that would be born to a woman during her reproductive life (from 15 to 49).

☑ **Adolescent Fertility Rate, (‰):** It represents the average number of live births per thousand women in 15-19 age group.

☑ **Full Follow-Up of Pregnant:** A pregnant woman should be followed 4 times during her pregnancy. The pregnant woman who has been followed at least 4 times in the determined period and time intervals is considered to be ***fully followed.***

Pregnancy follow-up periods and intervals;

1. Follow-up: Within the first 14 weeks of pregnancy
2. Follow-up: Between 18-24 weeks of pregnancy
3. Follow-up: Between 28-32 weeks of pregnancy
4. Follow-up: Between 36-38 weeks of pregnancy

☑ **Full Follow-Up of Infant:** A baby should be followed 9 times during the first year of life. The baby who has been followed first in the hospital immediately after birth and in addition at least 8 times (ie, 9 times in total) in the determined period and time intervals is considered to be ***fully followed.***

Infant follow-up periods and intervals;

1.Follow-up: At birth (in hospital)
2. Follow-up: Follow-up of the newborn in the first week after birth (1st to 10th day)
3. Follow-up: Day 15 (Between 11th-29th days)
4. Follow-up: Day 41 (Between 30th-59th days)
5. Follow-up: 2 months (Between 60th-89th days)
6. Follow-up: 3 months (Between 90th-115th days)
7. Follow-up: 4 months (Between 120th-150th day)
8. Follow-up: 6 months (Between 180th-210th days)
9. Follow-up: 9 months (Between 250th-290th days)

☑ **Full Follow-Up of Child:** A child should be followed 7 times until the age of 6 years. The child who has been followed at least 7 times in the determined period and time intervals is considered to be ***fully followed.***

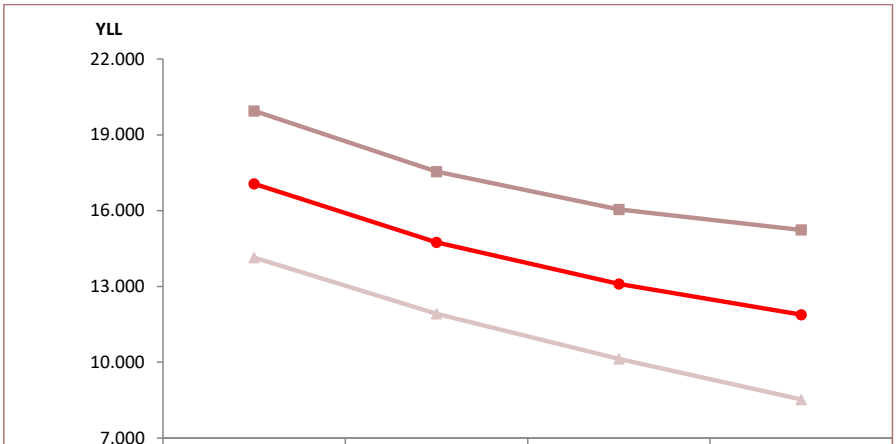
Child follow-up period and time intervals;

1. Follow-up: 12 months follow-up (Between 365th-394th days)
2. Follow-up: 18-month follow-up (Between 481th-570th days)
3. Follow-up: 24-month follow-up (Between 661th-760th days)
4. Follow-up: 30-month follow-up (Between 841th-930th days)
5. Follow-up: 36 months follow-up (Between 1.021th-1.110th days)
6. Follow-up: 48 months follow-up (Between 1.321th-1.530th days)
7. Follow-up: 60-month follow-up (Between 1.681th-1.890th days)

Chapter 6

Global Burden of Disease 2017 Turkey Results

Figure 6.1. YLL per 100.000 Population by Years and Sex



	2002	2005	2010	2017
Total	17.063	14.744	13.104	11.885
Male	19.950	17.543	16.048	15.236
Female	14.142	11.920	10.135	8.528

Source: IHME, Global Burden of Disease Study 2017

Table 6.1. Change in 2017 Top 10 YLL Causes Compared to 2002, (%), Total

Rank	Cause	2002	2017	Change (%)
1	Ischemic Heart Disease	1.507.528	1.509.976	0,16
2	Neonatal Disorders	2.108.974	680.865	-67,72
3	Tracheal, Bronchus, and Lung Cancer	475.717	655.068	37,70
4	Stroke	413.194	642.929	55,60
5	Congenital Birth Defects	919.470	459.075	-50,07
6	Chronic Obstructive Pulmonary Disease	262.266	427.595	63,04
7	Road Injuries	372.505	409.862	10,03
8	Chronic Kidney Disease	229.221	289.128	26,14
9	Diabetes Mellitus	254.821	282.840	11,00
10	Alzheimer's Disease and Other Dementias	158.090	259.328	64,04

Source: IHME, Global Burden of Disease Study 2017

Table 6.2. Change in 2017 Top 10 YLL Causes Compared to 2002, (%), Male

Rank	Cause	2002	2017	Change (%)
1	Ischemic Heart Disease	1.044.208	1.046.744	0,24
2	Tracheal, Bronchus, and Lung Cancer	409.506	564.241	37,79
3	Neonatal Disorders	1.176.059	370.043	-68,54
4	Stroke	182.809	366.541	100,50
5	Road Injuries	290.663	332.416	14,36
6	Chronic Obstructive Pulmonary Disease	173.203	313.849	81,20
7	Congenital Birth Defects	505.922	250.231	-50,54
8	Chronic Kidney Disease	117.294	163.884	39,72
9	Lower Respiratory Infections	381.635	156.191	-59,07
10	Diabetes Mellitus	116.146	150.201	29,32

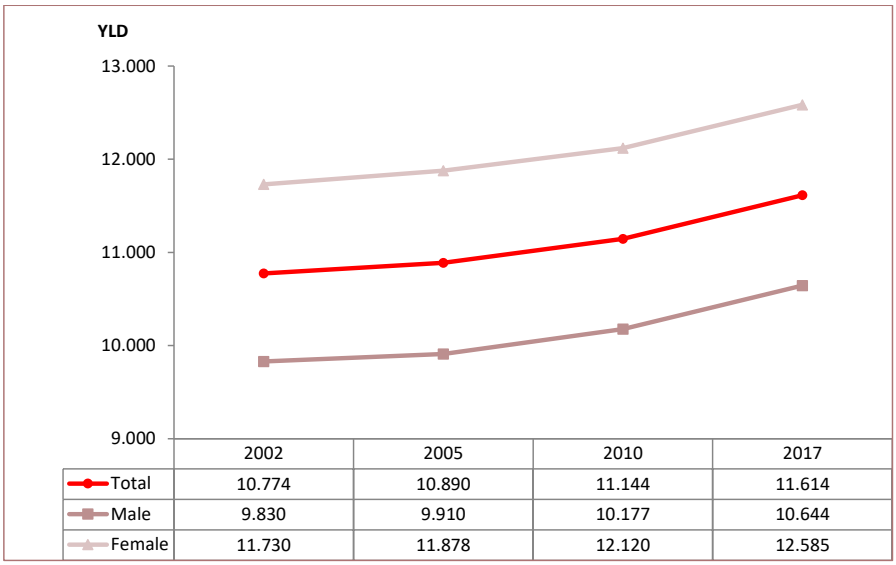
Source: IHME, Global Burden of Disease Study 2017

Table 6.3. Change in 2017 Top 10 YLL Causes Compared to 2002, (%), Female

Rank	Cause	2002	2017	Change (%)
1	Ischemic Heart Disease	463.320	463.232	-0,02
2	Neonatal Disorders	932.915	310.823	-66,68
3	Stroke	230.384	276.388	19,97
4	Congenital Birth Defects	413.548	208.844	-49,50
5	Alzheimer's Disease and Other Dementias	97.430	136.563	40,17
6	Diabetes Mellitus	138.675	132.639	-4,35
7	Breast Cancer	122.109	131.651	7,81
8	Chronic Kidney Disease	111.926	125.245	11,90
9	Chronic Obstructive Pulmonary Disease	89.063	113.746	27,71
10	Lower Respiratory Infections	315.853	93.054	-70,54

Source: IHME, Global Burden of Disease Study 2017

Figure 6.2. YLD per 100.000 Population by Years and Sex



	2002	2005	2010	2017
Total	10.774	10.890	11.144	11.614
Male	9.830	9.910	10.177	10.644
Female	11.730	11.878	12.120	12.585

Source: IHME, Global Burden of Disease Study 2017

Table 6.4. Change in 2017 Top 10 YLD Causes Compared to 2002, (%), Total

Rank	Cause	2002	2017	Change (%)
1	Low Back Pain	718.481	967.285	34,63
2	Headache Disorders	511.079	653.949	27,95
3	Depressive Disorders	425.365	517.543	21,67
4	Diabetes Mellitus	291.790	501.499	71,87
5	Drug Use Disorders	340.091	480.893	41,40
6	Chronic Obstructive Pulmonary Disease	322.092	401.134	24,54
7	Neck Pain	270.731	396.934	46,62
8	Anxiety Disorders	238.703	298.724	25,14
9	Age-Related and Other Hearing Loss	192.474	297.669	54,65
10	Oral Disorders	191.517	258.370	34,91

Source: IHME, Global Burden of Disease Study 2017

Table 6.5. Change in 2017 Top 10 YLD Causes Compared to 2002, (%), Male

Rank	Cause	2002	2017	Change (%)
1	Low Back Pain	324.132	430.964	32,96
2	Drug Use Disorders	253.831	365.669	44,06
3	Diabetes Mellitus	144.546	254.398	76,00
4	Headache Disorders	161.362	206.715	28,11
5	Depressive Disorders	156.487	188.362	20,37
6	Chronic Obstructive Pulmonary Disease	142.660	174.552	22,36
7	Neck Pain	104.715	152.421	45,56
8	Age-Related and Other Hearing Loss	96.022	143.336	49,27
9	Anxiety Disorders	95.810	117.205	22,33
10	Oral Disorders	86.519	115.461	33,45

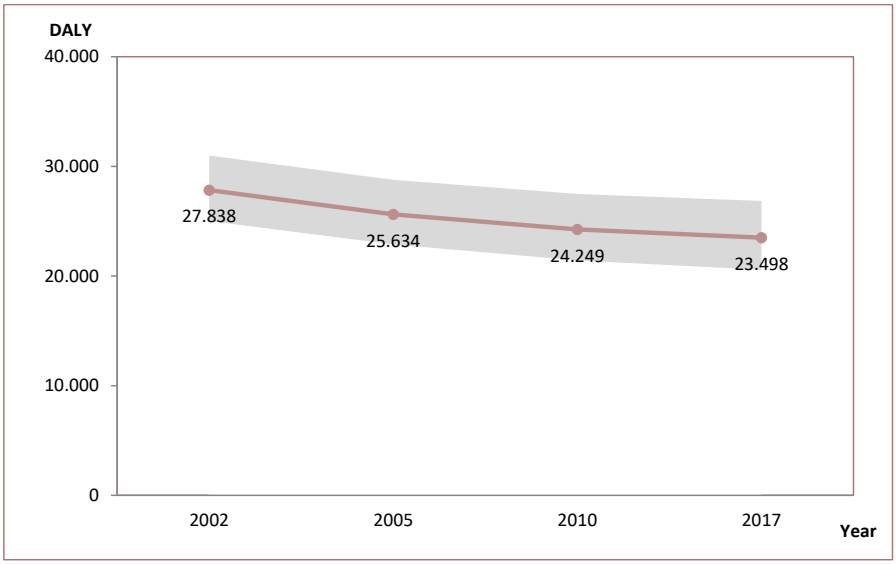
Source: IHME, Global Burden of Disease Study 2017

Table 6.6. Change in 2017 Top 10 YLD Causes Compared to 2002, (%), Female

Rank	Cause	2002	2017	Change (%)
1	Low Back Pain	394.348	536.320	36,00
2	Headache Disorders	349.717	447.234	27,88
3	Depressive Disorders	268.878	329.181	22,43
4	Diabetes Mellitus	147.244	247.102	67,82
5	Neck Pain	166.015	244.513	47,28
6	Chronic Obstructive Pulmonary Disease	179.433	226.582	26,28
7	Anxiety Disorders	142.893	181.519	27,03
8	Age-Related and Other Hearing Loss	96.452	154.332	60,01
9	Oral Disorders	104.998	142.909	36,11
10	Blindness and Vision Impairment	98.242	135.334	37,76

Source: IHME, Global Burden of Disease Study 2017

Figure 6.3. DALY per 100.000 Population by Years



Source: IHME, Global Burden of Disease Study 2017
Note: The shadow area in the figure shows confidence interval for the estimates.

Table 6.7. Change in 2017 Top 10 DALY Causes Compared to 2002, (%), Total

Rank	Cause	2002	2017	Change (%)
1	Ischemic Heart Disease	1.556.352	1.577.224	1,34
2	Low Back Pain	718.481	967.285	34,63
3	Neonatal Disorders	2.292.849	884.796	-61,41
4	Chronic Obstructive Pulmonary Disease	584.359	828.730	41,82
5	Stroke	520.813	819.523	57,35
6	Diabetes Mellitus	546.612	784.339	43,49
7	Tracheal, Bronchus, and Lung Cancer	479.881	661.190	37,78
8	Headache Disorders	511.079	653.949	27,95
9	Congenital Birth Defects	1.012.943	569.937	-43,73
10	Depressive Disorders	425.365	517.543	21,67

Source: IHME, Global Burden of Disease Study 2017

Table 6.8. Change in 2017 Top 10 DALY Causes Compared to 2002, (%), Male

Rank	Cause	2002	2017	Change (%)
1	Ischemic Heart Disease	1.069.674	1.080.908	1,05
2	Tracheal, Bronchus, and Lung Cancer	413.059	569.455	37,86
3	Chronic Obstructive Pulmonary Disease	315.863	488.402	54,62
4	Neonatal Disorders	1.266.067	468.913	-62,96
5	Stroke	225.551	435.532	93,10
6	Low Back Pain	324.132	430.964	32,96
7	Diabetes Mellitus	260.692	404.599	55,20
8	Drug Use Disorders	258.274	380.803	47,44
9	Road Injuries	311.404	370.950	19,12
10	Congenital Birth Defects	554.431	307.208	-44,59

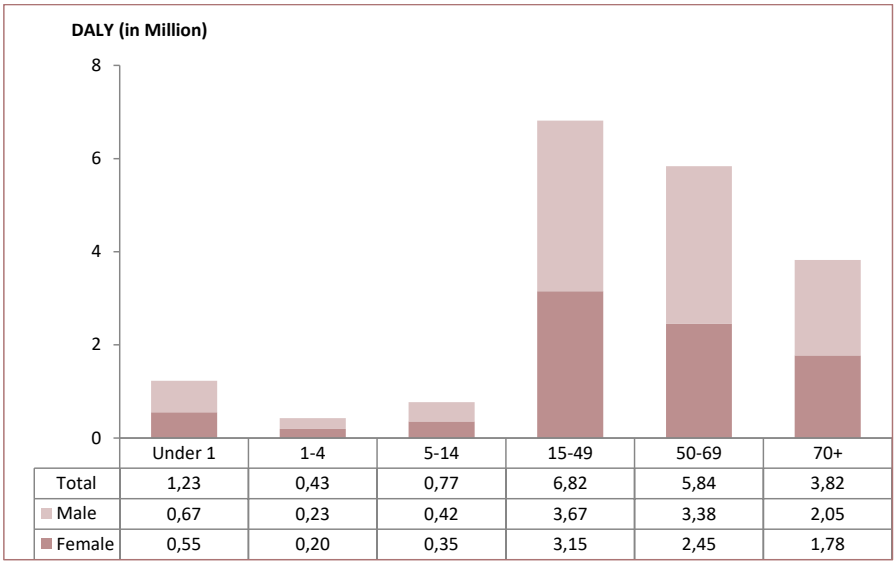
Source: IHME, Global Burden of Disease Study 2017

Table 6.9. Change in 2017 Top 10 DALY Causes Compared to 2002, (%), Female

Rank	Cause	2002	2017	Change (%)
1	Low Back Pain	394.348	536.320	36,00
2	Ischemic Heart Disease	486.678	496.316	1,98
3	Headache Disorders	349.717	447.234	27,88
4	Neonatal Disorders	1.026.782	415.883	-59,50
5	Stroke	295.262	383.991	30,05
6	Diabetes Mellitus	285.919	379.740	32,81
7	Chronic Obstructive Pulmonary Disease	268.496	340.328	26,75
8	Depressive Disorders	268.878	329.181	22,43
9	Congenital Birth Defects	458.511	262.729	-42,70
10	Neck Pain	166.015	244.513	47,28

Source: IHME, Global Burden of Disease Study 2017

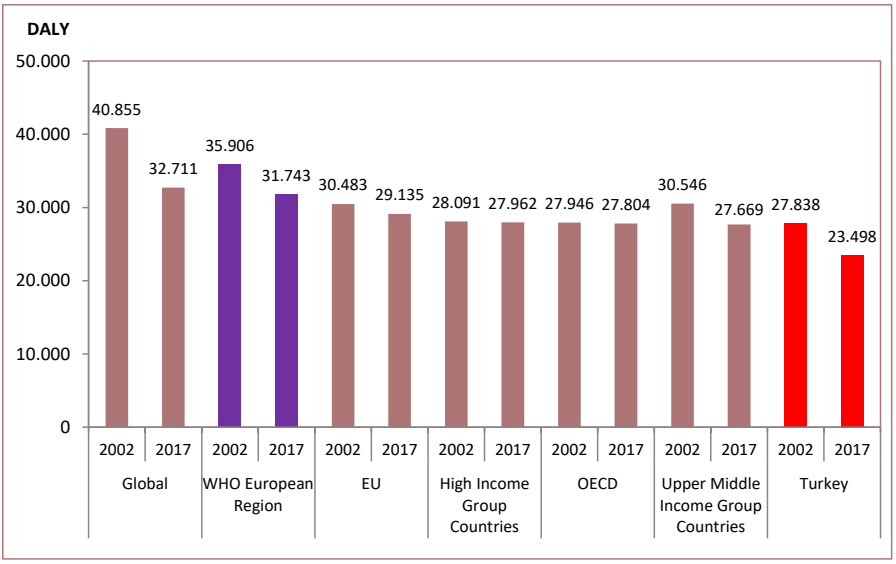
Figure 6.4. DALY by Sex and Age Groups, (in Million), 2017



	Under 1	1-4	5-14	15-49	50-69	70+
Total	1,23	0,43	0,77	6,82	5,84	3,82
Male	0,67	0,23	0,42	3,67	3,38	2,05
Female	0,55	0,20	0,35	3,15	2,45	1,78

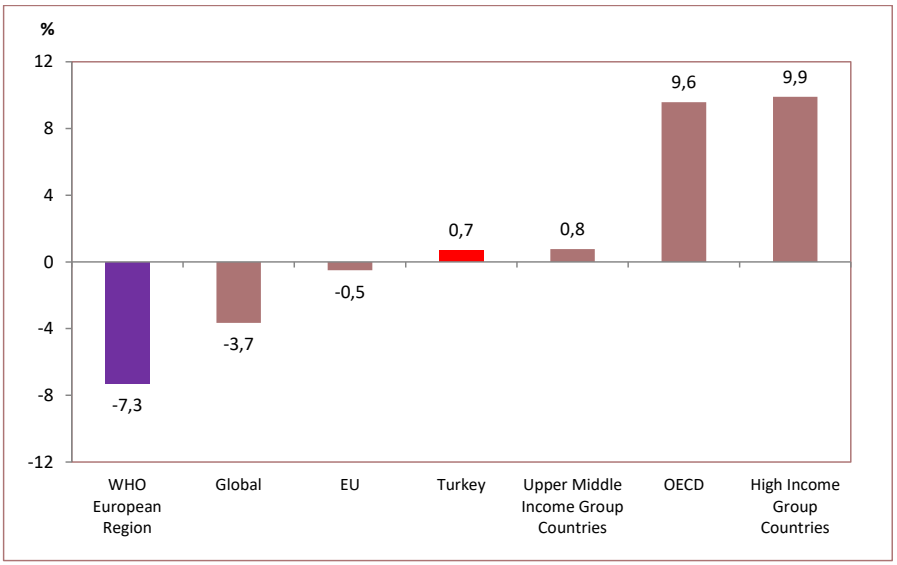
Source: IHME, Global Burden of Disease Study 2017

Figure 6.5. International Comparison of DALY per 100.000 Population, 2002, 2017



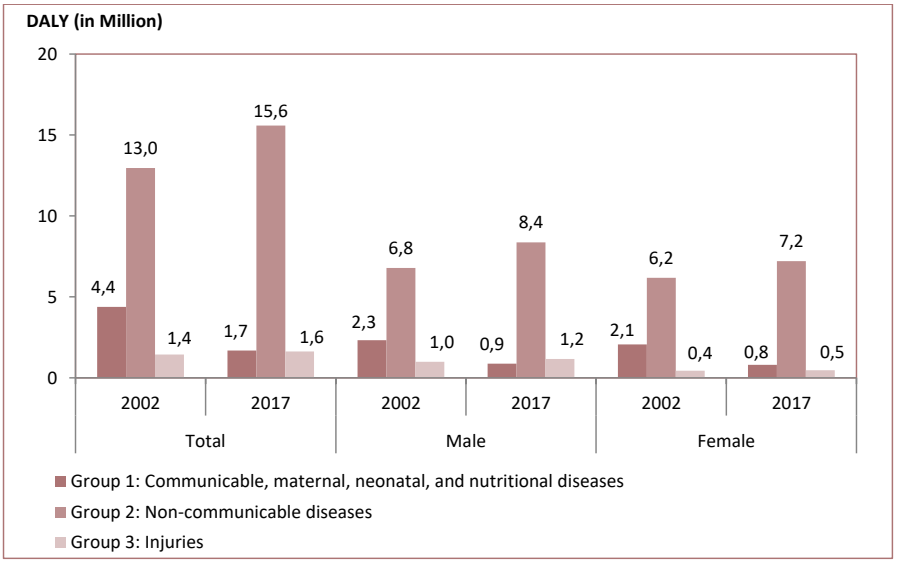
Source: IHME, Global Burden of Disease Study 2017

Figure 6.6. International Comparison of Change in DALY Between 2002-2017, (%)



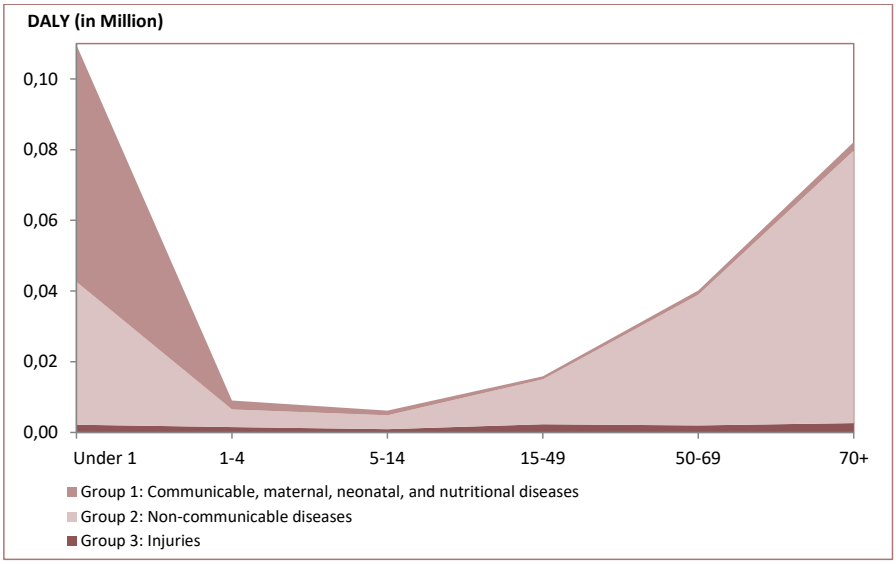
Source: IHME, Global Burden of Disease Study 2017

Figure 6.7. DALY by Major Disease Groups and Sex, (in Million), 2002, 2017



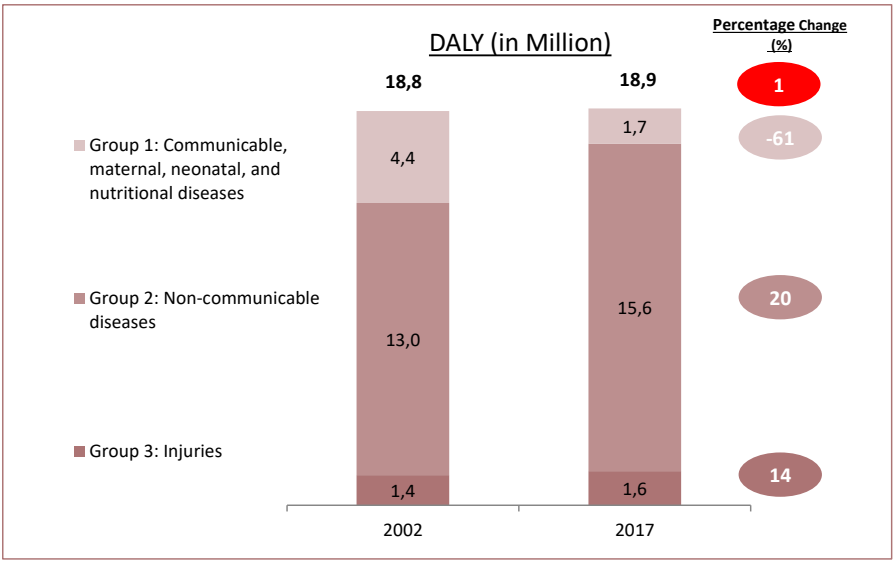
Source: IHME, Global Burden of Disease Study 2017

Figure 6.8. DALY per 100.000 Population by Major Disease Groups and Age Groups, (in Million), 2017



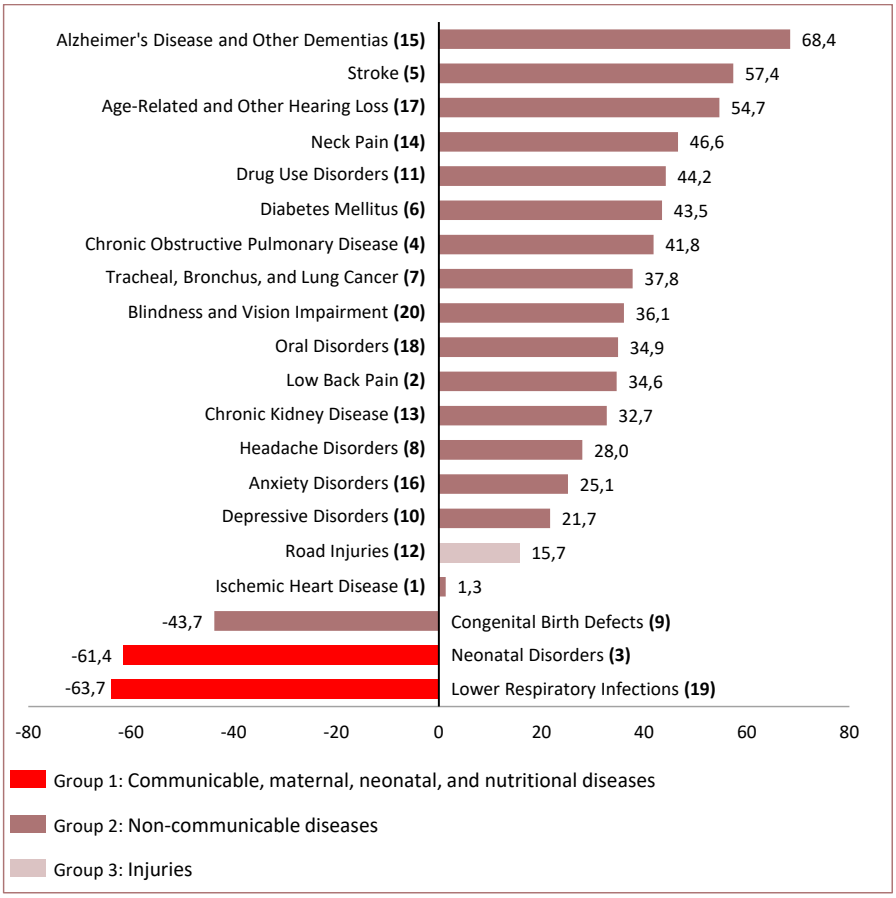
Source: IHME, Global Burden of Disease Study 2017

Figure 6.9. Major Disease Groups' DALY (in Million) and Change in Their Percent, (%), 2002, 2017



Source: IHME, Global Burden of Disease Study 2017

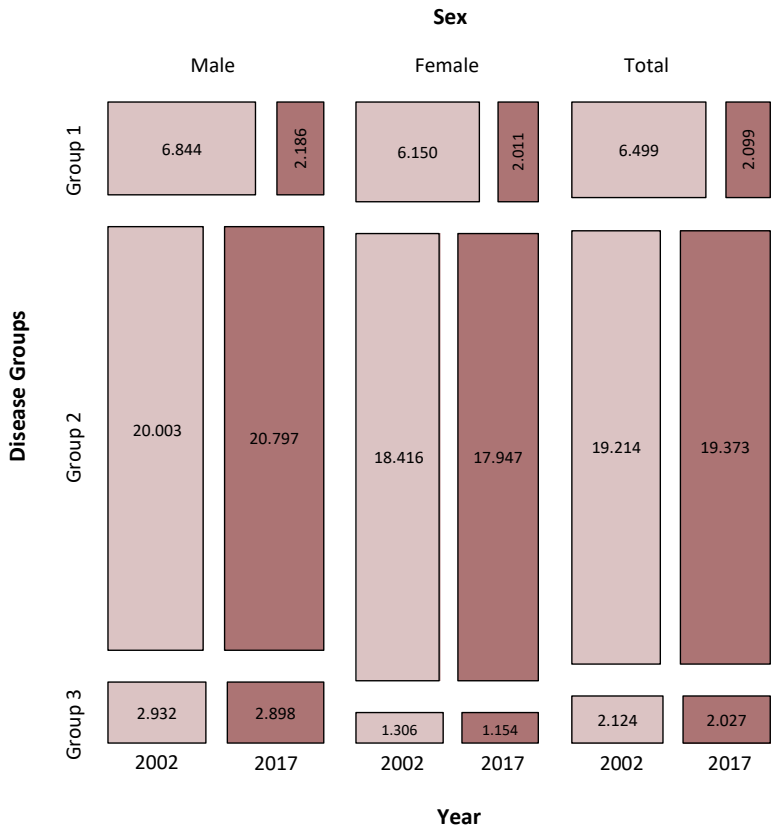
Figure 6.10. Change in Year of 2017 Top 20 DALY Causes Compared to Year of 2002, (%)



Source: IHME, Global Burden of Disease Study 2017

Note: The numbers in parenthesis written with causes show the rank of related causes in the "2017 Top 20 DALY Causes".

Figure 6.11. DALY per 100.000 Population by Major Disease Groups and Sex, 2002, 2017



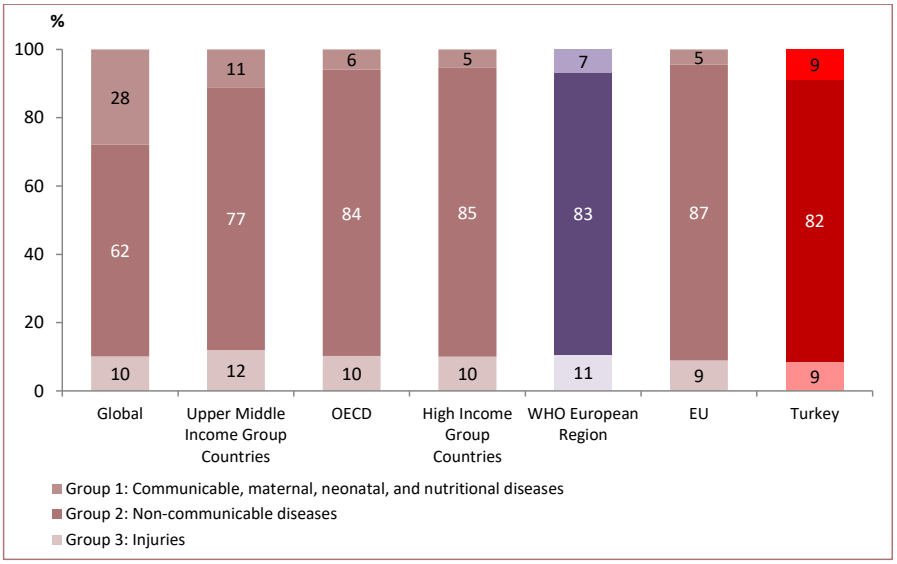
Group 1: Communicable, maternal, neonatal, and nutritional diseases

Group 2: Non-communicable diseases

Group 3: Injuries

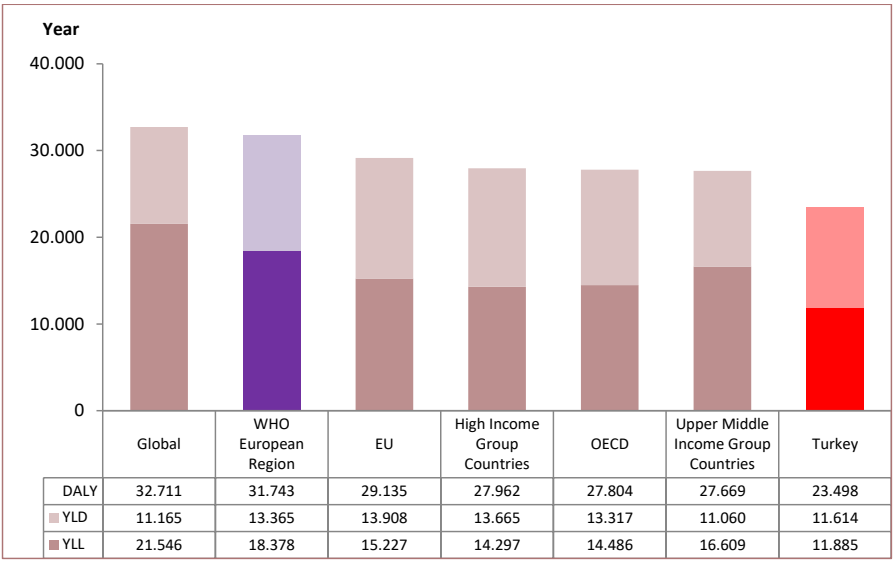
Source: IHME, Global Burden of Disease Study 2017

Figure 6.12. International Comparison of DALY by Major Disease Groups as Percentage, 2017



Source: IHME, Global Burden of Disease Study 2017

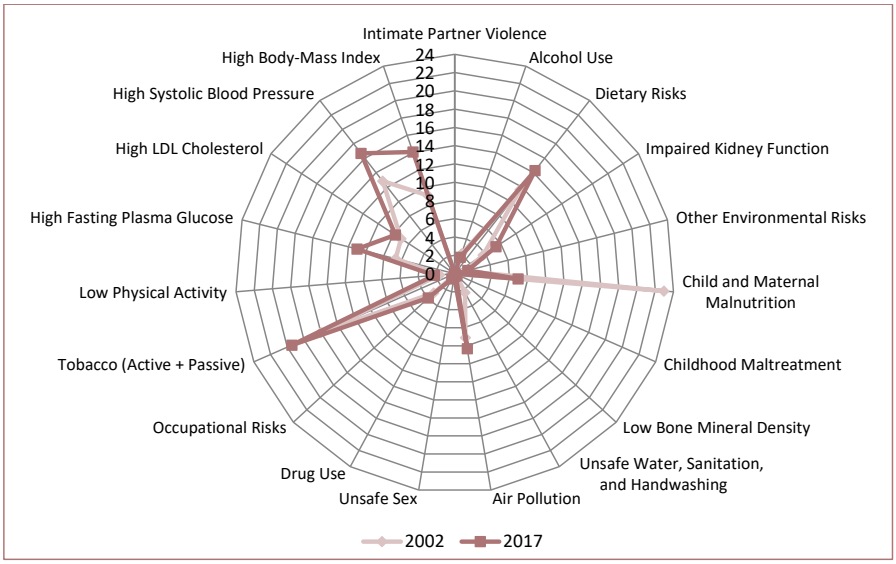
Figure 6.13. International Comparison of YLL, YLD and DALY per 100.000 Population, 2017



	Global	WHO European Region	EU	High Income Group Countries	OECD	Upper Middle Income Group Countries	Turkey
DALY	32.711	31.743	29.135	27.962	27.804	27.669	23.498
YLD	11.165	13.365	13.908	13.665	13.317	11.060	11.614
YLL	21.546	18.378	15.227	14.297	14.486	16.609	11.885

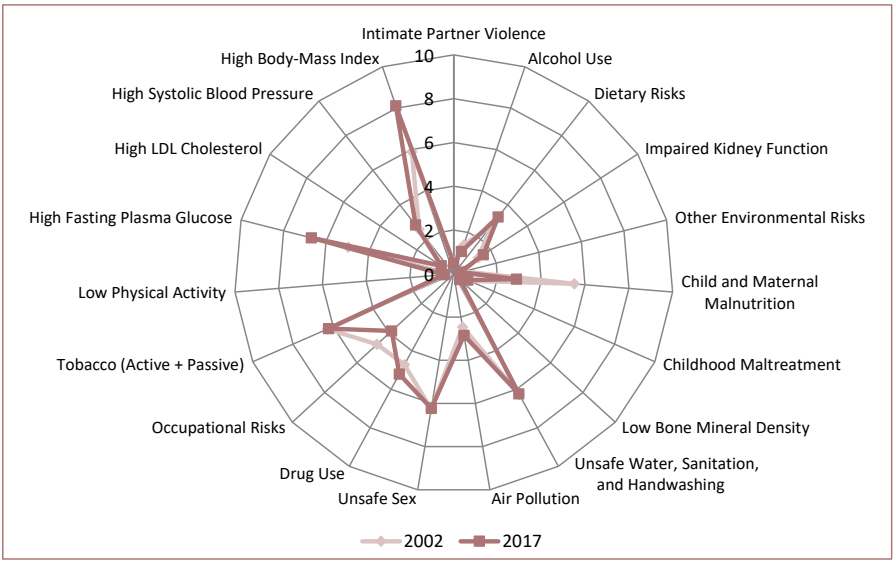
Source: IHME, Global Burden of Disease Study 2017

Figure 6.14. Share of Attributable YLL to Selected Risk Factors, (%), 2002, 2017



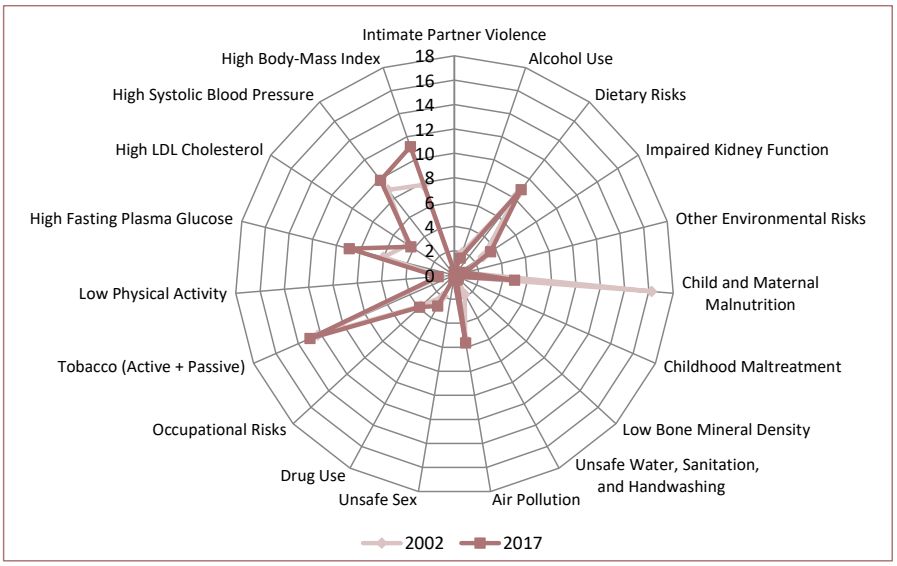
Source: IHME, Global Burden of Disease Study 2017

Figure 6.15. Share of Attributable YLD to Selected Risk Factors, (%), 2002, 2017



Source: IHME, Global Burden of Disease Study 2017

Figure 6.16. Share of Attributable DALY to Selected Risk Factors, (%), 2002, 2017



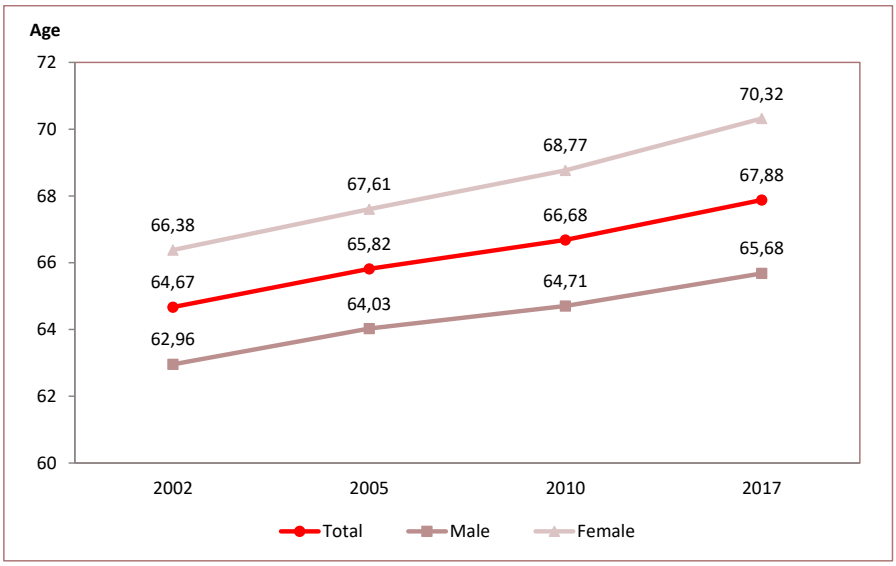
Source: IHME, Global Burden of Disease Study 2017

Table 6.10. Attributable DALY per 100.000 Population for Selected Risk Factors by Sex, 2002, 2017

Risk Factors	2002			2017		
	Male	Female	Total	Male	Female	Total
Tobacco (Active and Passive)	5.212	1.566	3.400	4.825	1.240	3.034
High Body-Mass Index	2.159	2.199	2.179	2.708	2.526	2.617
High Systolic Blood Pressure	2.792	2.135	2.466	2.716	1.906	2.312
High Fasting Plasma Glucose	1.758	1.587	1.673	2.383	1.795	2.089
Dietary Risks	2.852	1.706	2.283	2.641	1.526	2.084
Air Pollution	1.798	1.144	1.473	1.707	930	1.319
Child and Maternal Malnutrition	4.772	4.252	4.514	1.167	1.148	1.158
High LDL Cholesterol	1.751	765	1.261	1.325	674	1.000
Occupational Risks	1.647	430	1.042	1.465	360	913
Impaired Kidney Function	781	771	776	869	786	828
Drug Use	826	272	551	1.048	307	678
Alcohol Use	777	311	545	530	169	350
Low Physical Activity	388	251	320	386	248	317
Other Environmental Risks	333	147	240	306	117	212
Unsafe Water, Sanitation, and Handwashing	519	466	493	102	108	105
Low Bone Mineral Density	53	60	57	76	90	83
Childhood Maltreatment	90	79	85	84	78	81
Intimate Partner Violence	-	133	66	-	131	66
Unsafe Sex	20	100	60	27	84	56

Source: IHME, Global Burden of Disease Study 2017

Figure 6.17. HALE at Birth by Years and Sex

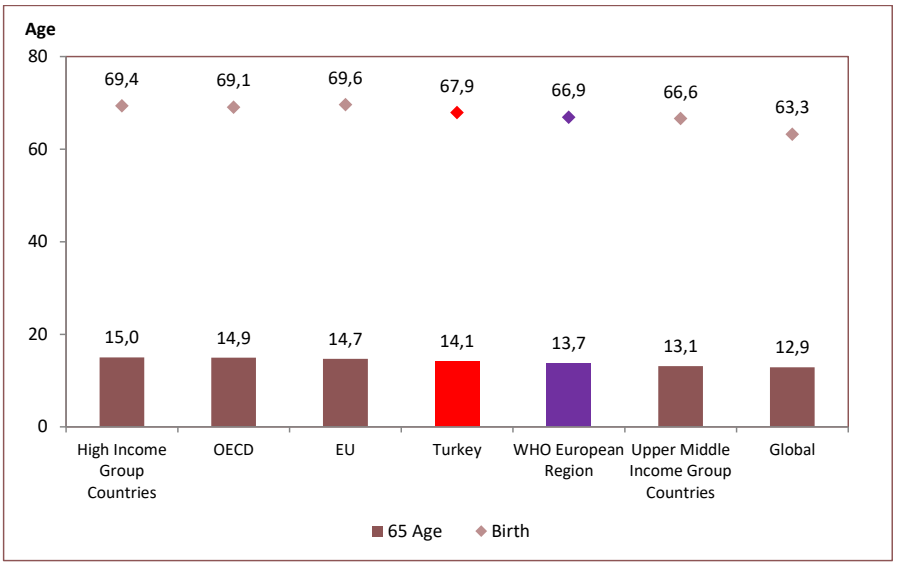


Source: IHME, Global Burden of Disease Study 2017

Figure 6.18. HALE at Age of 65 by Years and Sex

Source: IHME, Global Burden of Disease Study 2017

Figure 6.19. International Comparison of HALE at Birth and 65 Age, 2017



Source: IHME, Global Burden of Disease Study 2017

Explanations for Chapter 6

☑ **Disability Adjusted Life Years (DALY):** DALY is an absolute measure of health loss which counts the number of years of life lost due to early deaths as well as by diseases, and injuries which do not result in death, but lead to loss of function in the long run. One DALY is defined as one year lost from healthy life.

☑ **Years Lived with Disability (YLD):** It measures non-fatal yet unhealthy years of life lived.

☑ **Years of Life Lost (YLL):** It measures the years of life lost due to premature deaths.

☑ DALY is the sum of two components;

DALY = YLL (Mortality Burden) + YLD (Morbidity Burden)

☑ **Group 1 Diseases:** It includes communicable diseases, maternal, neonatal and nutritional diseases.

☑ **Group 2 Diseases:** It includes non-communicable diseases.

☑ **Group 3 Diseases:** It includes injuries.

☑ **Health Adjusted Life Expectancy (HALE):** It describes how long a person has lived in "full health" in his/her life. Its unit is year.

☑ Due to the methodological differences in Burden of Disease studies, it is not appropriate to make a comparison between the result of this study and previous ones.

☑ Due to not specifying any cause, "Other" ("Other Musculoskeletal", "Other Neoplasms" etc.) categories were not carried out in qualifying YLL, YLD and DALY causes.

☑ Totals in distribution tables and figures in the Chapter may not add up to 100% due to rounding.

☑ Values in the tables and figures in the Chapter may not give the sum due to rounding.

Global Burden of Disease Study 2017

☑ Global Burden of Disease Study 2017 (GBD-2017) was carried out globally and it covers 195 countries, 21 regions, and 7 super regions. The aim is evaluate health profile of these countries/regions and evaluate change in this profile.

☑ The study has made by Washington University Institute for Health Metrics and Evaluation (IHME).

☑ GBD studies are an important source of information to determine priorities in health sector and to evaluate the results of existing health programs.

☑ It is very important for measuring the burden caused by early deaths as well as by diseases, and injuries which do not result in death, but lead to loss of function in the long run and also the attributable burden to risk factors.

☑ The study enables to comparison of burden of diseases in detail by providing data on gender, age group, year, country, region, disease and risk factors.

Chapter 7

Health Care Facilities and Infrastructures

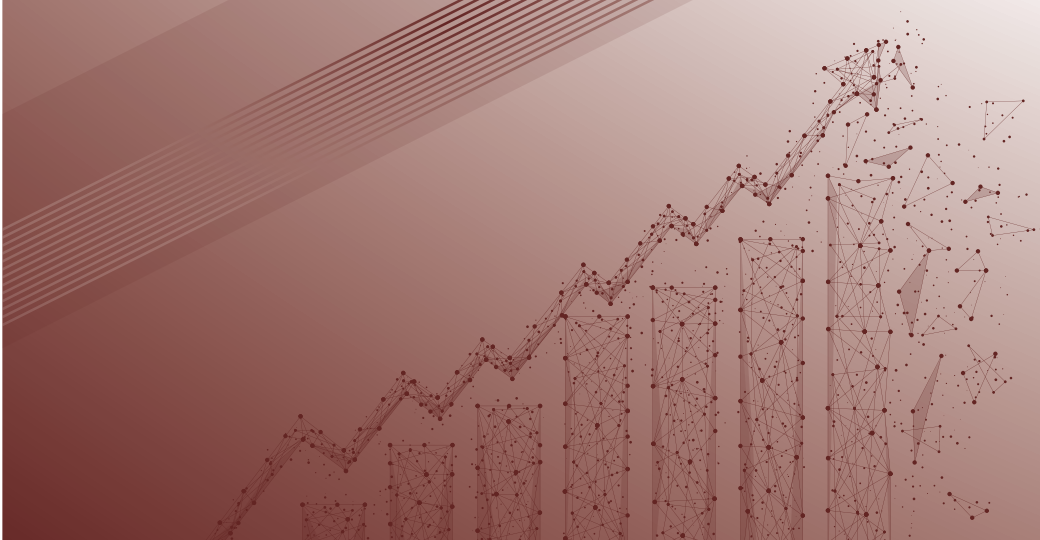
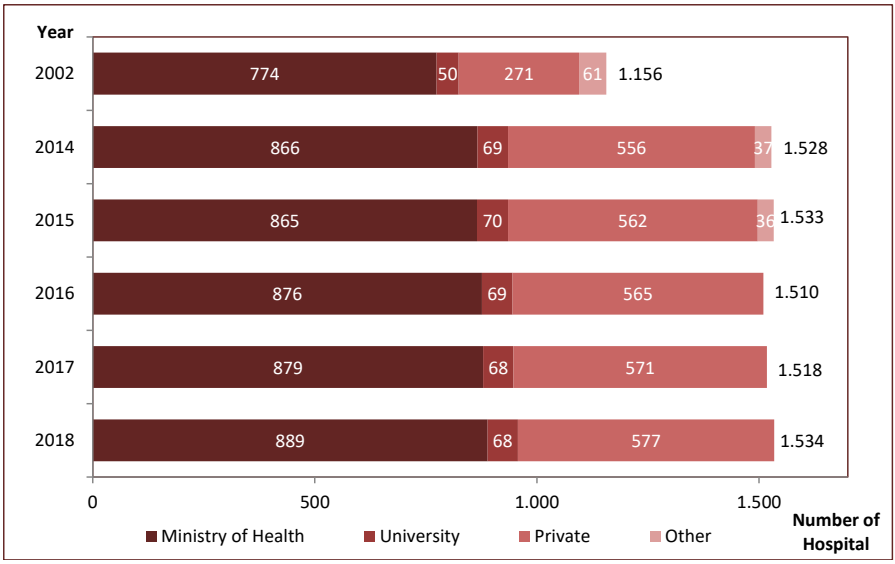
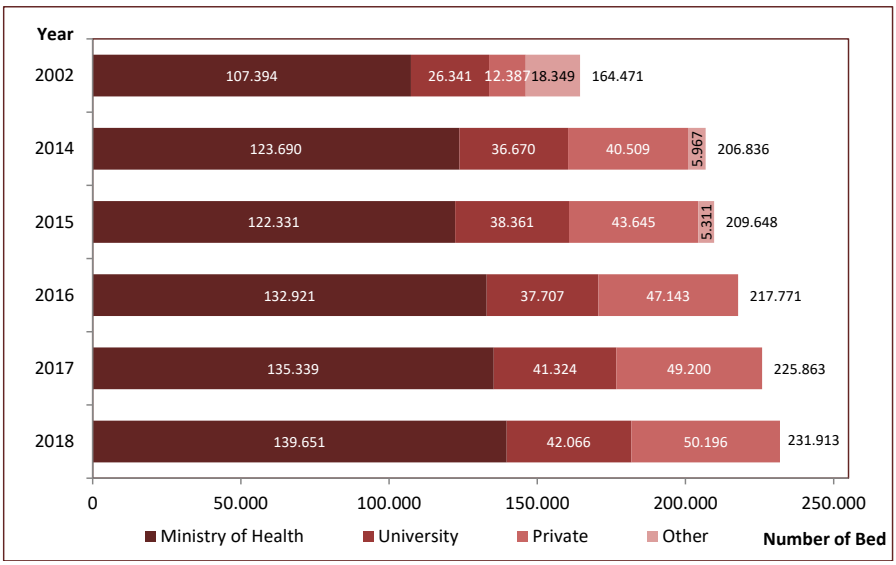


Figure 7.1. Number of Hospitals by Years and Sectors



Source: General Directorate of Health Services

Figure 7.2. Number of Hospital Beds by Years and Sectors



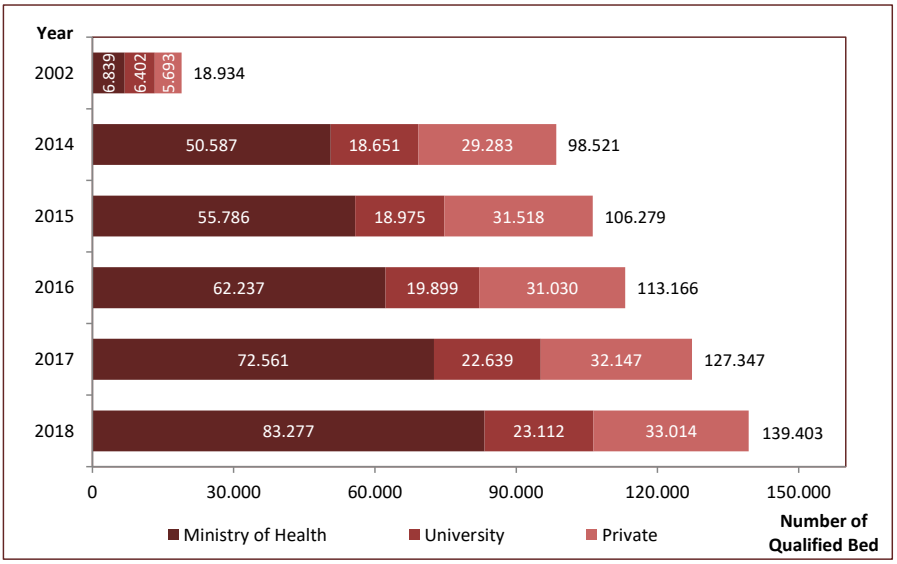
Source: General Directorate of Health Services

Table 7.1. Number of Hospitals and Beds by Branches, 2018

Branches	Hospital	Bed
General Hospital	1.423	212.883
Obstetric and Child Hospital	25	4.826
Ophthalmology Hospital	25	316
Physical Treatment and Rehabilitation Center	19	2.904
Chest Diseases Hospital	12	3.569
Psychiatry Hospital	11	3.887
Child Diseases Hospital	4	1339
Cardiovascular Diseases Hospital	4	599
Bone Diseases Hospital	3	436
Occupational Diseases Hospital	2	246
Oncology Hospital	2	712
Orthopedics and Traumatology Hospital	1	33
Leprosy Hospital	1	34
Hospital for Children with Leukemia	1	75
Spastic Children's Hospital and Rehab Center	1	54
Total	1.534	231.913

Source: General Directorate of Health Services

Figure 7.3. Number of Qualified Beds by Years and Sectors



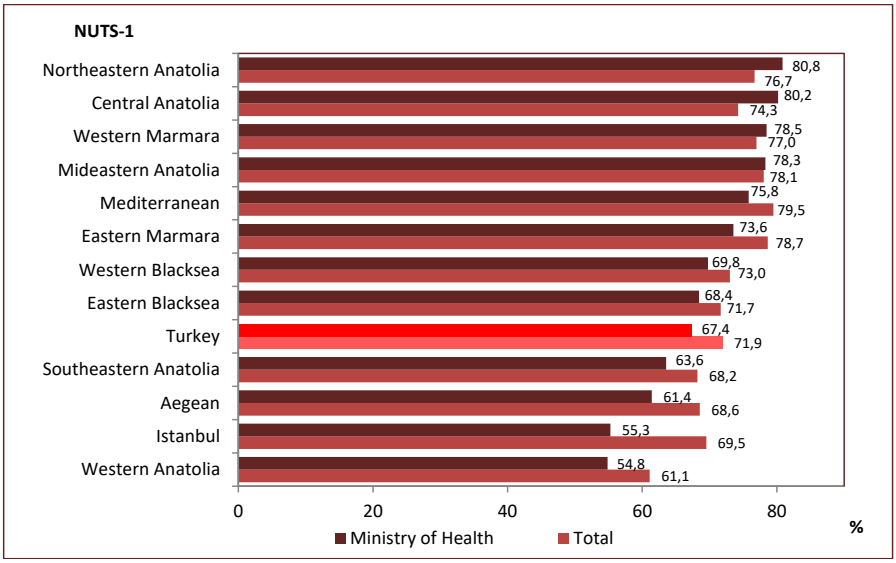
Source: General Directorate of Health Services

Table 7.2. Proportion of Qualified Beds Among Total Beds by Years and Sectors, (%)

	Ministry of Health	University	Private	Total
2002	6,4	24,6	19,1	11,7
2014	45,2	59,1	83,9	55,3
2015	50,8	57,5	89,1	59,7
2016	52,2	61,6	93,7	61,3
2017	60,3	63,8	95,1	67,2
2018	67,4	64,2	96,5	71,9

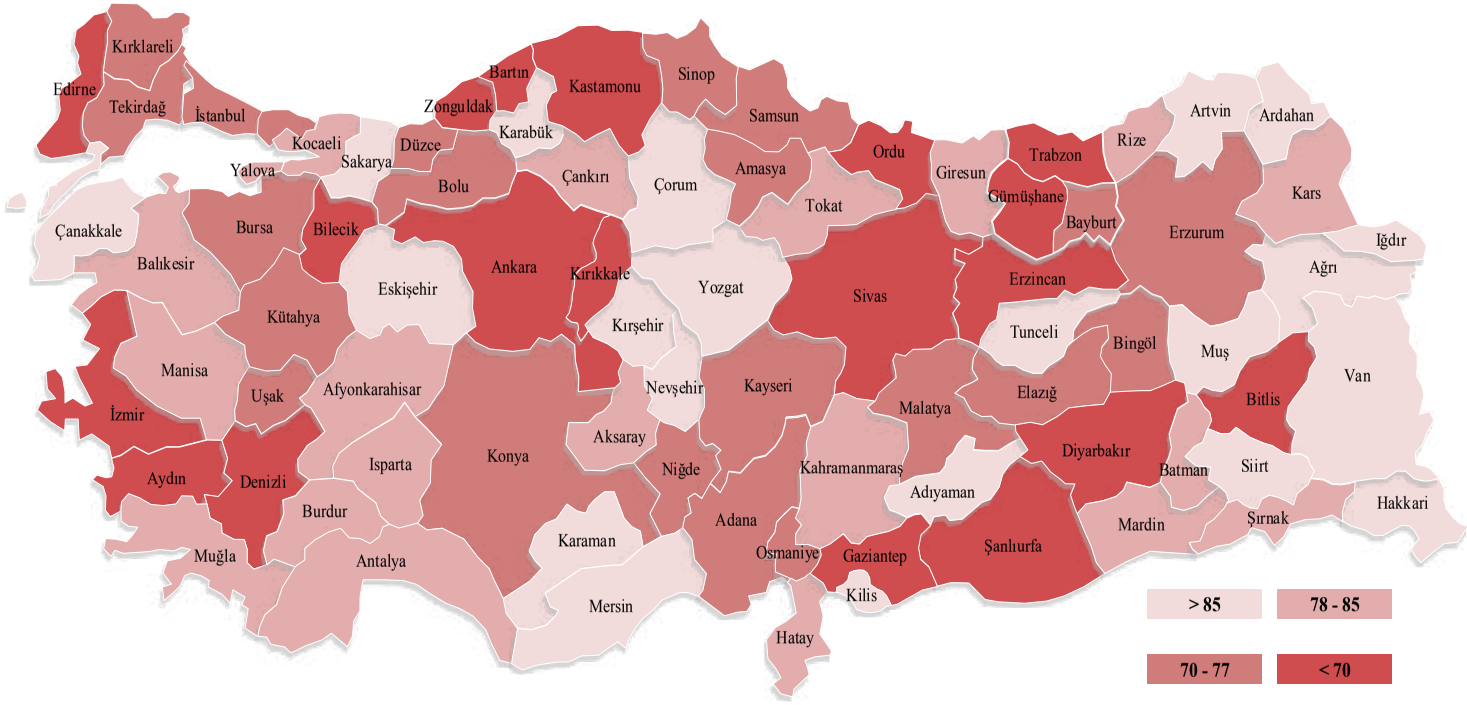
Source: General Directorate of Health Services
Note: Intensive care unit beds are not included.

Figure 7.4. Proportion of Qualified Beds Among Total Beds, (%), All Sectors, Ministry of Health, 2018



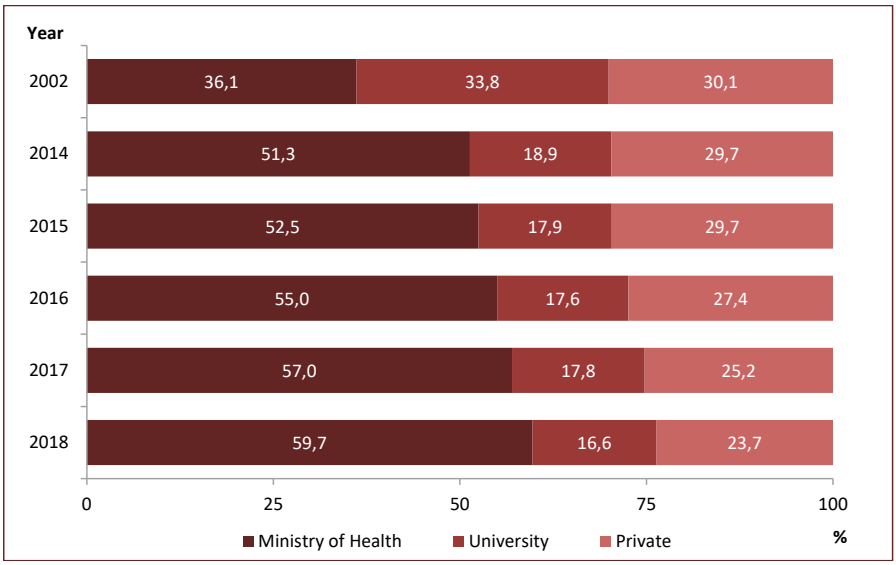
Source: General Directorate of Health Services
Note: Intensive care unit beds are not included.

Map 7.1. Proportion of Qualified Beds Among Total Beds by Provinces, (%), All Sectors, 2018



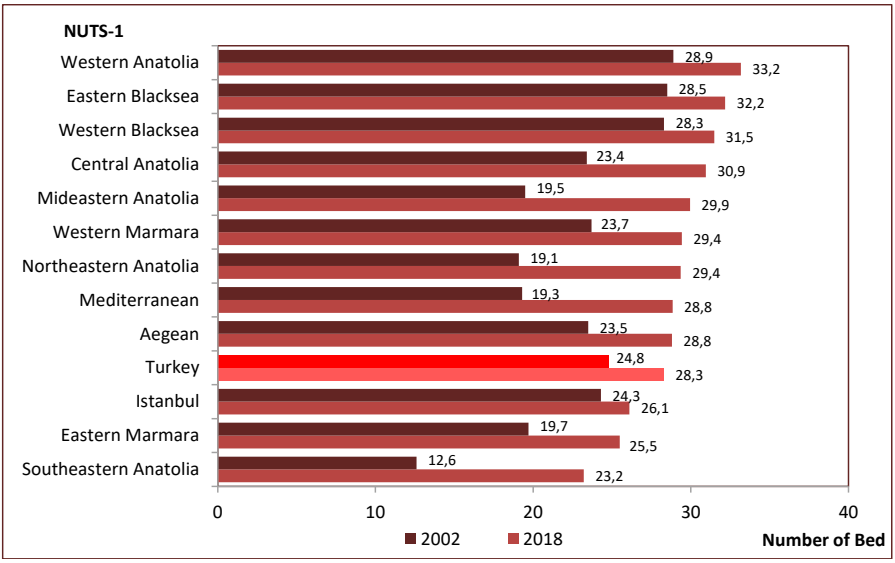
Source: General Directorate of Health Services
Note: Intensive care unit beds are not included.

Figure 7.5. Distribution of Qualified Beds by Years and Sectors, (%)



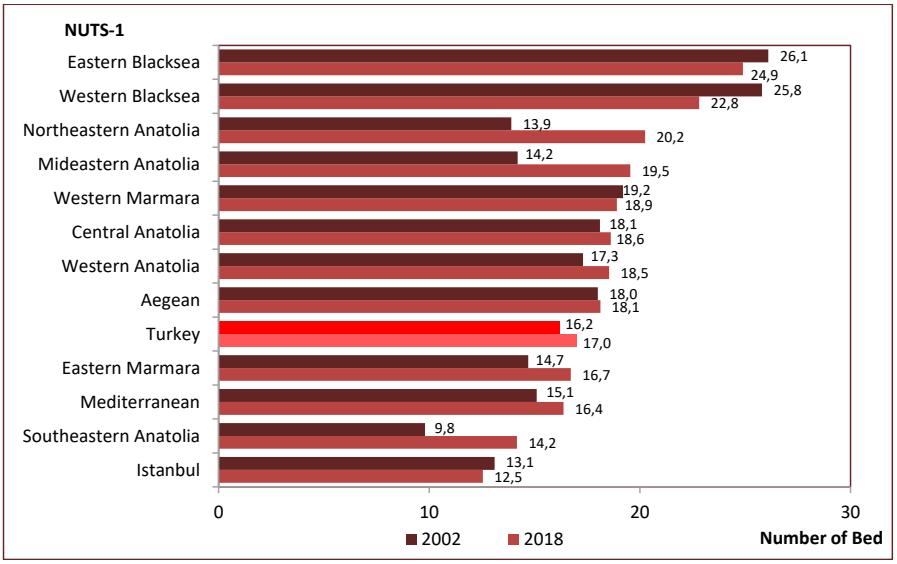
Source: General Directorate of Health Services

Figure 7.6. Number of Hospital Beds per 10.000 Population by NUTS-1, All Sectors, 2002, 2018



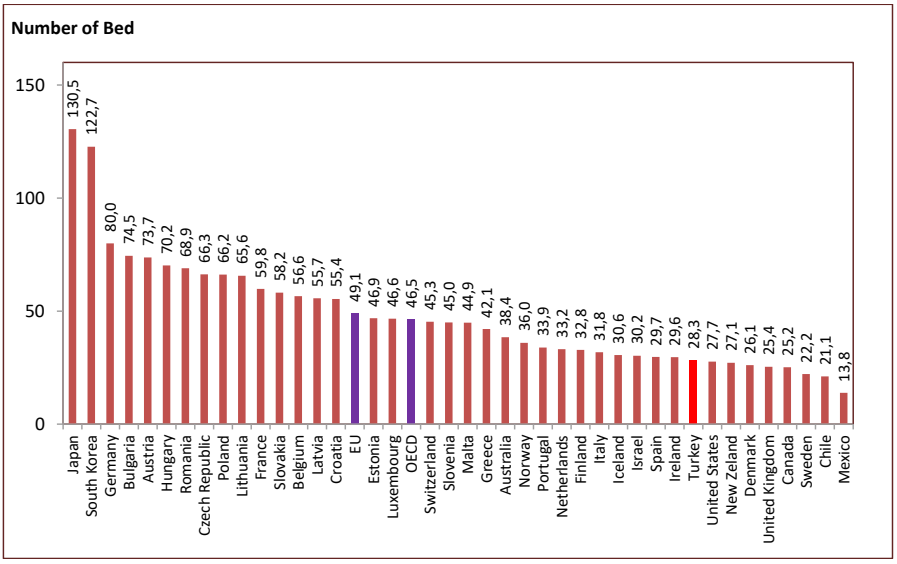
Source: General Directorate of Health Services

Figure 7.7. Number of Hospital Beds per 10.000 Population by NUTS-1, Ministry of Health, 2002, 2018



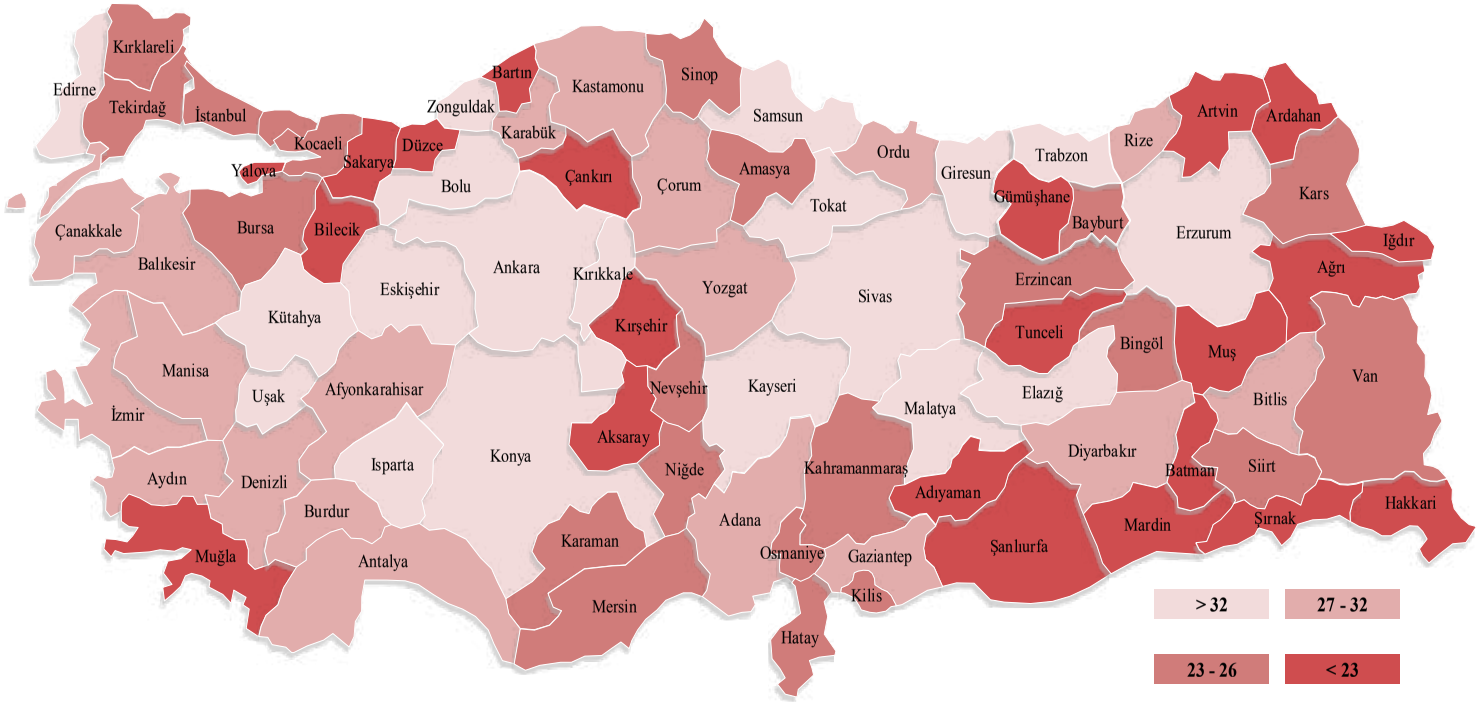
Source: General Directorate of Health Services

Figure 7.8. International Comparison of Number of Hospital Beds per 10.000 Population, 2017



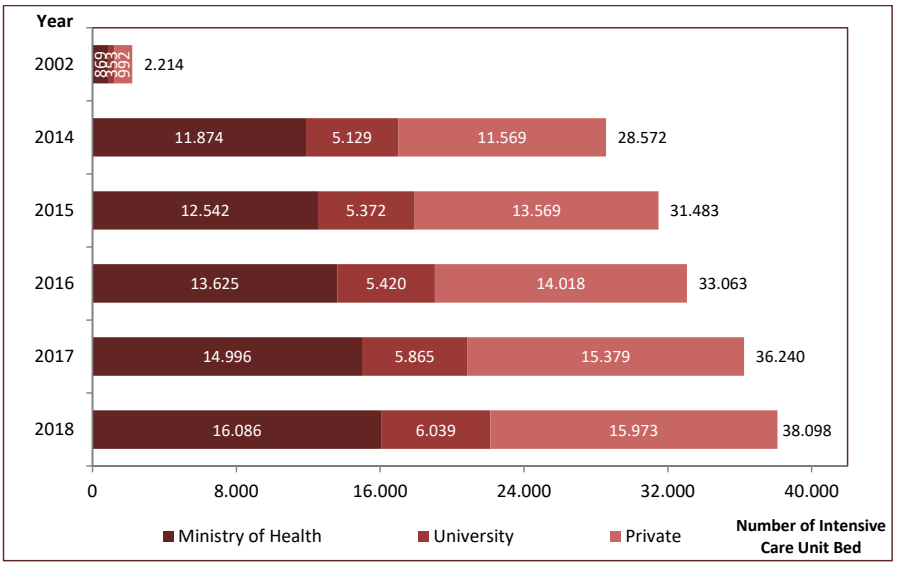
Source: General Directorate of Health Services, EUROSTAT Database, OECD Health Data 2019
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Map 7.2. Number of Hospital Beds per 10.000 Population by Provinces, All Sectors, 2018



Source: General Directorate of Health Services

Figure 7.9. Total Number of Intensive Care Unit Beds by Years and Sectors



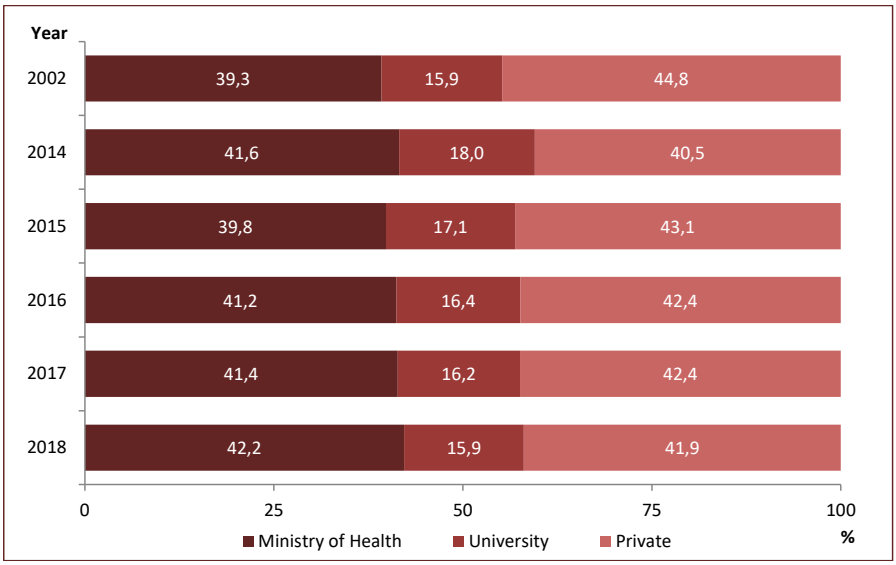
Source: General Directorate of Health Services

Table 7.3. Number and Distribution (%) of Intensive Care Unit Beds by Types and Sectors, 2018

	Ministry of Health		University		Private		Total	
	Number	%	Number	%	Number	%	Number	%
Adult	11.171	69,4	4.049	67,0	8.851	55,4	24.071	63,2
Child	941	5,8	542	9,0	142	0,9	1.625	4,3
Neonatal	3.974	24,7	1.448	24,0	6.980	43,7	12.402	32,6
Total	16.086	100	6.039	100	15.973	100	38.098	100

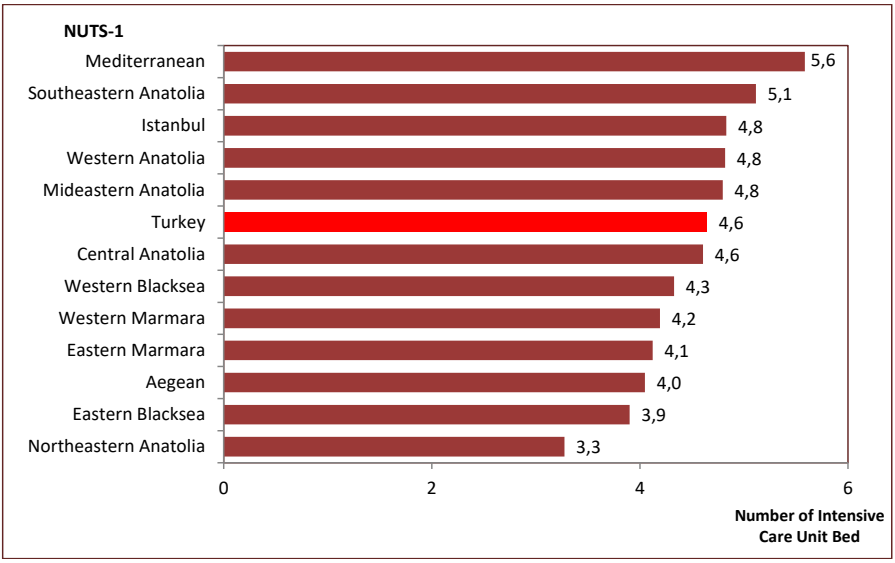
Source: General Directorate of Health Services

Figure 7.10. Distribution of Intensive Care Unit Beds by Years and Sectors, (%)



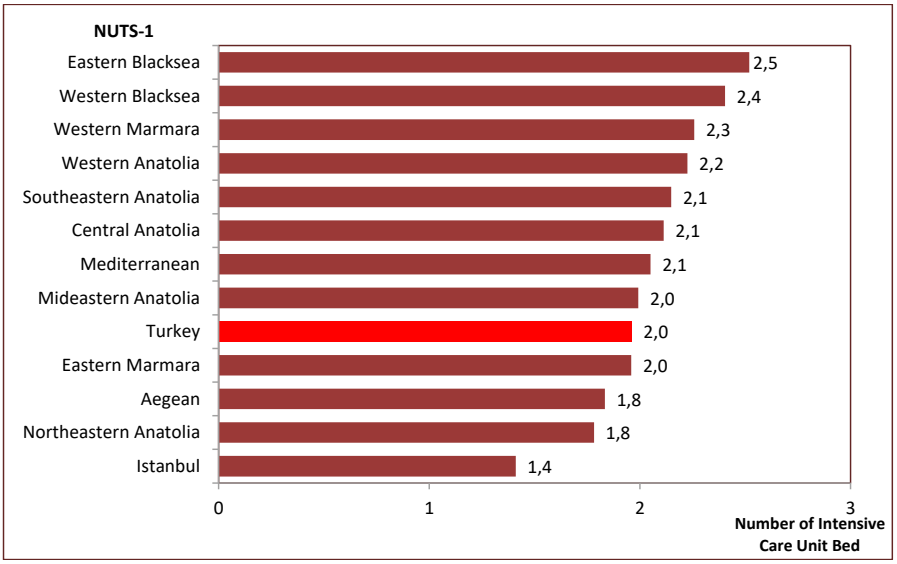
Source: General Directorate of Health Services

Figure 7.11. Number of Intensive Care Unit Beds per 10.000 Population by NUTS-1, All Sectors, 2018



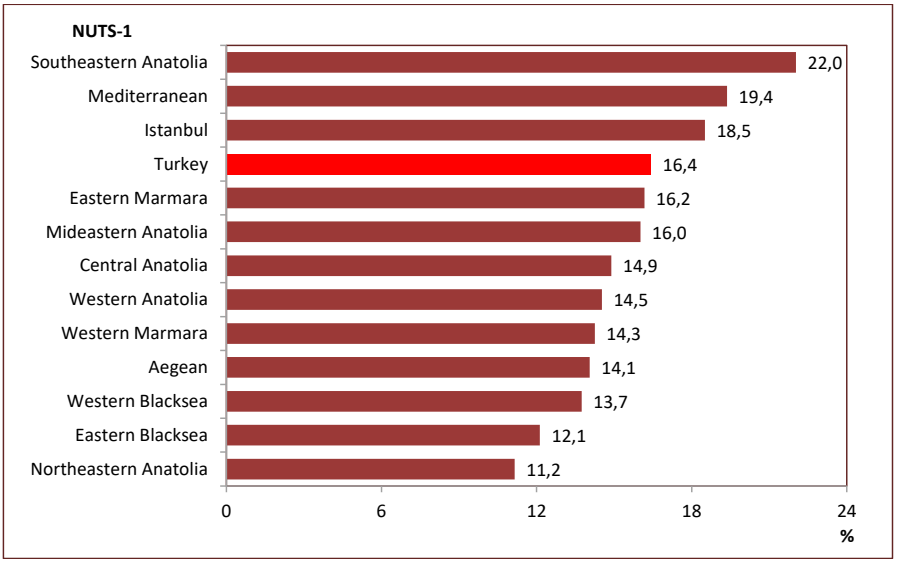
Source: General Directorate of Health Services

Figure 7.12. Number of Intensive Care Unit Beds per 10.000 Population by NUTS-1, Ministry of Health, 2018



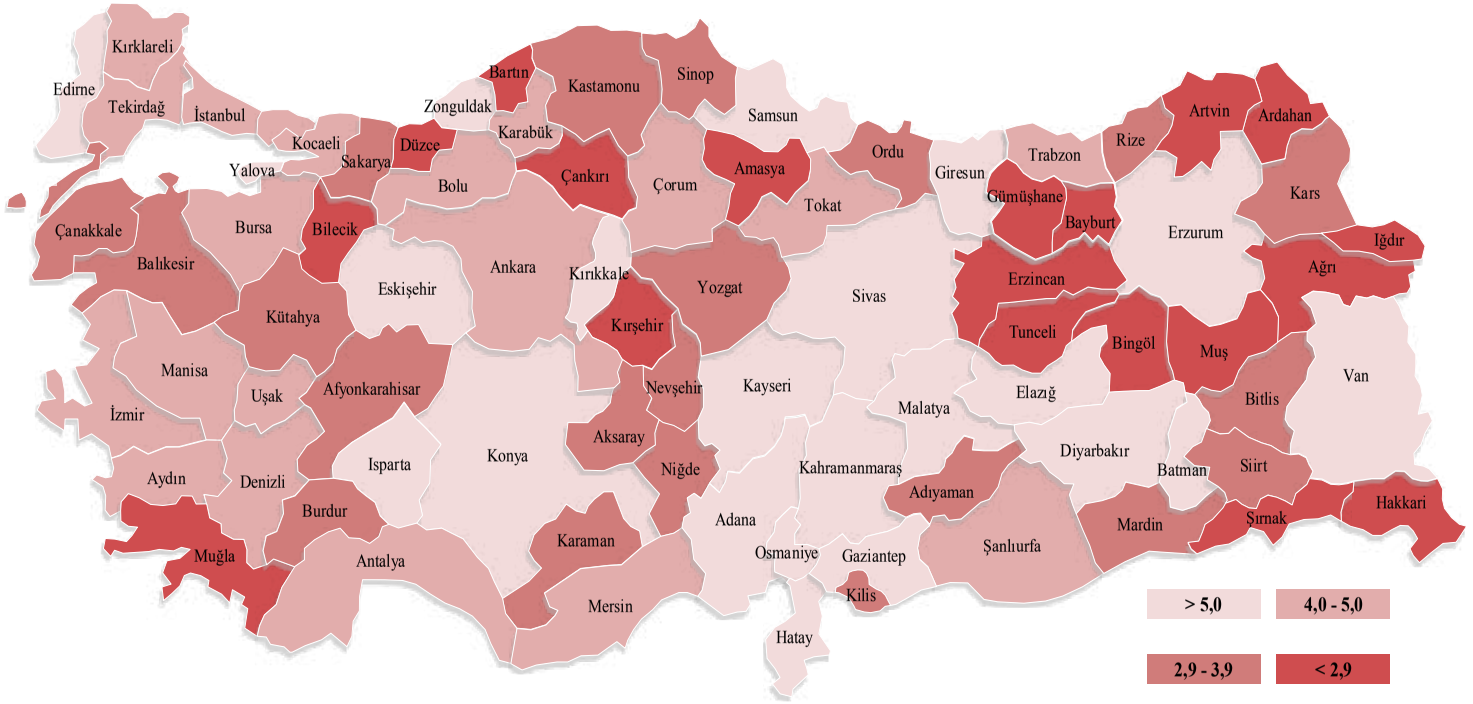
Source: General Directorate of Health Services

Figure 7.13. Proportion of Intensive Care Unit Beds to All Beds by NUTS-1, (%), All Sectors, 2018



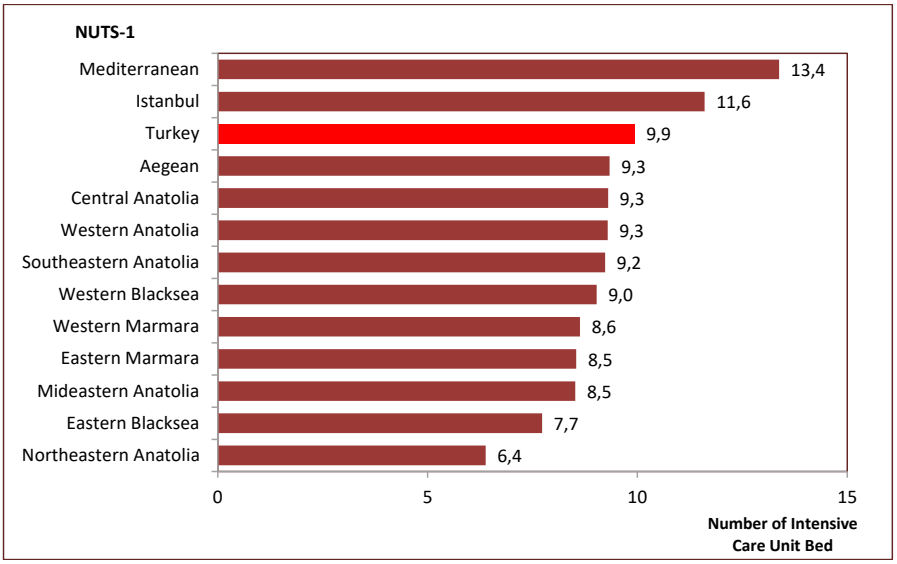
Source: General Directorate of Health Services

Map 7.3. Number of Intensive Care Unit Beds per 10.000 Population by Provinces, All Sectors, 2018



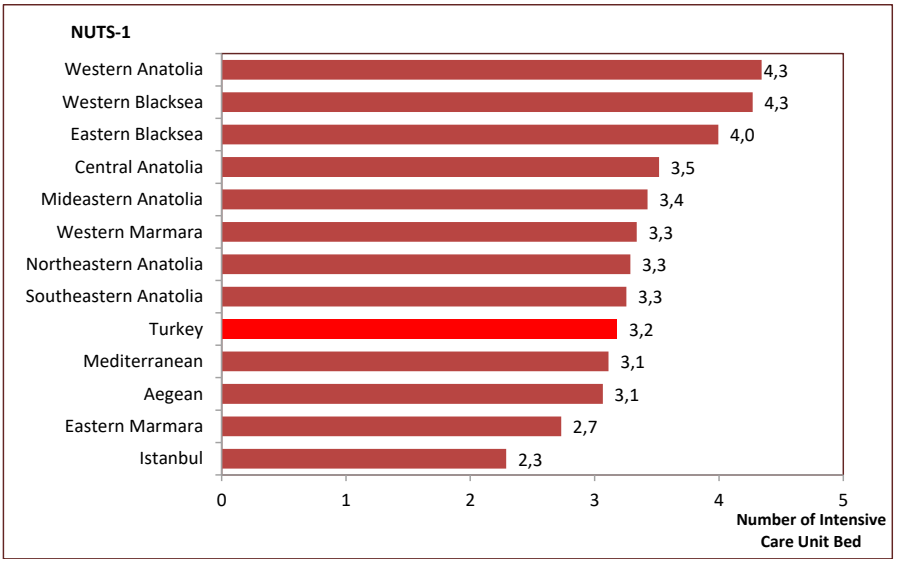
Source: General Directorate of Health Services

Figure 7.14. Number of Neonatal Intensive Care Unit Beds per 1.000 Live Births by NUTS-1, All Sectors, 2018



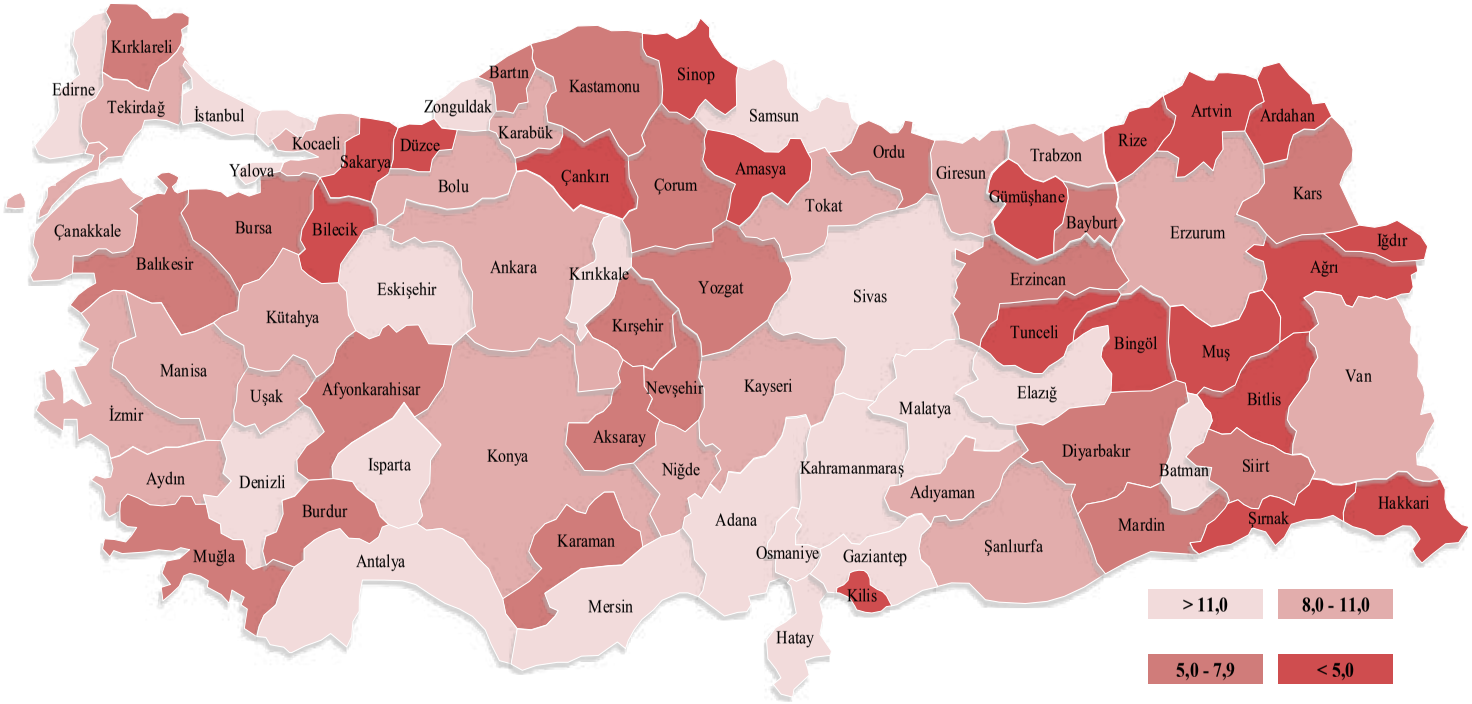
Source: General Directorate of Health Services

Figure 7.15. Number of Neonatal Intensive Care Unit Beds per 1.000 Live Births by NUTS-1, Ministry of Health, 2018



Source: General Directorate of Health Services

Map 7.4. Number of Neonatal Intensive Care Unit Beds per 1.000 Live Births by Provinces, All Sectors, 2018



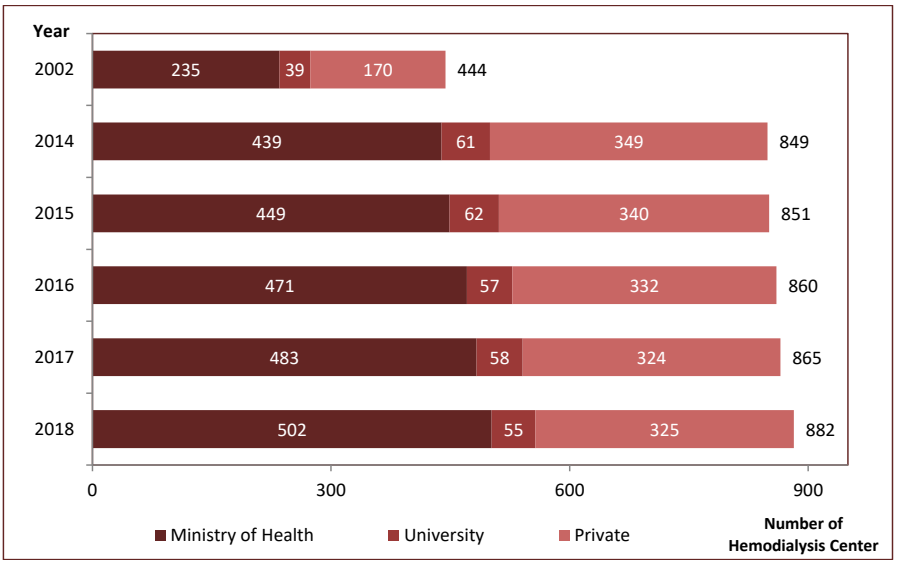
Source: General Directorate of Health Services

Table 7.4. Infrastructure of Operating Services in Hospitals by Sectors, 2018

	Ministry of Health	University	Private	Total
Surgery	953	164	843	1.960
Operating Room	3.490	1.036	2.132	6.658
Operating Table	3.533	1.048	2.140	6.721

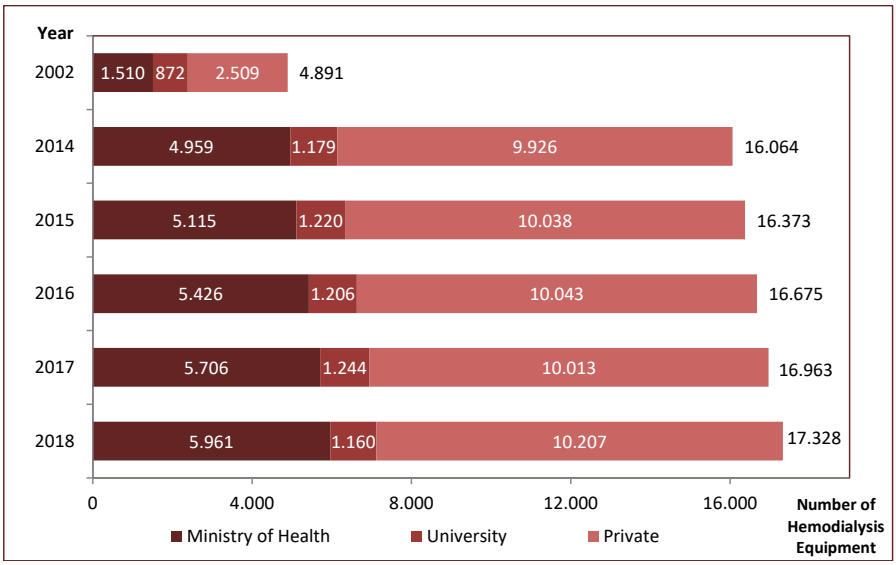
Source: General Directorate of Health Services

Figure 7.16. Number of Hemodialysis Centers by Years and Sectors



Source: General Directorate of Health Services

Figure 7.17. Number of Actively Used Hemodialysis Equipment by Years and Sectors



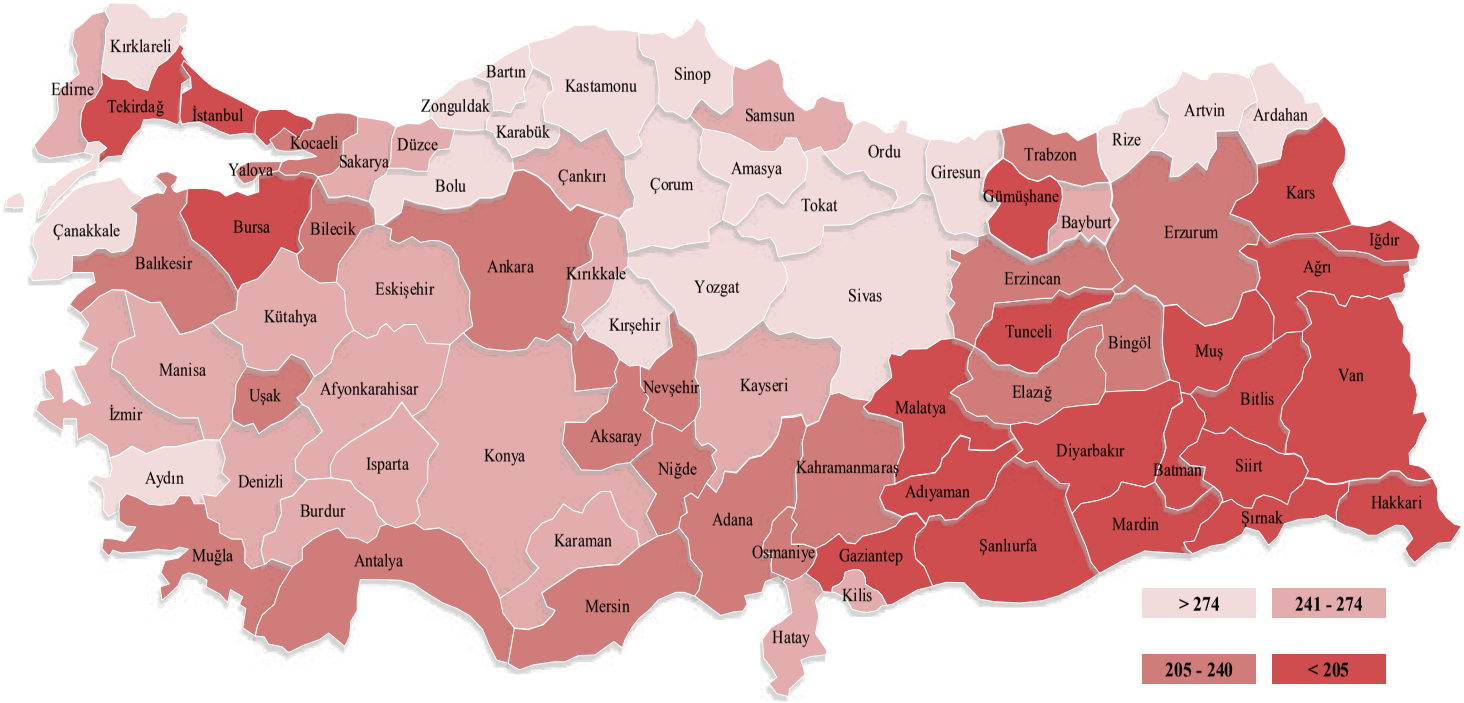
Source: General Directorate of Health Services

Table 7.5. Actively Used Hemodialysis Equipment per 1.000.000 Population by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Western Blacksea	150,2	17,3	123,3	290,7
Central Anatolia	96,4	16,0	150,3	262,7
Eastern Blacksea	162,2	4,8	91,2	258,2
Aegean	75,6	12,3	168,2	256,0
Western Marmara	95,3	7,0	123,3	225,5
Western Anatolia	48,2	34,0	142,9	225,2
Mediterranean	72,6	20,9	129,6	223,2
Eastern Marmara	72,5	10,8	136,4	219,8
Turkey	**72,7**	**14,1**	**124,5**	**211,3**
Istanbul	20,7	7,0	151,7	179,4
Northeastern Anatolia	140,7	10,0	21,3	171,9
Mideastern Anatolia	92,6	20,4	46,3	159,3
Southeastern Anatolia	65,6	7,2	52,7	125,5

Source: General Directorate of Health Services

Map 7.5. Actively Used Hemodialysis Equipment per 1.000.000 Population by Provinces, All Sectors, 2018



Source: General Directorate of Health Services

Table 7.6. Number of Equipment of Hospitals by Years

	2002	2014	2015	2016	2017	2018
MRI	58	757	794	836	884	915
CT	323	1.071	1.119	1.152	1.186	1.211
Ultrasound	1.005	5.286	5.518	5.470	5.635	5.846
Doppler Ultrasound	681	3.151	4.015	4.679	4.892	5.557
ECHO	259	1.793	1.897	2.121	2.269	2.520
Mammography	647*	903	896	931	947	966

Source: General Directorate of Health Services
** The number of mammography devices belongs to the year 2008.*

Table 7.7. Number of Equipment of Hospitals by Sectors, 2018

	Ministry of Health	University	Private	Total
MRI	336	120	459	915
CT	539	143	529	1.211
Ultrasound	2.716	755	2.375	5.846
Doppler Ultrasound	3.733	491	1.333	5.557
ECHO	1.526	267	727	2.520
Mammography	393	73	500	966

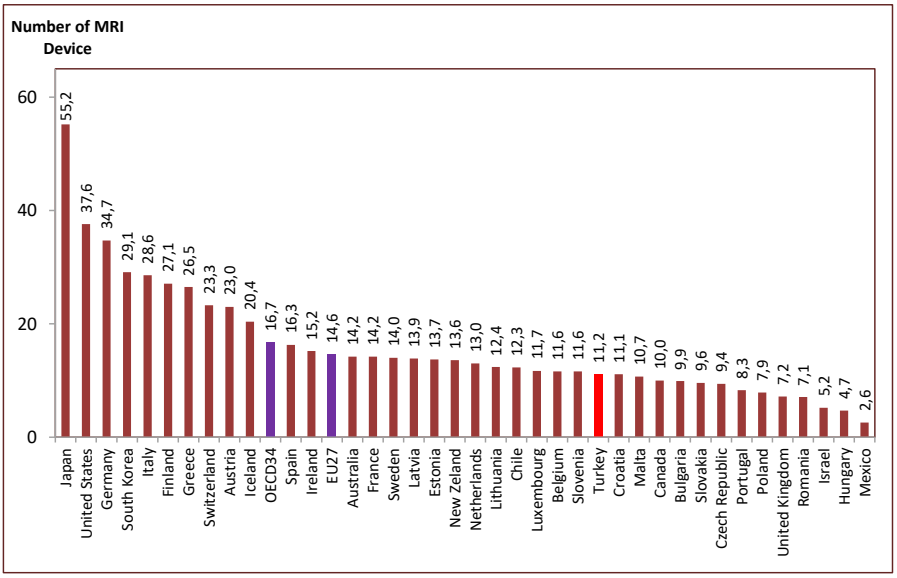
Source: General Directorate of Health Services

Table 7.8. Number of MRI Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Mediterranean	4,0	1,5	7,9	13,5
Western Anatolia	5,4	2,8	5,3	13,4
Istanbul	3,7	1,7	7,1	12,5
Turkey	**4,1**	**1,5**	**5,6**	**11,2**
Aegean	4,7	1,0	5,5	11,1
Northeastern Anatolia	5,4	2,7	2,7	10,9
Eastern Blacksea	6,3	0,7	3,7	10,7
Western Marmara	3,6	1,4	5,6	10,6
Eastern Marmara	3,9	1,1	5,3	10,3
Central Anatolia	3,2	1,5	4,7	9,3
Mideastern Anatolia	3,8	1,8	3,6	9,2
Southeastern Anatolia	3,1	0,7	5,0	8,7
Western Blacksea	3,8	1,3	3,0	8,1

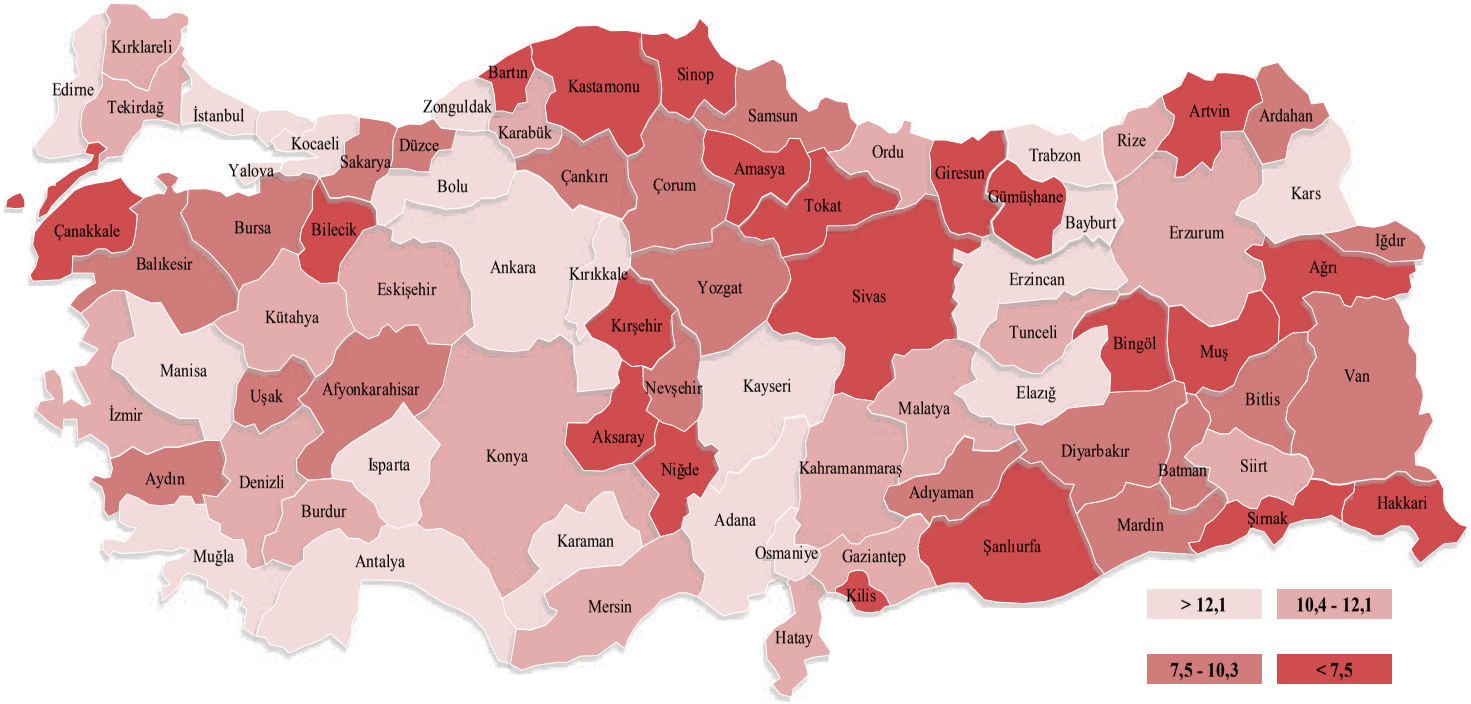
Source: General Directorate of Health Services

Figure 7.18. International Comparison of Number of MRI Devices per 1.000.000 Population, 2017



Source: General Directorate of Health Services, EUROSTAT Database, OECD Health Data 2019
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Map 7.6. Number of MRI Devices in Hospitals per 1.000.000 Population by Provinces, All Sectors, 2018



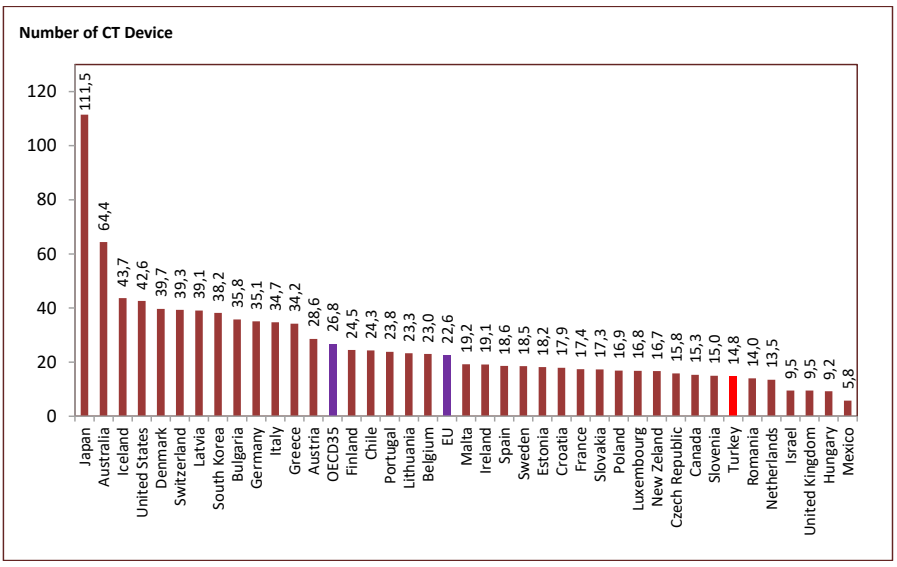
Source: General Directorate of Health Services

Table 7.9. Number of CT Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Mediterranean	6,1	1,8	9,4	17,3
Western Anatolia	7,9	3,5	5,8	17,2
Northeastern Anatolia	10,0	3,2	4,1	17,2
Istanbul	4,8	1,9	9,4	16,0
Western Marmara	8,7	1,4	5,9	16,0
Turkey	**6,6**	**1,7**	**6,5**	**14,8**
Eastern Blacksea	9,6	0,7	4,4	14,7
Aegean	7,0	1,2	5,6	13,9
Western Blacksea	7,9	1,5	4,3	13,7
Mideastern Anatolia	6,6	1,3	4,6	12,5
Southeastern Anatolia	6,0	1,2	5,2	12,4
Central Anatolia	5,9	1,7	4,7	12,3
Eastern Marmara	5,9	1,4	5,0	12,3

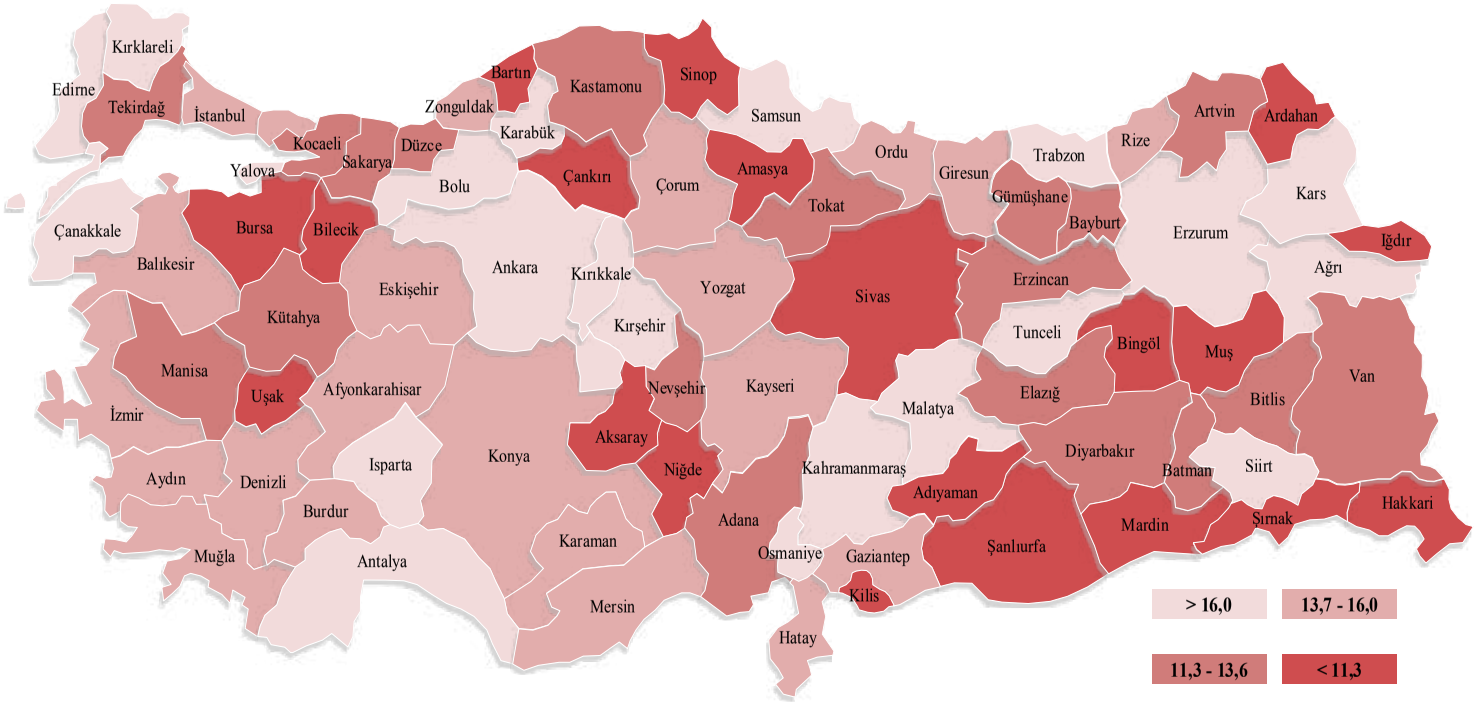
Source: General Directorate of Health Services

Figure 7.19. International Comparison of Number of CT Devices per 1.000.000 Population, 2017



Source: General Directorate of Health Services, EUROSTAT Database, OECD Health Data 2019
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Map 7.7. Number of CT Devices in Hospitals per 1.000.000 Population by Provinces, All Sectors, 2018



Source: General Directorate of Health Services

Table 7.10. Number of Ultrasound Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	24,6	7,6	61,1	93,3
Aegean	38,2	16,0	21,0	75,2
Turkey	**33,1**	**9,2**	**29,0**	**71,3**
Western Marmara	38,9	9,2	21,0	69,2
Western Anatolia	39,3	8,0	21,7	69,1
Mediterranean	28,6	10,3	28,8	67,7
Northeastern Anatolia	49,8	8,6	9,0	67,4
Central Anatolia	35,4	8,9	22,9	67,2
Eastern Blacksea	34,9	14,3	17,3	66,6
Southeastern Anatolia	27,9	10,4	25,8	64,1
Eastern Marmara	34,1	4,8	21,3	60,2
Mideastern Anatolia	37,9	8,1	12,2	58,3
Western Blacksea	37,3	2,3	16,8	56,5

Source: General Directorate of Health Services

Table 7.11. Number of Doppler Ultrasound Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Western Anatolia	75,4	10,6	12,9	98,9
Istanbul	46,1	5,9	28,4	80,4
Central Anatolia	43,5	14,3	18,0	75,8
Eastern Blacksea	62,5	0,7	7,7	71,0
Turkey	**45,5**	**6,0**	**16,3**	**67,8**
Mediterranean	44,4	5,9	16,8	67,1
Northeastern Anatolia	44,3	10,9	6,8	62,0
Western Blacksea	44,4	8,5	9,0	61,9
Aegean	38,7	6,5	14,7	59,9
Eastern Marmara	41,4	2,5	15,9	59,9
Mideastern Anatolia	41,2	4,1	12,7	58,0
Western Marmara	37,8	5,0	12,3	55,2
Southeastern Anatolia	32,4	1,1	11,2	44,8

Source: General Directorate of Health Services

Table 7.12. Number of ECHO Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	17,8	3,6	14,4	35,8
Western Anatolia	17,2	6,8	8,4	32,4
Eastern Blacksea	26,1	0,7	5,5	32,4
Central Anatolia	19,2	4,7	8,1	32,0
Mediterranean	17,7	3,3	9,8	30,8
Eastern Marmara	18,6	2,0	10,2	30,7
Turkey	**18,6**	**3,3**	**8,9**	**30,7**
Northeastern Anatolia	23,1	5,0	2,3	30,3
Aegean	19,8	2,2	8,1	30,1
Western Blacksea	20,7	3,4	5,8	29,9
Mideastern Anatolia	19,3	3,1	5,9	28,2
Western Marmara	19,3	2,5	6,2	28,0
Southeastern Anatolia	15,6	1,9	5,5	23,1

Source: General Directorate of Health Services

Table 7.13. Number of Mammography Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	3,1	1,1	9,8	13,9
Mediterranean	5,0	1,0	7,5	13,4
Western Anatolia	6,0	1,6	5,7	13,3
Eastern Blacksea	8,1	0,4	4,8	13,2
Western Marmara	6,4	1,1	5,6	13,2
Aegean	6,1	0,8	5,4	12,3
Turkey	**4,8**	**0,9**	**6,1**	**11,8**
Western Blacksea	6,4	0,6	3,6	10,7
Central Anatolia	4,2	1,0	5,2	10,3
Eastern Marmara	4,1	0,6	5,4	10,2
Northeastern Anatolia	5,9	0,9	1,8	8,6
Southeastern Anatolia	3,3	0,5	4,6	8,4
Mideastern Anatolia	4,1	0,8	3,3	8,1

Source: General Directorate of Health Services

Table 7.14. Number of Specialty Medical Center and Private Outpatient Clinic by NUTS-1, 2018

NUTS-1	Specialty Medical Center	Private Outpatient Clinic
Istanbul	247	145
Western Marmara	12	4
Aegean	110	58
Eastern Marmara	61	19
Western Anatolia	82	45
Mediterranean	66	38
Central Anatolia	7	5
Western Blacksea	20	7
Eastern Blacksea	9	5
Northeastern Anatolia	4	0
Mideastern Anatolia	11	1
Southeastern Anatolia	35	3
Turkey	664	330

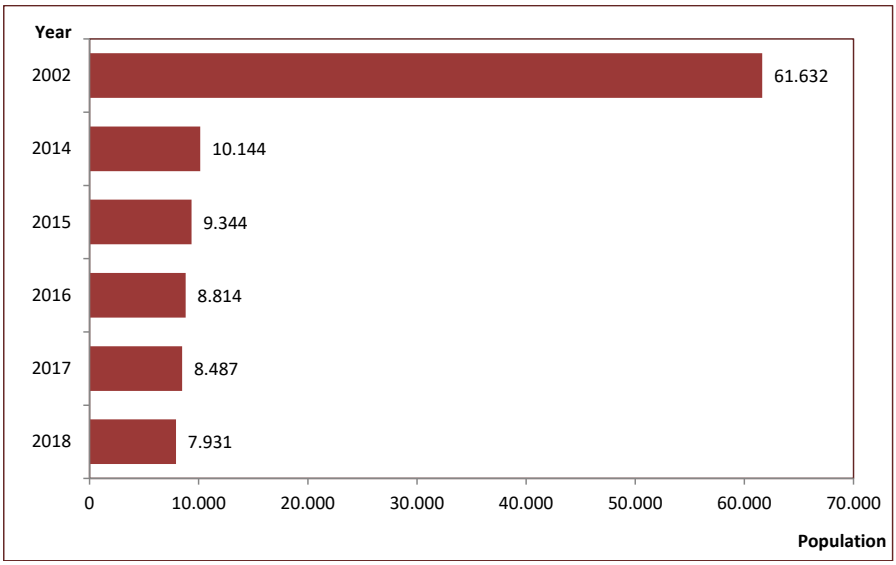
Source: General Directorate of Health Services

Table 7.15. Number of the Institution Providing Oral and Dental Health Care Services by Sectors, 2018

	Ministry of Health		University		Private		Total	
	Institution	Unit	Institution	Unit	Institution	Unit	Institution	Unit
Oral and Dental Health Center	129	4.317	-	-	79	851	208	5.168
Dental Hospital	28	2.103	-	-	3	85	31	2.188
Dental Training Hospital	1	97	46	5.412	-	-	47	5.509
Dental Policlinic (Hospital)	826	3.823	15	118	214	472	1.055	4.413
Dental Policlinic	-	-	-	-	1.888	7.692	1.888	7.692
Total	984	10.340	61	5.530	2.184	9.100	3.229	24.970

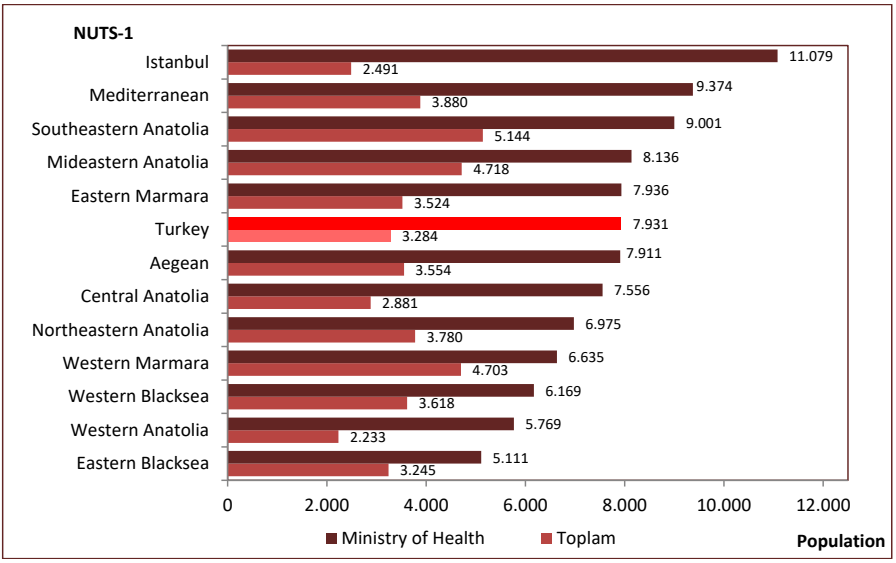
Source: General Directorate of Health Services
Note: Data related to dental clinic and dental prosthesis center belonging to oral and dental health center and hospital exist in Dental Policlinic (Hospital).

Figure 7.20. Population per Dental Unit by Years, Ministry of Health



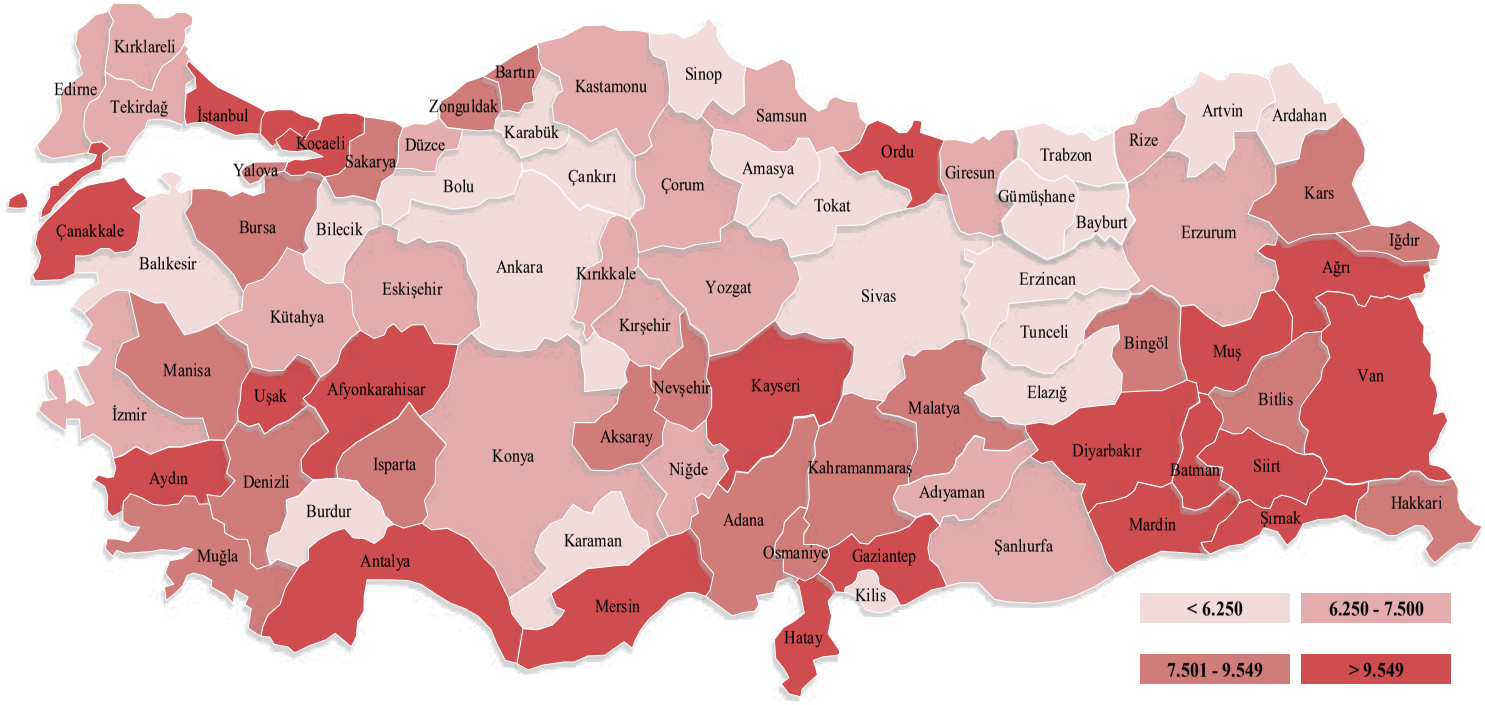
Source: General Directorate of Health Services

Figure 7.21. Population per Dental Unit by NUTS-1, All Sectors, Ministry of Health, 2018



Source: General Directorate of Health Services

Map 7.8. Population per Dental Unit by Provinces, Ministry of Health, 2018



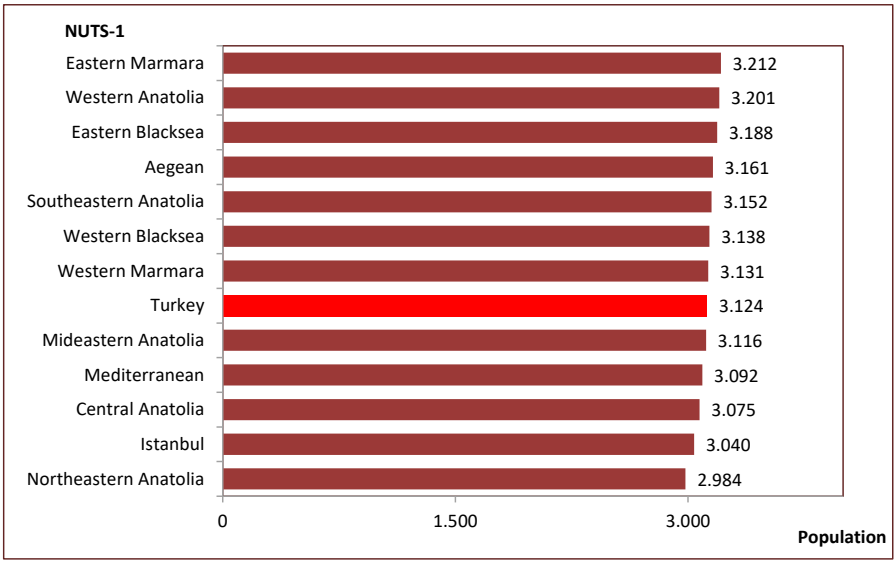
Source: General Directorate of Health Services

Table 7.16. Primary Health Care Facilities by Years, Ministry of Health

	2002	2014	2015	2016	2017	2018
Health Center	5.055	-	-	-	-	-
Family Medicine Unit	-	21.384	21.696	24.428	25.198	26.252
Family Health Center	-	6.829	6.902	7.636	7.774	7.979
Community Health Center*	-	970	970	970	972	776
Health House	2.899	5.572	5.544	5.419	5.320	5.259
Child, Adolescent, Women and Reproductive Health Unit (CEKUS)**	298	182	182	181	177	172
Tuberculosis Control Dispensary	277	179	181	180	177	173
Cancer Early Diagnosis, Screening and Training Centers (KETEM)	84	132	156	159	166	175
112 Emergency Care Station	481	2.186	2.323	2.400	2.618	2.735
Number of Public Health Laboratories	-	83	83	83	83	83

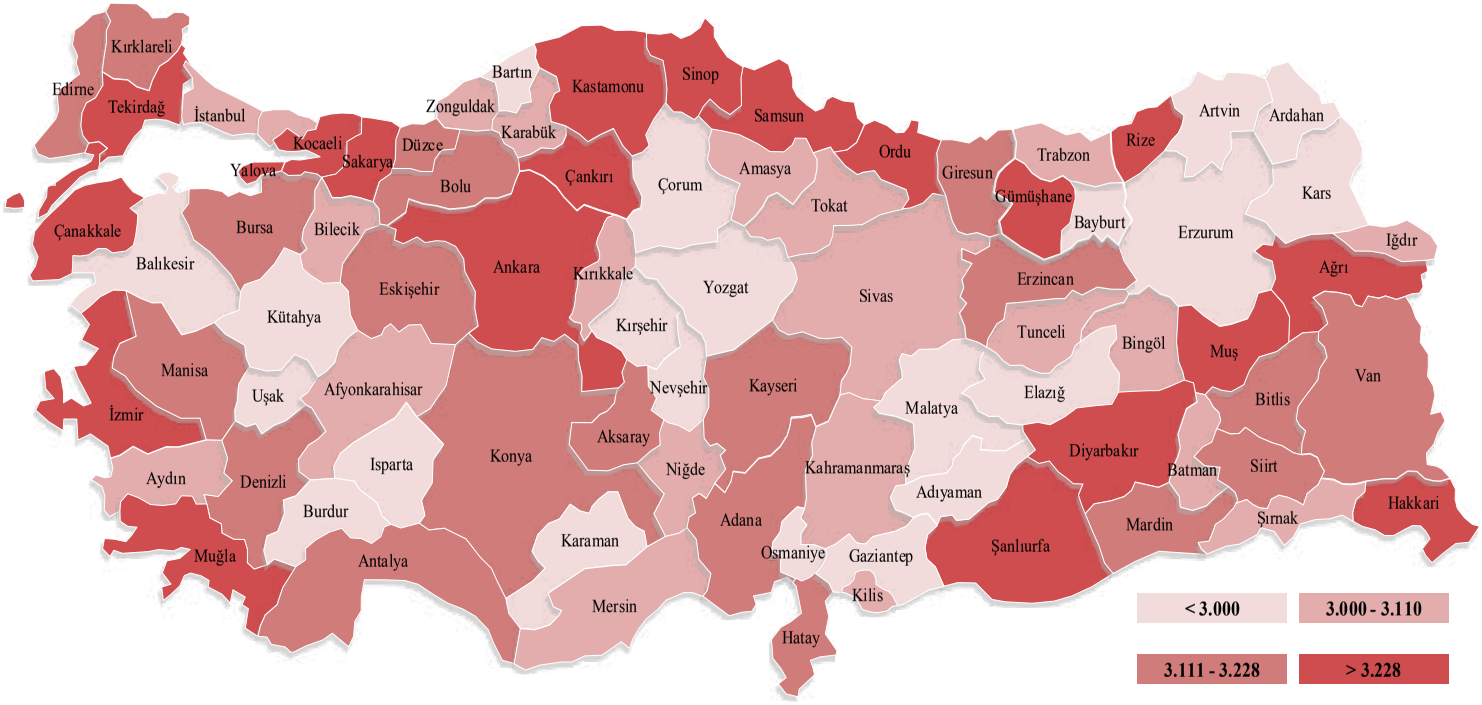
Source: General Directorate of Public Health, General Directorate of Emergency Health Services
** In districts with a population of 30,000 or more, 423 District Health Directorates, which provide the same services, included the number of Community Health Centers.*
*** The name of Mother-Child Health and Family Planning Center was changed to Child, Adolescent, Women and Reproductive Health Unit with the regulation published on 25 May 2018.*

Figure 7.22. Population per Family Medicine Unit by NUTS-1, 2018



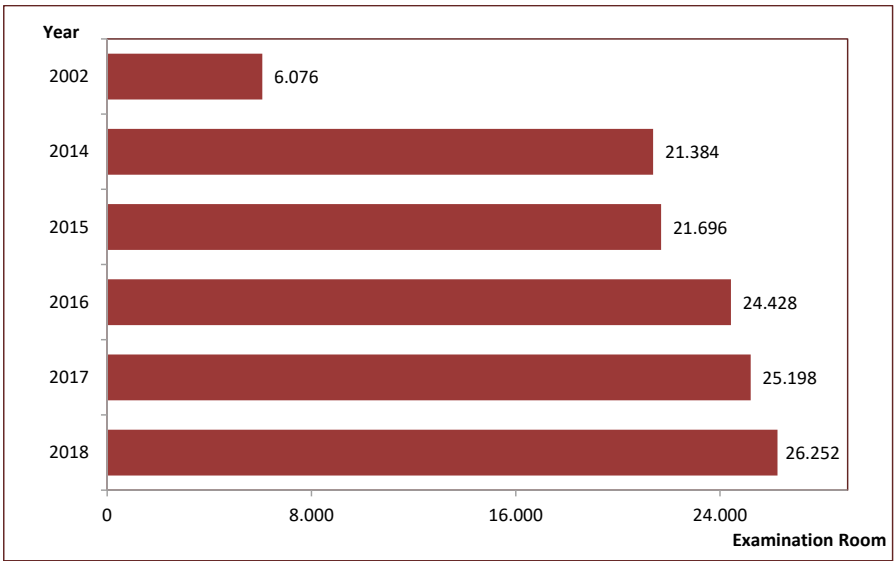
Source: General Directorate of Public Health

Map 7.9. Population per Family Medicine Unit by Provinces, 2018



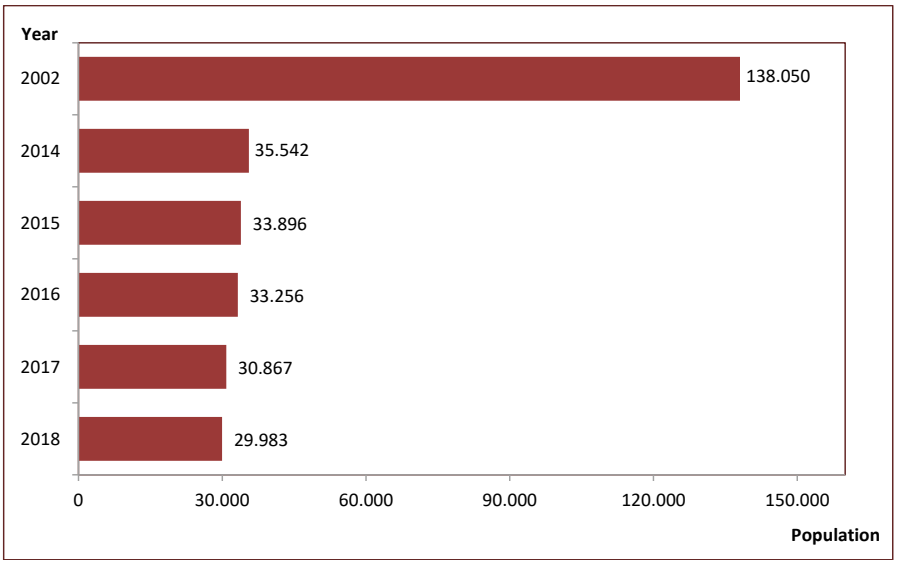
Source: General Directorate of Public Health

Figure 7.23. Number of Family Health Center Medical Examination Room by Years



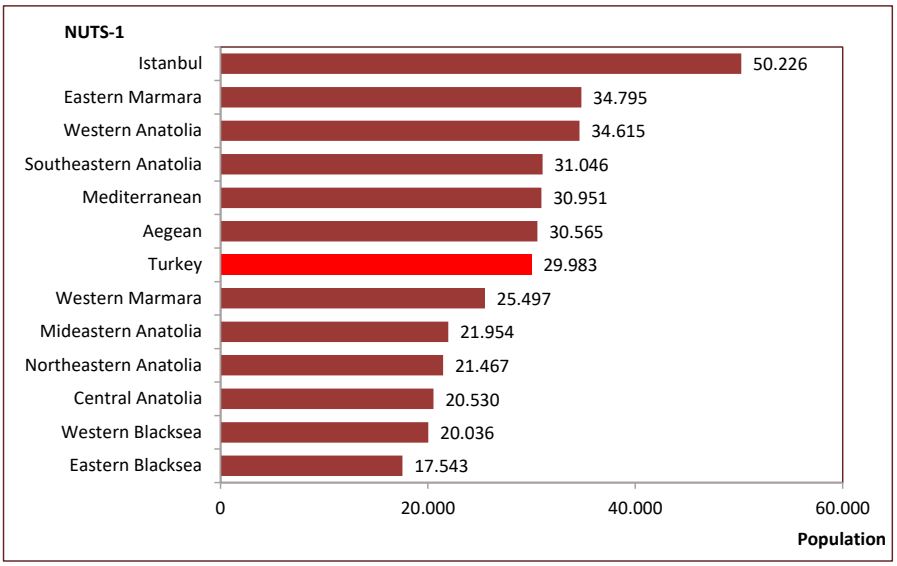
Source: General Directorate of Public Health

Figure 7.24. Population per 112 Emergency Care Station by Years, Ministry of Health



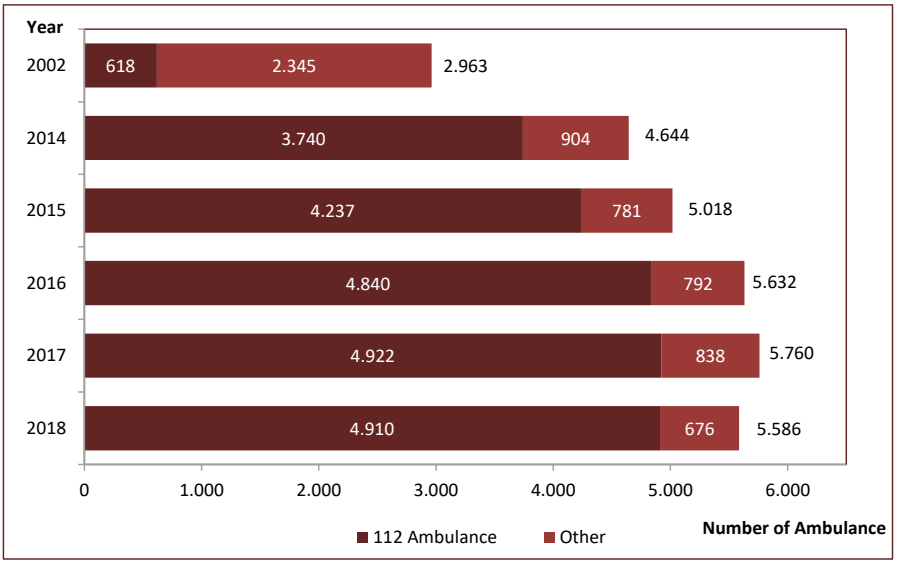
Source: General Directorate of Emergency Health Services

Figure 7.25. Population per 112 Emergency Care Station by NUTS-1, Ministry of Health, 2018



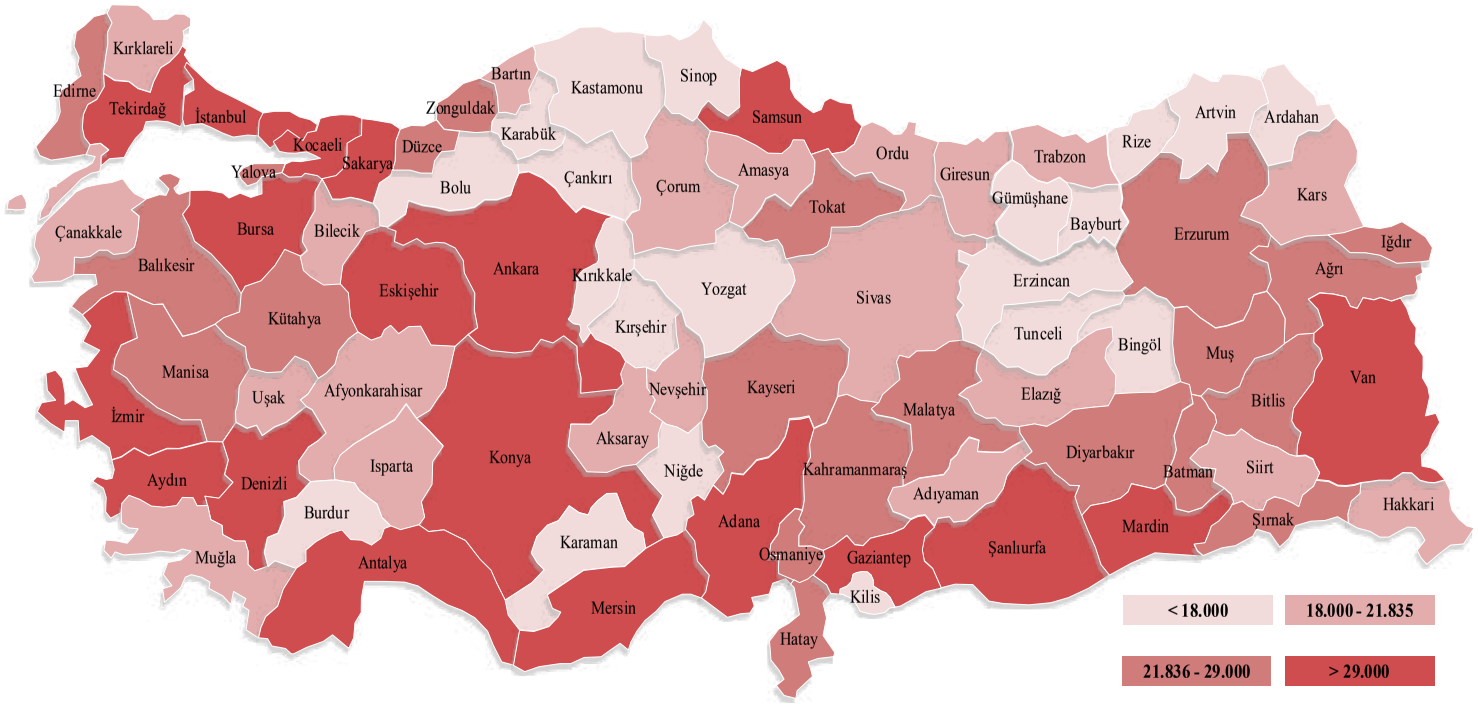
Source: General Directorate of Emergency Health Services

Figure 7.26. Number of Ambulance by Years, Ministry of Health



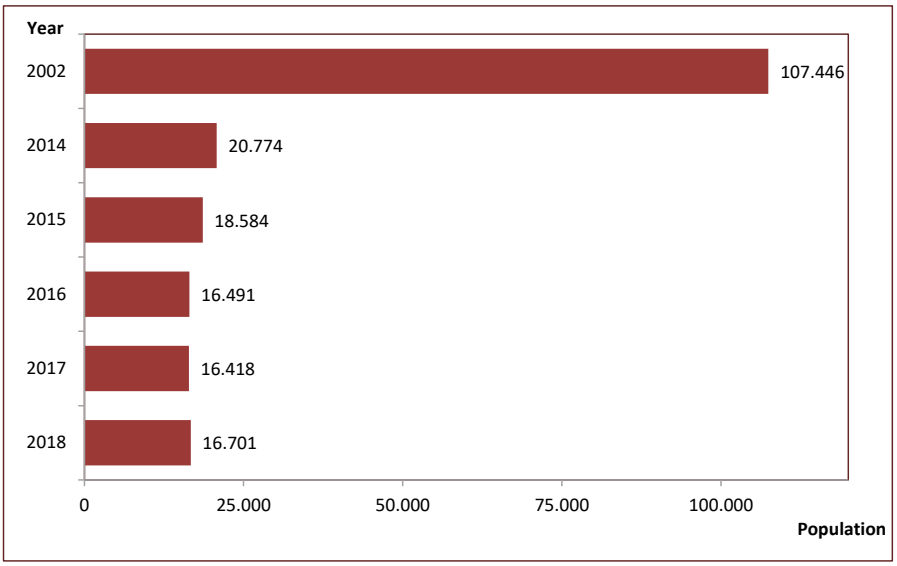
Source: General Directorate of Emergency Health Services

Map 7.10. Population per 112 Emergency Care Station by Provinces, Ministry of Health, 2018



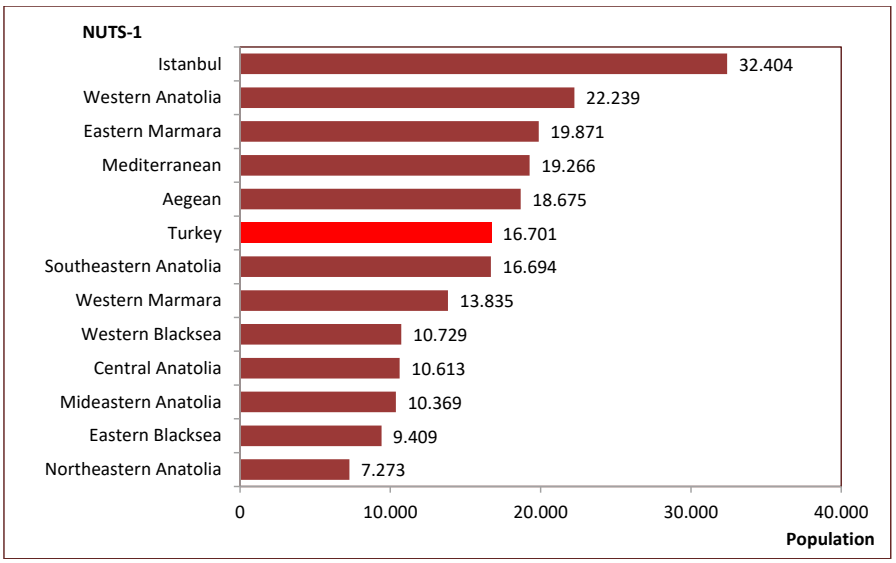
Source: General Directorate of Emergency Health Services

Figure 7.27. Population per 112 Emergency Care Ambulance by Years, Ministry of Health



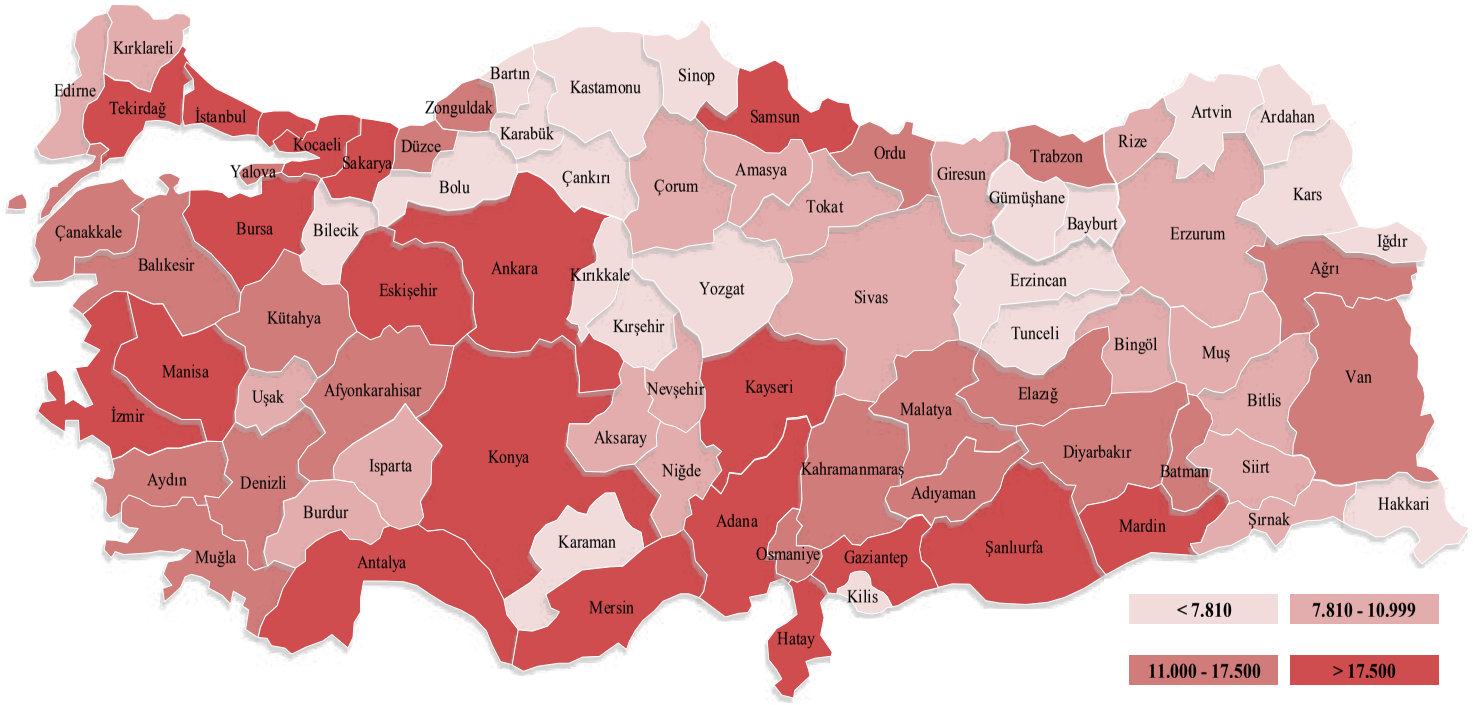
Source: General Directorate of Emergency Health Services

Figure 7.28. Population per 112 Emergency Care Ambulance by NUTS-1, Ministry of Health, 2018



Source: General Directorate of Emergency Health Services

Map 7.11. Population per 112 Emergency Care Ambulance by Provinces, Ministry of Health, 2018



Source: General Directorate of Emergency Health Services

Table 7.17. Number of Vehicle and Transferred Patients by Types of Specialized Ambulance, Ministry of Health, 2018

	Number of Vehicle	Number of Transferred Patients
Sea Ambulance	6	3.559
Helicopter Ambulance	17	2.033
Snow-Pallet Ambulance	250	332
Motorcycle Ambulance	62	8.214
Snow Track Ambulance	22	58
Air Ambulance	4	1.289
Intensive Care & Bariatric Ambulance	91	6.891
Ambulance with 4 Stretchers	63	4.729

Source: General Directorate of Emergency Health Services
Not: Number of specialized ambulance except helicopter, air and sea ambulances is included in 112 ambulance number.

Table 7.18. Some Health Indicators by Provinces, 2018

City	Number of Hospital	Number of Bed	Number of Hospital Bed per 10.000 Population	Number of Qualified Bed	Number of Intensive Care Unit Bed	Proportion of Qualified Bed *(Intensive care unit beds are not included.)*	Intensive Care Unit Bed per 10.000 Population
Adana	32	7.033	31,7	4.119	1.391	73,0	6,3
Adıyaman	12	1.304	20,9	907	244	85,6	3,9
Afyonkarahisar	22	2.185	30,1	1.607	237	82,5	3,3
Ağrı	10	878	16,3	714	77	89,1	1,4
Amasya	7	835	24,7	554	78	73,2	2,3
Ankara	88	18.291	33,2	8.831	2.591	56,2	4,7
Antalya	47	7.172	29,6	4.937	1.161	82,1	4,8
Artvin	8	346	19,9	271	31	86,0	1,8
Aydın	23	3.147	28,7	1.818	495	68,6	4,5
Balıkesir	25	3.334	27,2	2.351	458	81,7	3,7
Bilecik	8	335	15,0	108	44	37,1	2,0
Bingöl	8	690	24,5	471	55	74,2	2,0
Bitlis	8	959	27,4	574	104	67,1	3,0
Bolu	11	1.448	46,4	999	155	77,3	5,0
Burdur	8	758	28,1	537	78	79,0	2,9
Bursa	41	7.361	24,6	4.512	1.184	73,0	4,0
Çanakkale	14	1.660	30,7	1.281	178	86,4	3,3
Çankırı	9	465	21,5	359	36	83,7	1,7
Çorum	16	1.662	31,0	1.233	245	87,0	4,6
Denizli	24	3.229	31,4	1.819	514	67,0	5,0
Diyarbakır	27	4.629	26,7	2.026	947	55,0	5,5
Edirne	11	1.936	47,0	1.040	216	60,5	5,2
Elazığ	11	2.991	50,2	1.799	436	70,4	7,3
Erzincan	10	540	22,9	316	54	65,0	2,3
Erzurum	23	3.623	47,2	2.297	417	71,6	5,4
Eskişehir	15	3.547	40,7	2.654	471	86,3	5,4
Gaziantep	30	6.015	29,7	2.835	1.420	61,7	7,0
Giresun	17	1.575	34,7	1.049	230	78,0	5,1
Gümüşhane	6	327	20,1	175	28	58,5	1,7
Hakkari	4	393	13,7	335	47	96,8	1,6
Hatay	25	4.189	26,0	2.628	850	78,7	5,3
Isparta	15	2.022	45,8	1.340	427	84,0	9,7
Mersin	27	4.760	26,2	3.316	911	86,2	5,0
İstanbul	236	39.328	26,1	22.278	7.280	69,5	4,8
İzmir	58	11.982	27,7	6.092	1.780	59,7	4,1
Kars	8	738	25,5	533	98	83,3	3,4
Kastamonu	18	1.100	28,7	655	116	66,6	3,0
Kayseri	27	4.573	32,9	2.837	832	75,8	6,0
Kırklareli	9	907	25,1	581	145	76,2	4,0
Kırşehir	5	472	19,5	406	66	100,0	2,7
Kocaeli	28	4.330	22,7	2.768	879	80,2	4,6

Source: General Directorate of Health Services, General Directorate of Public Health, General Directorate of Emergency Health Services

Table 7.18. Some Health Indicators by Provinces, 2018 - Continued

City	Number of Hospital	Number of Bed	Number of Hospital Bed per 10.000 Population	Number of Qualified Bed	Number of Intensive Care Unit Bed	Proportion of Qualified Bed *(Intensive care unit beds are not included.)*	Intensive Care Unit Bed per 10.000 Population
Konya	45	7.527	34,1	4.457	1.159	70,0	5,3
Kütahya	12	1.886	32,6	1.206	200	71,5	3,5
Malatya	17	2.961	37,2	1.747	559	72,7	7,0
Manisa	28	4.580	32,0	3.090	633	78,3	4,4
Kahramanmaraş	19	2.945	25,7	1.767	725	79,6	6,3
Mardin	12	1.446	17,4	951	298	82,8	3,6
Muğla	22	2.040	21,1	1.391	251	77,8	2,6
Muş	7	737	18,1	581	96	90,6	2,4
Nevşehir	10	697	23,4	597	100	100,0	3,4
Niğde	8	888	24,3	594	120	77,3	3,3
Ordu	17	2.144	27,8	1.244	292	67,2	3,8
Rize	11	1.109	31,8	861	100	85,3	2,9
Sakarya	19	1.932	19,1	1.485	309	91,5	3,1
Samsun	26	4.624	34,6	2.809	772	72,9	5,8
Siirt	9	858	25,9	673	112	90,2	3,4
Sinop	7	535	24,3	337	64	71,5	2,9
Sivas	20	2.613	40,4	1.236	342	54,4	5,3
Tekirdağ	18	2.668	25,9	1.680	500	77,5	4,9
Tokat	15	2.199	35,9	1.658	248	85,0	4,0
Trabzon	21	3.247	40,2	1.908	380	66,6	4,7
Tunceli	6	150	17,0	132	18	100,0	2,0
Şanlıurfa	20	4.037	19,8	2.084	986	68,3	4,8
Uşak	8	1.235	33,6	820	147	75,4	4,0
Van	13	2.887	25,7	2.075	570	89,6	5,1
Yozgat	16	1.286	30,3	1.068	123	91,8	2,9
Zonguldak	12	2.195	36,6	986	305	52,2	5,1
Aksaray	10	797	19,3	531	142	81,1	3,4
Bayburt	1	200	24,3	134	23	75,7	2,8
Karaman	6	598	23,7	511	87	100,0	3,5
Kırıkkale	7	1.254	43,8	681	148	61,6	5,2
Batman	11	1.300	21,7	730	403	81,4	6,7
Şırnak	7	631	12,0	458	68	81,3	1,3
Bartın	3	432	21,7	148	51	38,8	2,6
Ardahan	3	200	20,2	181	19	100,0	1,9
Iğdır	4	313	15,9	249	36	89,9	1,8
Yalova	7	568	21,7	329	149	78,5	5,7
Karabük	6	716	28,9	558	114	92,7	4,6
Kilis	2	321	22,5	259	48	94,9	3,4
Osmaniye	10	1.295	24,2	695	301	69,9	5,6
Düzce	8	793	20,4	540	94	77,3	2,4
Turkey	1.534	231.913	28,3	139.403	38.098	71,9	4,6

Source: General Directorate of Health Services, General Directorate of Public Health, General Directorate of Emergency Health Services

Table 7.18. Some Health Indicators by Provinces, 2018 - Continued

City	Number of Family Medicine Unit	Population per Family Medicine Unit	Number of 112 Emergency Care Station	Population per 112 Emergency Care Station	Number of 112 Emergency Care Ambulance	Population per 112 Emergency Care Ambulance
Adana	706	3.145	55	40.366	85	26.119
Adıyaman	210	2.974	30	20.817	44	14.193
Afyonkarahisar	241	3.011	36	20.155	60	12.093
Ağrı	164	3.291	20	26.983	45	11.992
Amasya	112	3.013	18	18.750	32	10.547
Ankara	1.704	3.230	146	37.699	226	24.354
Antalya	774	3.135	59	41.125	86	28.213
Artvin	61	2.853	12	14.501	43	4.047
Aydın	359	3.058	35	31.364	64	17.152
Balıkesir	413	2.970	48	25.554	71	17.276
Bilecik	74	3.020	12	18.621	33	6.771
Bingöl	92	3.057	19	14.800	36	7.811
Bitlis	111	3.148	16	21.837	36	9.705
Bolu	100	3.118	18	17.323	43	7.251
Burdur	90	2.999	22	12.269	34	7.939
Bursa	951	3.149	71	42.176	104	28.793
Çanakkale	166	3.257	25	21.626	46	11.754
Çankırı	59	3.667	20	10.818	40	5.409
Çorum	185	2.900	27	19.870	56	9.580
Denizli	328	3.133	35	29.365	62	16.577
Diyarbakır	521	3.325	60	28.873	99	17.499
Edirne	131	3.141	17	24.208	48	8.574
Elazığ	200	2.978	30	19.855	53	11.238
Erzincan	74	3.190	14	16.860	54	4.371
Erzurum	275	2.792	29	26.478	77	9.972
Eskişehir	280	3.111	29	30.041	49	17.779
Gaziantep	696	2.915	49	41.399	75	27.048
Giresun	144	3.152	25	18.156	52	8.729
Gümüşhane	50	3.255	15	10.850	36	4.521
Hakkari	82	3.494	15	19.098	40	7.162
Hatay	501	3.213	58	27.756	89	18.088
Isparta	155	2.848	21	21.020	47	9.392
Mersin	598	3.034	59	30.754	86	21.098
İstanbul	4.957	3.040	300	50.226	465	32.404
İzmir	1.338	3.229	98	44.087	145	29.797
Kars	97	2.978	15	19.259	37	7.808
Kastamonu	115	3.334	32	11.980	53	7.233
Kayseri	441	3.151	49	28.361	74	18.779
Kırklareli	113	3.193	19	18.993	40	9.022
Kırşehir	81	2.986	16	15.117	31	7.802
Kocaeli	572	3.333	43	44.335	69	27.629

Source: General Directorate of Health Services, General Directorate of Public Health, General Directorate of Emergency Health Services

Table 7.18. Some Health Indicators by Provinces, 2018 - Continued

City	Number of Family Medicine Unit	Population per Family Medicine Unit	Number of 112 Emergency Care Station	Population per 112 Emergency Care Station	Number of 112 Emergency Care Ambulance	Population per 112 Emergency Care Ambulance
Konya	692	3.187	69	31.965	98	22.506
Kütahya	196	2.949	26	22.229	43	13.440
Malatya	267	2.985	36	22.140	72	11.070
Manisa	450	3.177	52	27.493	71	20.136
Kahramanmaraş	378	3.029	41	27.923	73	15.683
Mardin	257	3.226	24	34.550	41	20.224
Muğla	291	3.325	45	21.500	76	12.730
Muş	126	3.238	16	25.500	38	10.737
Nevşehir	102	2.925	14	21.310	32	9.323
Niğde	121	3.014	21	17.367	41	8.895
Ordu	226	3.416	41	18.828	58	13.309
Rize	103	3.385	25	13.944	44	7.923
Sakarya	307	3.292	31	32.603	50	20.214
Samsun	409	3.266	41	32.578	64	20.871
Siirt	104	3.189	18	18.426	40	8.292
Sinop	65	3.381	19	11.565	35	6.278
Sivas	208	3.109	35	18.475	72	8.981
Tekirdağ	317	3.249	31	33.223	53	19.433
Tokat	200	3.063	28	21.880	58	10.563
Trabzon	269	3.003	37	21.835	56	14.427
Tunceli	29	3.041	12	7.350	31	2.845
Şanlıurfa	607	3.354	50	40.716	90	22.620
Uşak	123	2.988	17	21.618	42	8.750
Van	354	3.175	35	32.108	73	15.394
Yozgat	143	2.972	27	15.740	56	7.589
Zonguldak	195	3.075	23	26.074	39	15.377
Aksaray	132	3.123	20	20.609	38	10.847
Bayburt	31	2.654	7	11.753	25	3.291
Karaman	91	2.768	15	16.794	34	7.409
Kırıkkale	94	3.049	16	17.913	39	7.349
Batman	193	3.104	22	27.232	37	16.192
Şırnak	173	3.030	20	26.210	50	10.484
Bartın	74	2.689	11	18.091	27	7.370
Ardahan	36	2.747	11	8.992	35	2.826
Iğdır	64	3.085	7	28.208	31	6.370
Yalova	76	3.450	10	26.223	22	11.920
Karabük	80	3.100	15	16.534	33	7.516
Kilis	46	3.099	12	11.878	54	2.640
Osmaniye	181	2.953	23	23.235	43	12.428
Düzce	121	3.205	15	25.856	31	12.511
Turkey	26.252	3.124	2.735	29.983	4.910	16.701

Source: General Directorate of Health Services, General Directorate of Public Health, General Directorate of Emergency Health Services

Explanations for Chapter 7

☑ The data about the institutions, which served in the year (including those closed) were used in the tables, graphics where the infrastructure and services of the hospitals are provided.

☑ 4-point Likert was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the Likert borders.

☑ The value of the provinces was rounded up to the closest whole number while making Map 7.1, Map 7.2, Map 7.5, Map 7.8, Map 7.9, Map 7.10, and Map 7.11 in the Chapter. These whole numbers were taken into account while making the Likert scales.

☑ The value of the provinces was rounded up to 1 decimal place while making Map 7.3, Map 7.4, Map 7.6 and Map 7.7 in the Chapter. These whole numbers were taken into account while making the Likert scales.

☑ Totals in distribution tables and figures in the Chapter may not add up to 100% due to rounding.
☑ Values in the tables and figures in the Chapter may not give the sum due to rounding.

☑ Prior year data in the Chapter may changed due to TURKSTAT's population revision.

☑ Tables and charts in which the number of hospital beds are indicated for the 2012-2015 periods, "Other" is defined as the hospital beds other than MoH, University and Private sector which are beds in hospitals owned by MoND, municipalities and other public institutions.

☑ The data of the Ministry of National Defense (MoND) has been used as only the number of hospitals and beds before 2012, and has been included in the "Other" sector in the tables and graphs. The data regarding the indicators except for the number of hospitals and beds were included in the Private Sector for the 2012-2015 periods in order to be comparable.

☑ The data belonging to the SSI hospitals for 2002 have been included in the Ministry of Health in order to be comparable.

☑ **Hospital Beds:** Beds that are used for care and treatment of patients for more than 24 hours, and located in the patient rooms or units that provide continuous medical care for patients. Beds in intensive care units, in premature and newborn units (Incubator, infant bed), in burn centers and burn unit rooms and qualified beds were included in total number of hospital beds.

☑ **Qualified Bed:** It is bed with a bathroom, a toilet, and a maximum of 2 patient beds, television, telephone, refrigerator, dining table, shelf and a folding companion seat. These figures are included in the total number of beds.

☑ In international comparisons, the number of devices per country belongs to outpatient and inpatient health care institutions. Data of Turkey contains the number of devices in the hospital.

☑ The numbers of Health Center for Women and Family which serve within the municipalities were added to the number of KETEM.

☑ The tables and graphs which show Family Health Centers and the number of Family Health Centers examination rooms: the data for the years 2002 include health centers, and the data for 2014-2018 includes family health centers and its examination rooms.

☑ **112 Emergency Care Ambulance:** A land vehicle with an ambulance crew, technical and medical equipment that are able to provide emergency medical intervention in any emergency situation for the sick and injured at the emergency scene and in the ambulance.

☑ **Other Ambulance:** Ambulance of the community health centers and hospitals. The private sector ambulances are not included in the total.

Chapter 8

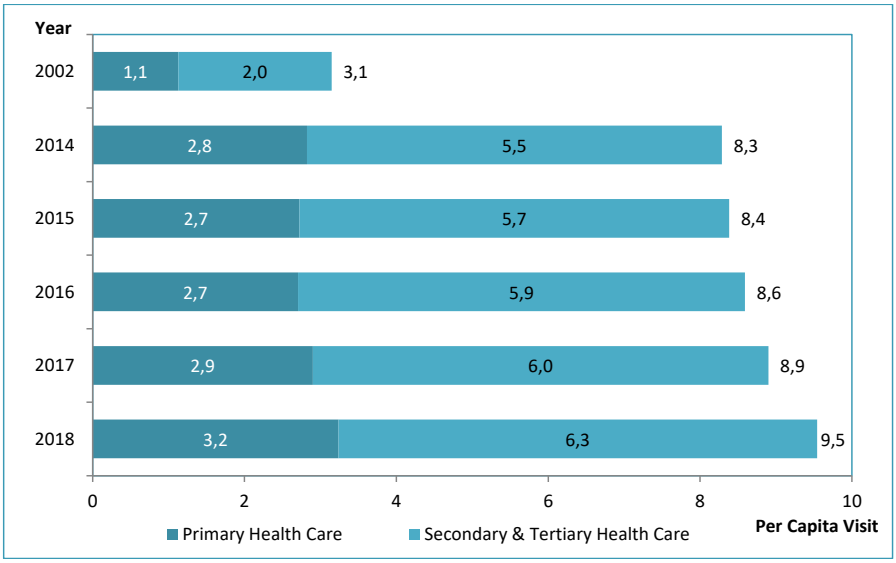
Utilization of Health Care Services

Table 8.1. Total Number of Visits to a Physician by Years and Type of Health Care Facilities, All Sectors

	2002	2014	2015	2016	2017	2018
Health Center	69.103.517	-	-	-	-	-
Family Medicine	-	214.120.750	208.538.951	205.549.931	228.098.527	258.436.607
Tuberculosis Control Dispensary	2.012.458	1.643.937	1.495.558	1.374.153	1.391.817	1.332.580
CEKUS Unit*	2.980.481	660.056	548.433	525.011	646.856	366.095
Other Examinations Made by CHCs*	-	2.234.348	3.457.520	8.080.631	4.496.425	4.821.348
Private Outpatient Clinics	731.132	546.514	523.694	461.013	501.993	539.593
Primary Health Care Facilities Total	**74.827.588**	**219.205.605**	**214.564.156**	**215.990.739**	**235.135.618**	**265.496.223**
Specialty Medical Centers	9.824.802	28.208.781	26.953.360	22.069.610	18.912.829	19.055.722
Hospitals	**124.313.659**	**396.577.644**	**418.581.931**	**447.648.830**	**464.876.362**	**497.963.259**
Ministry of Health	109.793.128	292.100.331	306.825.524	340.080.539	353.703.814	380.623.055
University	8.823.361	32.143.930	34.539.363	36.420.413	38.963.933	42.665.139
Private	5.697.170	72.333.383	77.217.044	71.147.878	72.208.615	74.675.065
Secondary and Tertiary Health Care Total	**134.138.461**	**424.786.425**	**445.535.291**	**469.718.440**	**483.789.191**	**517.018.981**
Total	208.966.049	643.992.030	660.099.447	685.709.179	718.924.809	782.515.204

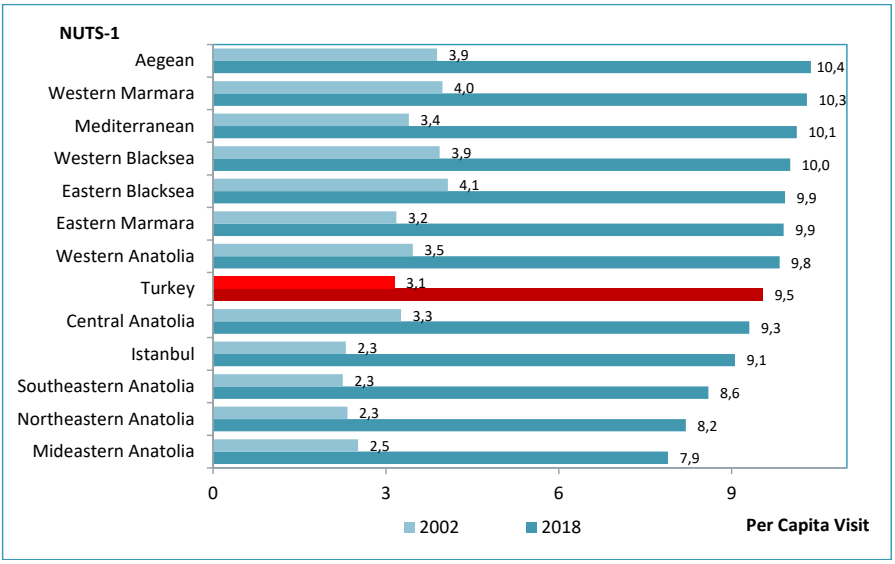
Source: General Directorate of Public Health, General Directorate of Health Services
** Consultancy service visits were not included in the number of visits to the physician.*

Figure 8.1. Total Number of Per Capita Visits to a Physician in Health Care Facilities by Years, All Sectors



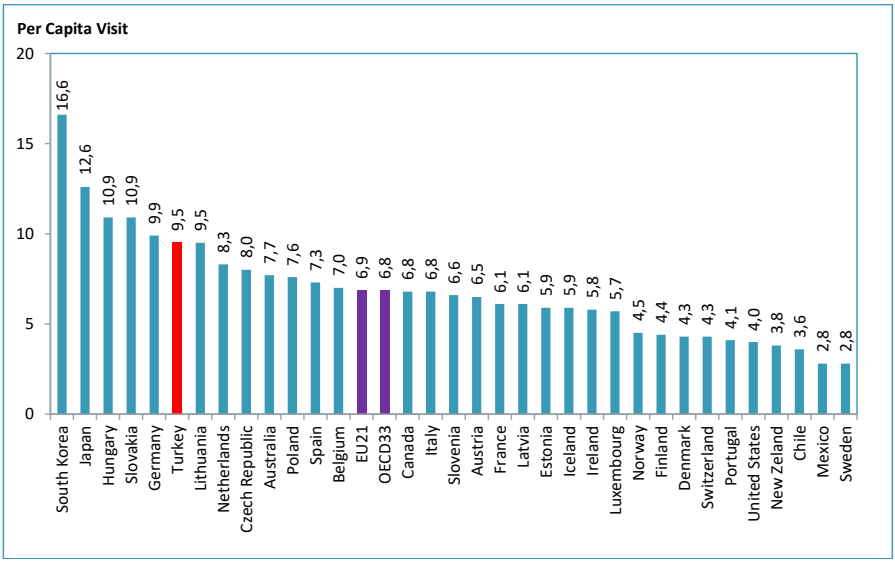
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.2. Per Capita Visits to a Physician in Health Care Facilities by NUTS-1, All Sectors, 2002, 2018



Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.3. International Comparison of Per Capita Visits to a Physician, 2017



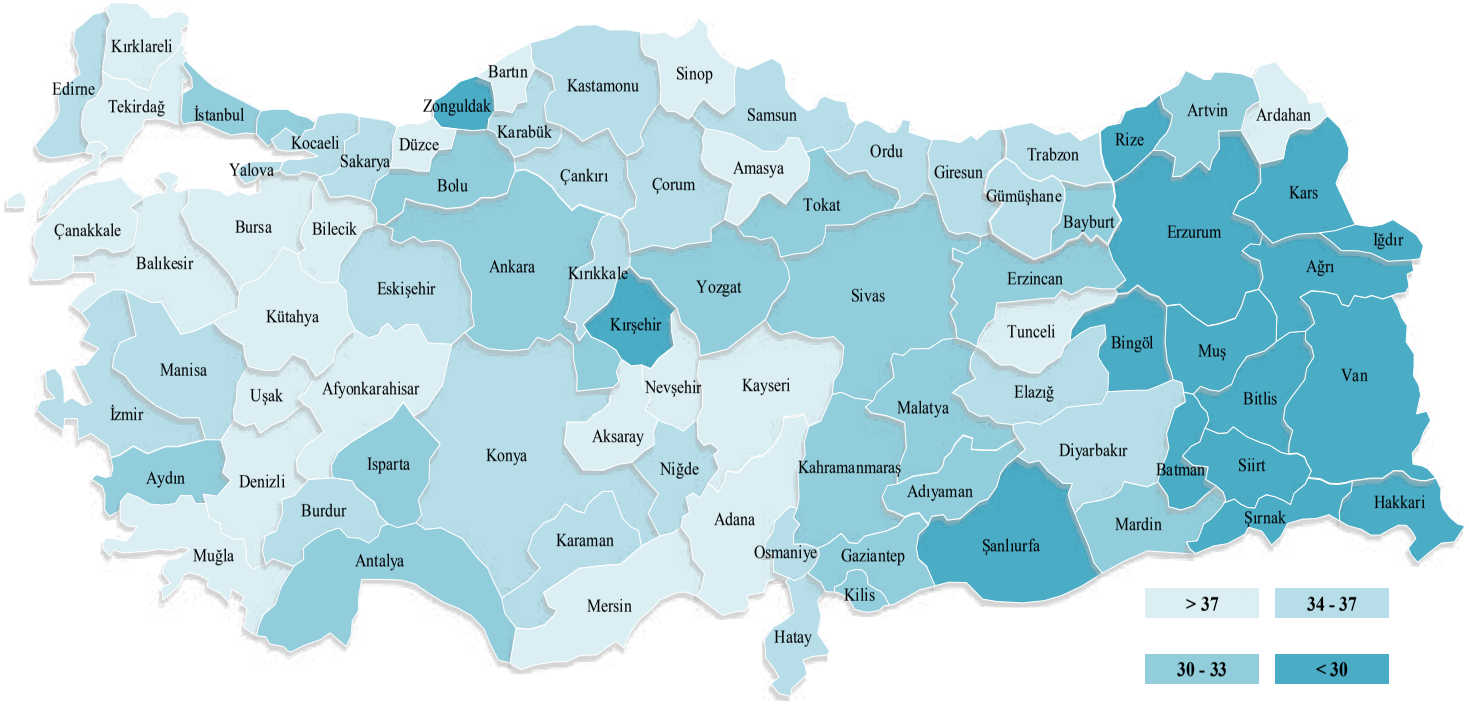
Source: General Directorate of Public Health, General Directorate of Health Services, OECD Health Data 2019

Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Map 8.1. Per Capita Visits to a Physician in Health Care Facilities by Provinces, All Sectors, 2018

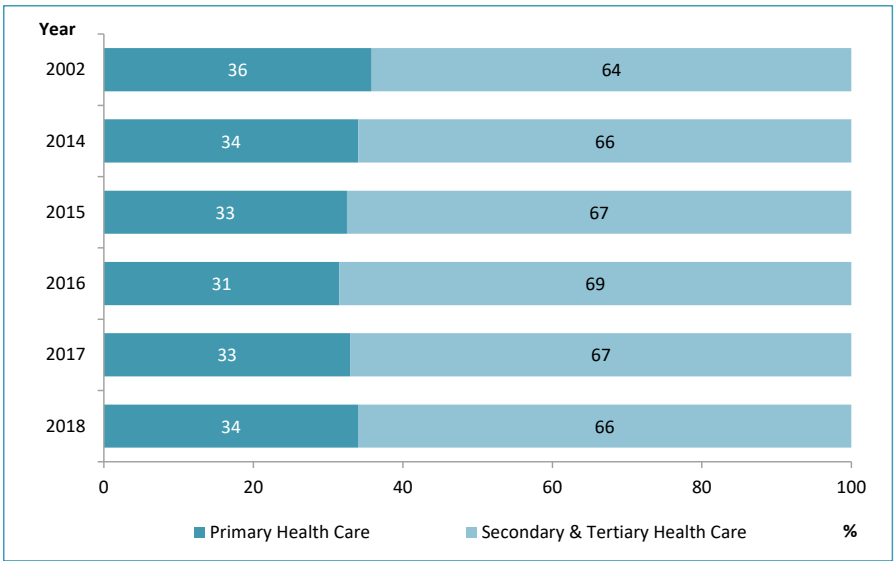
Source: General Directorate of Public Health, General Directorate of Health Services

Map 8.2. Proportion of Visits to a Physician at Primary Health Care Facilities to All Sectors by Provinces, (%), 2018



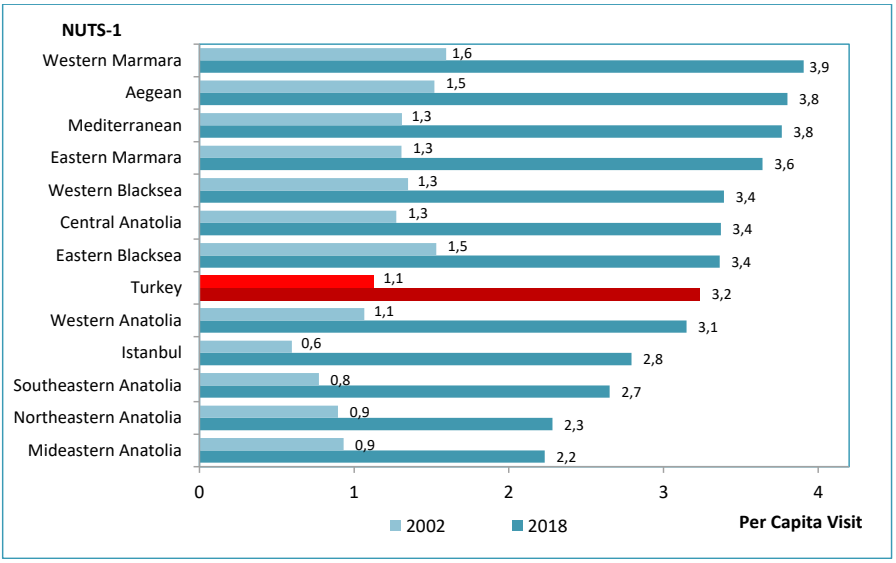
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.4. Ratio of Total Number of Visits to a Physician in Health Care Facilities by Years, (%), All Sectors



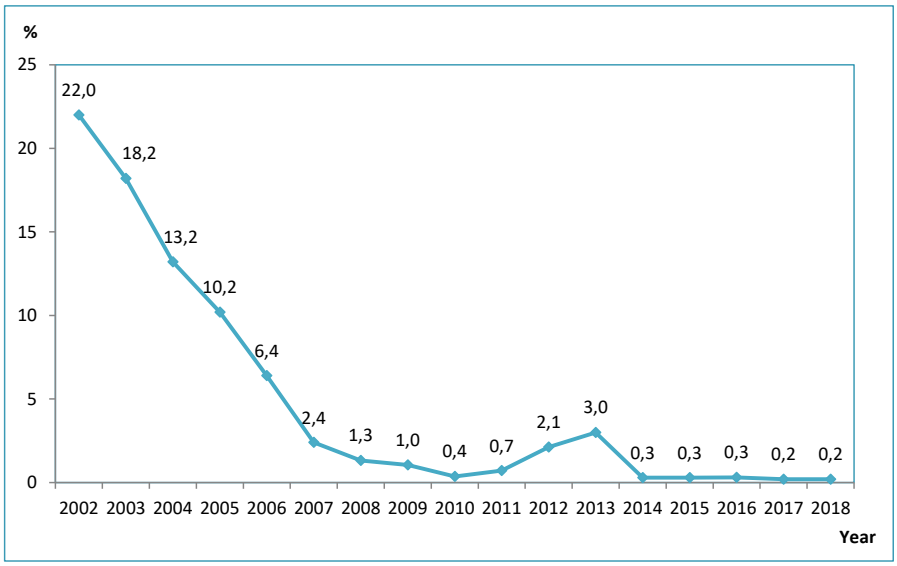
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.5. Per Capita Visits to a Physician at Primary Health Care Facilities by NUTS-1, All Sectors, 2002, 2018



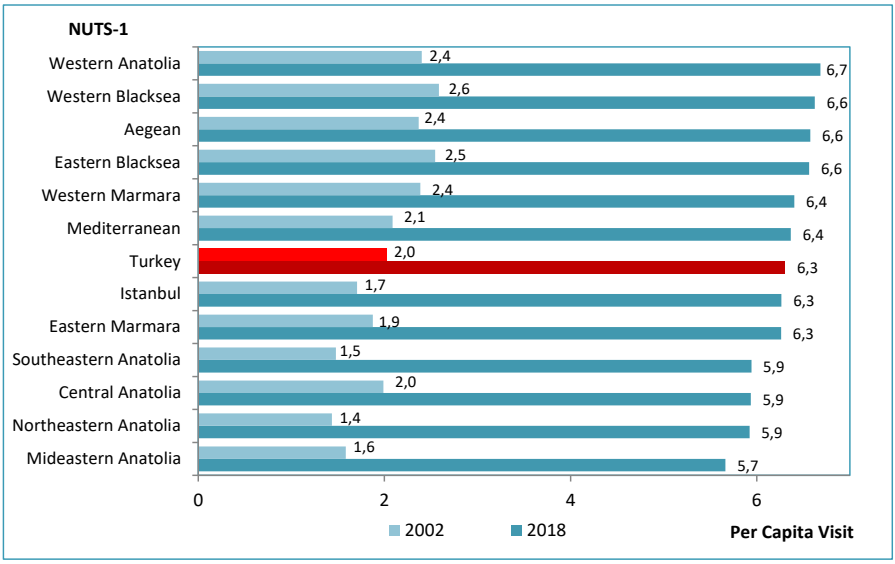
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.6. Referrals from the Family Medicine Unit by Years, (%), Ministry of Health



Source: General Directorate of Public Health

Figure 8.7. Per Capita Visits to a Physician at Secondary and Tertiary Health Care Facilities by NUTS-1, All Sectors, 2002, 2018



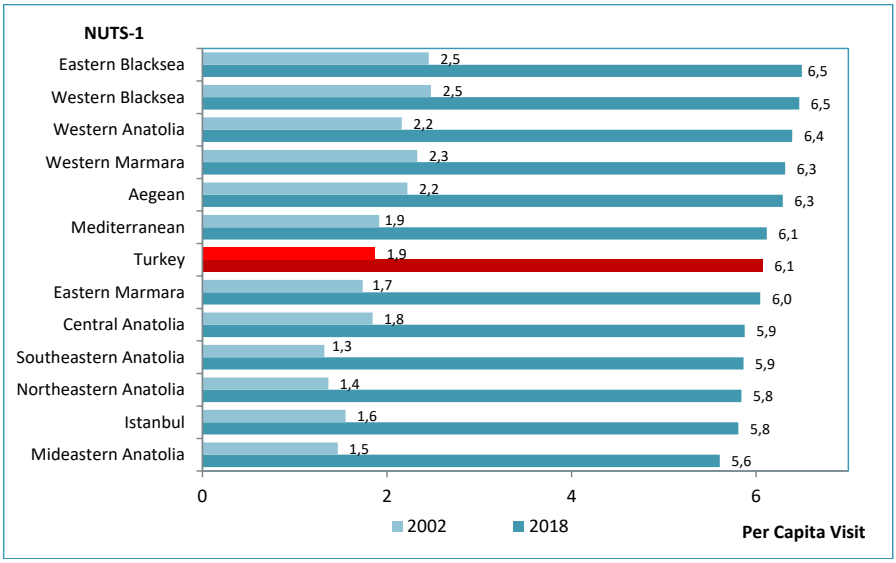
Source: General Directorate of Health Services

Table 8.2. Per Capita Hospital Visits by Years and Sectors

	2002	2014	2015	2016	2017	2018
Ministry of Health	1,7	3,8	3,9	4,3	4,4	4,6
University	0,1	0,4	0,4	0,5	0,5	0,5
Private	0,1	0,9	1,0	0,9	0,9	0,9
Total	1,9	5,1	5,3	5,6	5,8	6,1

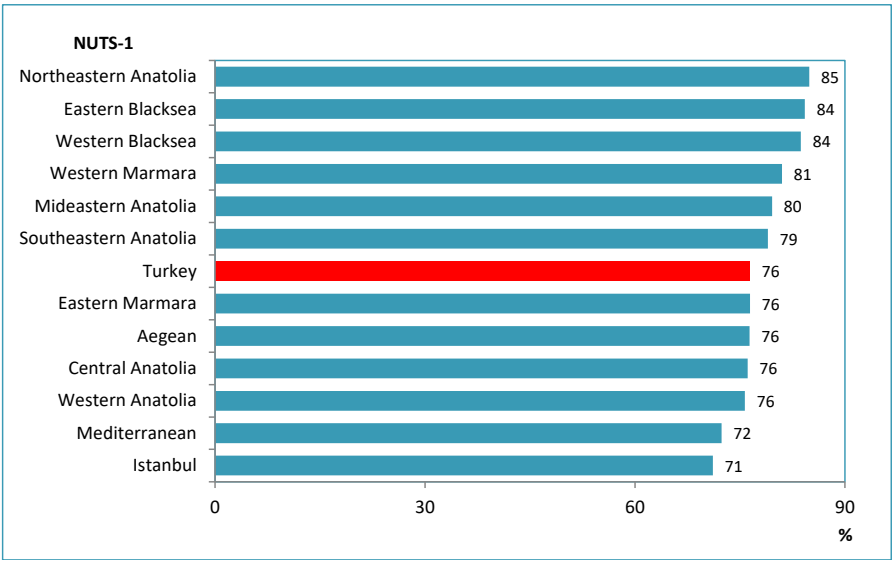
Source: General Directorate of Health Services

Figure 8.8. Per Capita Visits to Hospitals by NUTS-1, All Sectors, 2002, 2018



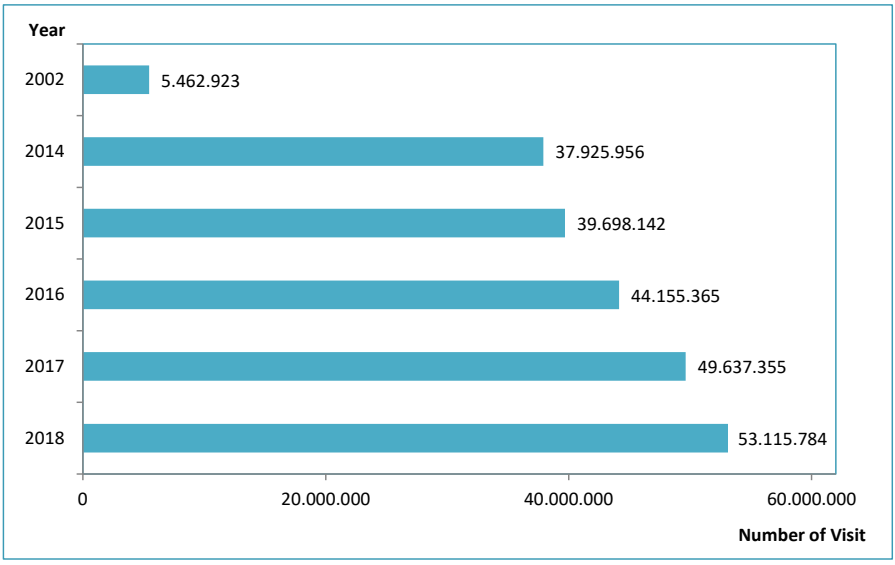
Source: General Directorate of Health Services

Figure 8.9. Proportion of Visits to MoH Hospitals to All Sectors by NUTS-1, (%), 2018



Source: General Directorate of Health Services

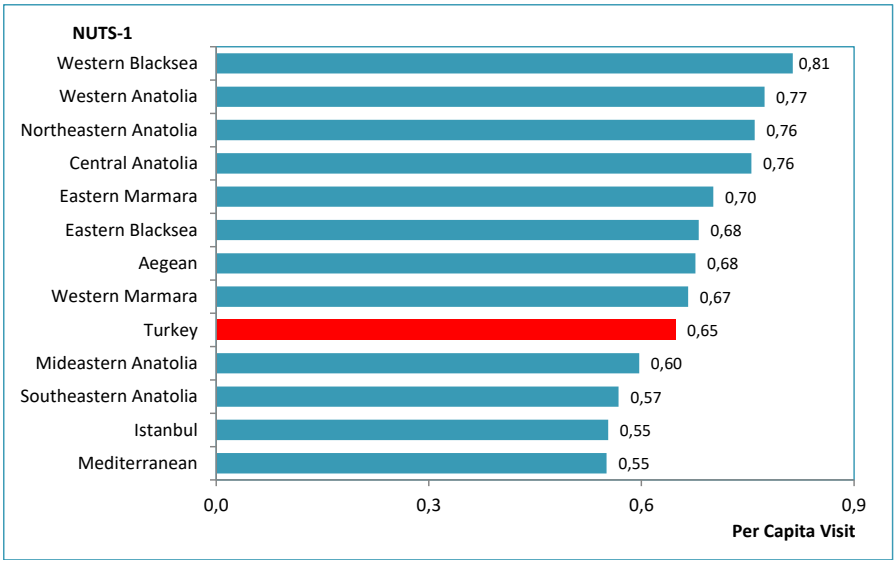
Figure 8.10. Number of Visits to Dentists by Years, All Sectors



Source: General Directorate of Health Services

Note: In 2002, only the values of the Ministry of Health were published.

Figure 8.11. Per Capita Visits to a Dentist by NUTS-1, All Sectors, 2018



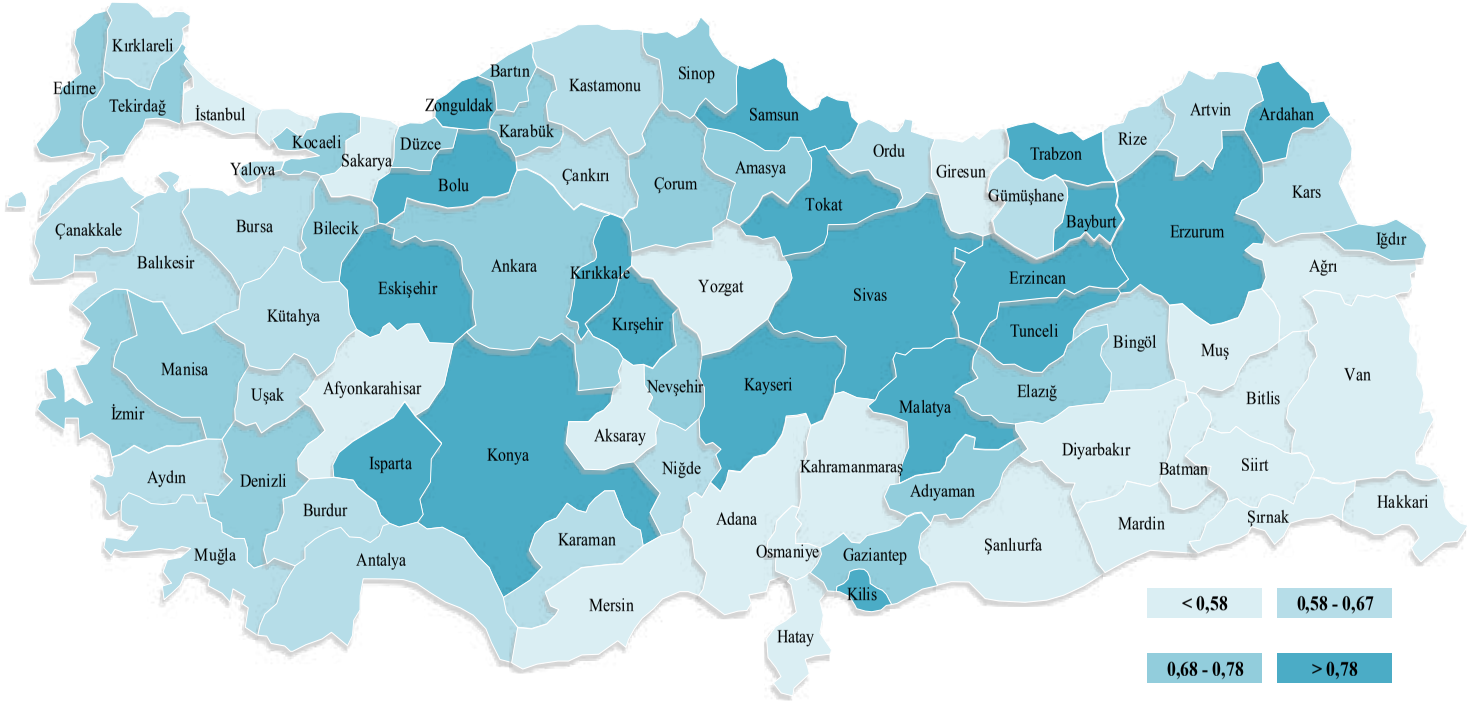
Source: General Directorate of Health Services

Table 8.3. Number of Inpatients by Years and Sectors

	2002	2014	2015	2016	2017	2018
Ministry of Health	4.169.779	7.396.239	7.404.570	7.561.989	7.606.159	7.675.972
University	781.990	1.737.627	1.891.094	1.842.001	1.982.410	1.955.983
Private	556.494	3.900.407	4.237.453	4.048.696	4.120.734	4.019.422
Total	5.508.263	13.034.273	13.533.117	13.452.686	13.709.303	13.651.377

Source: General Directorate of Health Services

Map 8.3. Per Capita Visits to a Dentist by Provinces, All Sectors, 2018



Source: General Directorate of Health Services

Table 8.4. Number of Inpatients in the MoH Hospitals and Its Proportion to All Sectors by NUTS-1, (%), 2018

NUTS-1	Ministry of Health	Total	Proportion of MoH (%)
Northeastern Anatolia	226.932	351.635	65
Western Blacksea	518.492	805.162	64
Eastern Blacksea	349.649	544.428	64
Southeastern Anatolia	927.117	1.471.237	63
Western Marmara	357.147	590.474	60
Mideastern Anatolia	411.877	704.044	59
Eastern Marmara	734.011	1.264.881	58
Aegean	986.387	1.725.104	57
Turkey	**7.675.972**	**13.651.377**	**56**
Western Anatolia	756.761	1.373.908	55
Mediterranean	1.070.053	2.006.718	53
Central Anatolia	384.515	730.072	53
Istanbul	953.031	2.083.714	46

Source: General Directorate of Health Services

Table 8.5. Number of Surgical Operations by Years and Sectors

	2002	2014	2015	2016	2017	2018
Ministry of Health	1.072.417	2.445.424	2.364.595	2.473.267	2.590.538	2.766.914
University	307.108	765.549	801.424	799.133	815.076	903.002
Private	218.837	1.587.973	1.604.126	1.499.829	1.525.685	1.531.822
Total	1.598.362	4.798.946	4.770.145	4.772.229	4.931.299	5.201.738

Source: General Directorate of Health Services

Table 8.6. Number and Distribution (%) of Surgical Operations by Surgical Operation Groups and Sectors, 2018

	A		B		C		Total	
	Number	%	Number	%	Number	%	Number	%
Ministry of Health	281.419	49	919.773	52	1.565.722	55	2.766.914	53
University	135.823	23	354.796	20	412.383	14	903.002	17
Private	161.127	28	501.539	28	869.156	31	1.531.822	29
Total	578.369	100	1.776.108	100	2.847.261	100	5.201.738	100

Source: General Directorate of Health Services

Table 8.7. Number of Surgical Operations per 1.000 Population by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Western Anatolia	39,6	20,9	19,7	80,1
Mediterranean	37,8	13,4	21,1	72,3
Aegean	34,3	12,8	19,0	66,1
Istanbul	31,1	6,6	26,9	64,6
Turkey	**33,7**	**11,0**	**18,7**	**63,4**
Eastern Blacksea	40,2	10,6	11,9	62,7
Eastern Marmara	32,4	9,0	20,9	62,4
Western Blacksea	38,4	8,8	12,2	59,4
Western Marmara	36,8	8,7	12,2	57,7
Central Anatolia	26,1	12,1	15,8	54,0
Northeastern Anatolia	35,6	14,9	3,0	53,5
Southeastern Anatolia	29,9	5,8	16,1	51,8
Mideastern Anatolia	25,3	14,5	9,1	48,9

Source: General Directorate of Health Services

Table 8.8. Number of Surgical Operations per 1.000 Population by Surgical Operation Groups and NUTS-1, 2018

NUTS-1	A	B	C	Total
Western Anatolia	10,9	29,1	40,2	80,1
Mediterranean	7,5	24,9	40,0	72,3
Aegean	7,7	23,2	35,2	66,1
Istanbul	9,1	20,4	35,1	64,6
Turkey	**7,1**	**21,7**	**34,7**	**63,4**
Eastern Blacksea	6,2	21,3	35,2	62,7
Eastern Marmara	7,2	22,6	32,6	62,4
Western Blacksea	5,9	21,4	32,1	59,4
Western Marmara	5,3	19,4	33,0	57,7
Central Anatolia	4,3	19,6	30,1	54,0
Northeastern Anatolia	3,8	18,2	31,5	53,5
Southeastern Anatolia	3,8	16,2	31,8	51,8
Mideastern Anatolia	3,9	16,0	29,0	48,9

Source: General Directorate of Health Services

Table 8.9. Proportion of Surgical Operations to the Number of Visits to Hospitals by NUTS-1 and Sectors, (%), 2018

NUTS-1	Ministry of Health	University	Private	Total
Western Anatolia	0,8	2,4	2,9	1,3
Mediterranean	0,9	2,3	1,9	1,2
Istanbul	0,8	1,5	2,2	1,1
Aegean	0,7	2,0	2,2	1,1
Turkey	**0,7**	**2,1**	**2,1**	**1,0**
Eastern Marmara	0,7	2,0	2,1	1,0
Eastern Blacksea	0,7	3,6	1,6	1,0
Central Anatolia	0,6	2,0	1,9	0,9
Western Blacksea	0,7	2,2	1,9	0,9
Northeastern Anatolia	0,7	2,7	0,9	0,9
Western Marmara	0,7	1,9	1,7	0,9
Southeastern Anatolia	0,6	1,9	1,7	0,9
Mideastern Anatolia	0,6	2,5	1,6	0,9

Source: General Directorate of Health Services

Table 8.10. Number of Days Stayed in Hospitals by Years and Sectors

	2002	2014	2015	2016	2017	2018
Ministry of Health	23.770.910	32.078.874	32.011.141	33.325.800	34.065.595	34.651.119
University	6.713.945	10.260.691	10.575.334	10.456.273	11.072.754	10.664.127
Private	1.730.661	9.521.899	10.649.770	10.368.845	11.032.616	11.326.789
Total	32.215.516	51.861.464	53.236.245	54.150.918	56.170.965	56.642.035

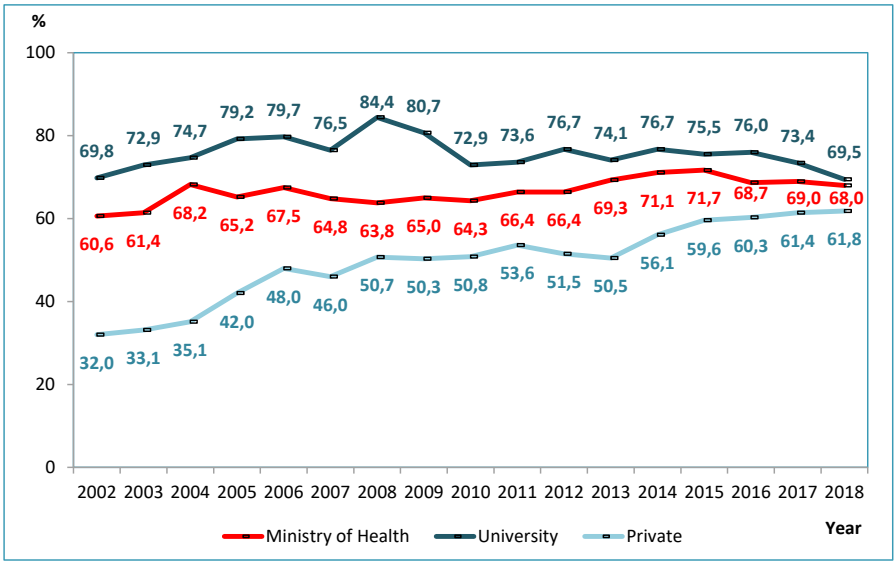
Source: General Directorate of Health Services

Table 8.11. Number of Days Stayed in the Hospitals by NUTS-1, MoH, 2017, 2018

NUTS-1	2017	2018
Northeastern Anatolia	1.018.924	980.317
Central Anatolia	1.625.812	1.602.884
Western Marmara	1.550.077	1.637.772
Eastern Blacksea	1.684.076	1.672.992
Mideastern Anatolia	1.675.644	1.679.189
Western Blacksea	2.607.858	2.607.776
Southeastern Anatolia	3.218.118	3.193.814
Eastern Marmara	3.580.443	3.512.920
Western Anatolia	3.751.417	3.859.502
Mediterranean	4.111.620	4.325.346
Aegean	4.643.888	4.685.574
Istanbul	4.597.718	4.893.033
Turkey	34.065.595	34.651.119

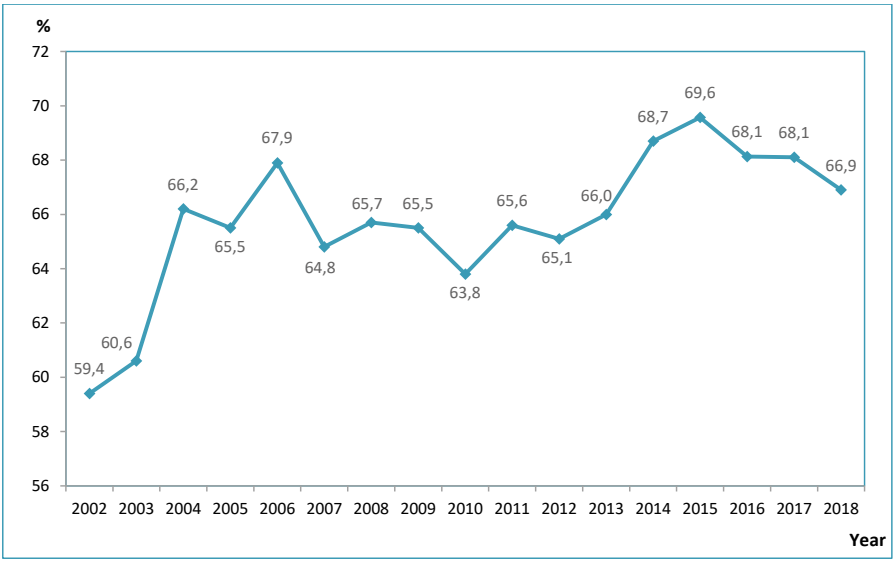
Source: General Directorate of Health Services

Figure 8.12. Bed Occupancy Rate by Years and Sectors, (%)



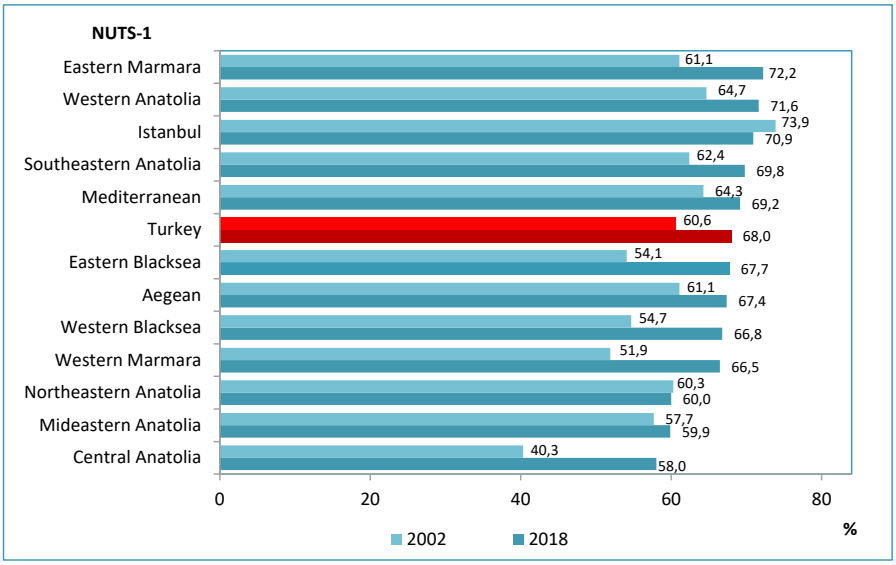
Source: General Directorate of Health Services

Figure 8.13. Bed Occupancy Rate in Hospitals by Years, All Sectors, (%)



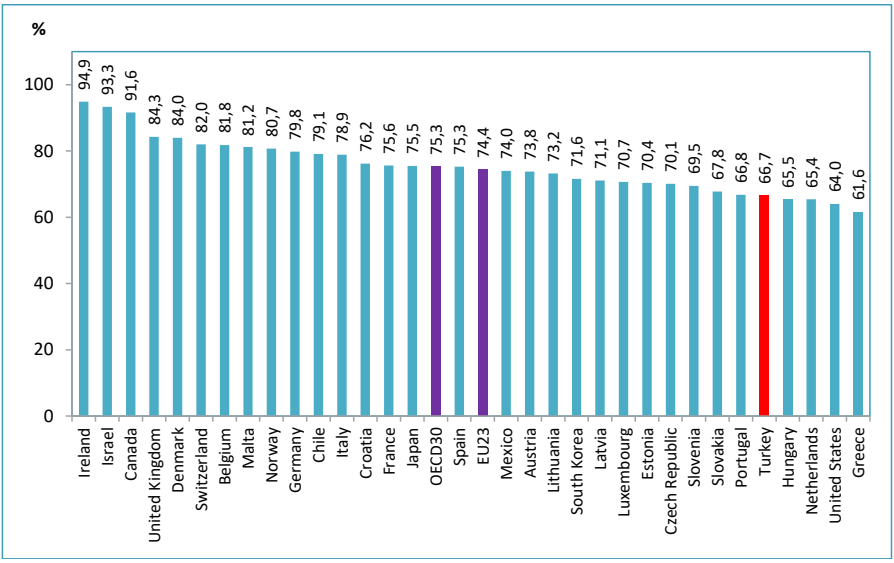
Source: General Directorate of Health Services

Figure 8.14. Bed Occupancy Rate in Hospitals by NUTS-1, Ministry of Health, (%), 2002, 2018



Source: General Directorate of Health Services

Figure 8.15. International Comparison of Acute Bed Occupancy Rate in Hospitals, 2017

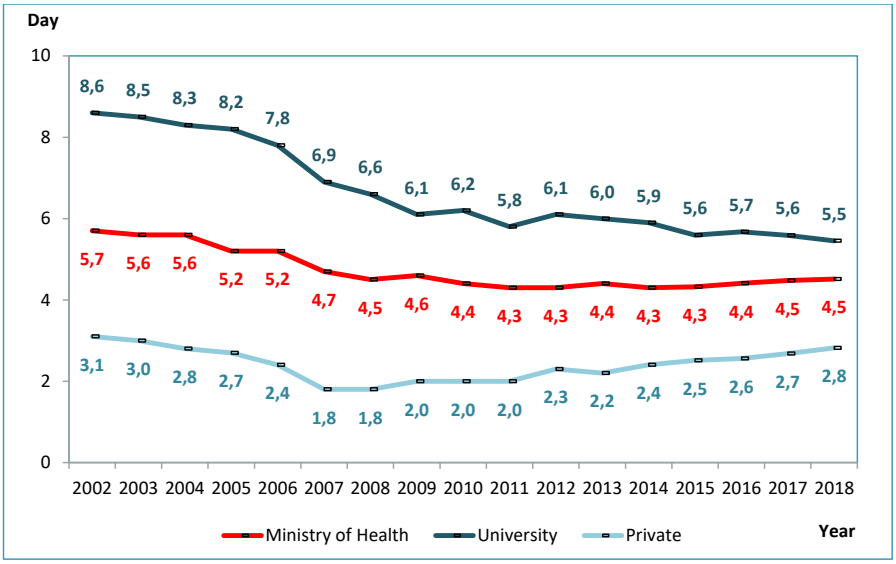


Source: General Directorate of Health Services, EUROSTAT Database, OECD Health Data 2019
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Map 8.4. Bed Occupancy Rate in Hospitals by Provinces, All Sectors, (%), 2018

Source: General Directorate of Health Services

Figure 8.16. Average Length of Stay in Hospitals by Years and Sectors, (Day)



Source: General Directorate of Health Services

Figure 8.17. Average Length of Stay in Hospitals by Years, All Sectors, (Day)

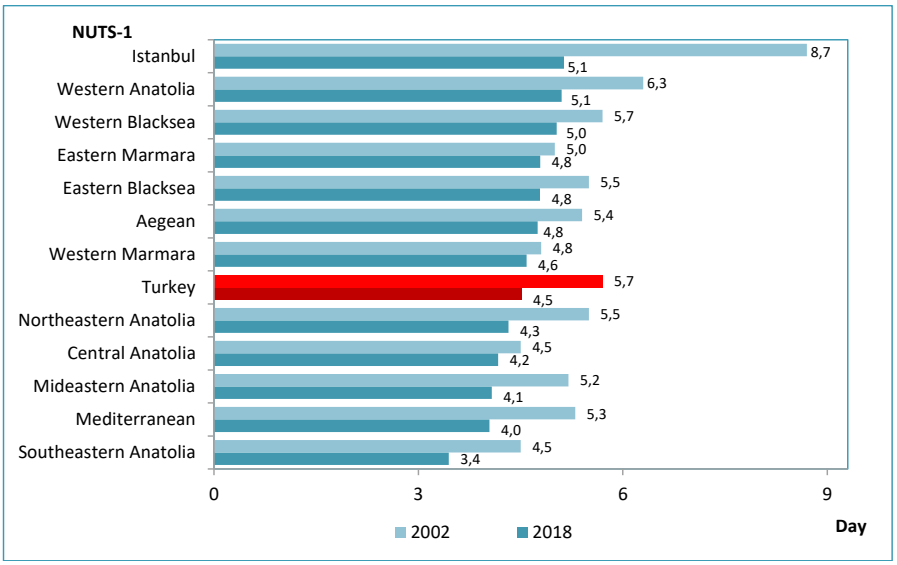
Source: General Directorate of Health Services

Table 8.12. Average Length of Stay in Hospitals by the ICD-10 Main Diagnosis Groups, All Sectors, 2016, 2017, 2018

ICD-10 Main Diagnosis Group	Code	2016	2017	2018
Certain Infectious and Parasitic Diseases	A00-B99	3,9	4,1	4,2
Neoplasms	C00-D48	4,5	4,8	4,8
Diseases of the Blood and Blood-Forming Organs and Certain Disorders Involving the Immune Mechanism	D50-D89	3,4	3,1	2,9
Endocrine, Nutritional and Metabolic Diseases	E00-E90	4,8	4,9	5,0
Mental and Behavioral Disorders	F00-F99	12,8	12,9	13,3
Diseases of the Nervous System	G00-G99	4,0	4,0	3,9
Diseases of the Eye and Adnexa	H00-H59	2,0	1,9	2,0
Diseases of the Ear and Mastoid Process	H60-H95	3,4	3,3	3,5
Diseases of the Circulatory System	I00-I99	5,0	5,1	5,0
Diseases of the Respiratory System	J00-J99	5,5	5,6	5,7
Diseases of the Digestive System	K00-K93	3,1	3,1	3,1
Diseases of the Skin and Subcutaneous Tissue	L00-L99	2,7	2,8	2,9
Diseases of the Musculoskeletal System and Connective Tissue	M00-M99	5,2	5,2	5,2
Diseases of the Genitourinary System	N00-N99	3,4	3,5	3,5
Pregnancy, Childbirth and the Puerperium	O00-O99	2,6	2,7	2,7
Certain Conditions Originating in the Perinatal Period	P00-P96	4,7	5,0	5,1
Congenital Malformations, Deformations and Chromosomal Abnormalities	Q00-Q99	4,3	4,4	4,4
Symptoms, Signs and Abnormal Clinical and Laboratory Findings, Not Elsewhere Classified	R00-R99	3,0	3,0	3,1
Injury, Poisoning and Certain other Consequences of External Causes	S00-T98	4,6	4,6	4,9
Factors Influencing Health Status and Contact with Health Services	Z00-Z99	3,9	4,1	4,1
Total		4,0	4,1	4,1

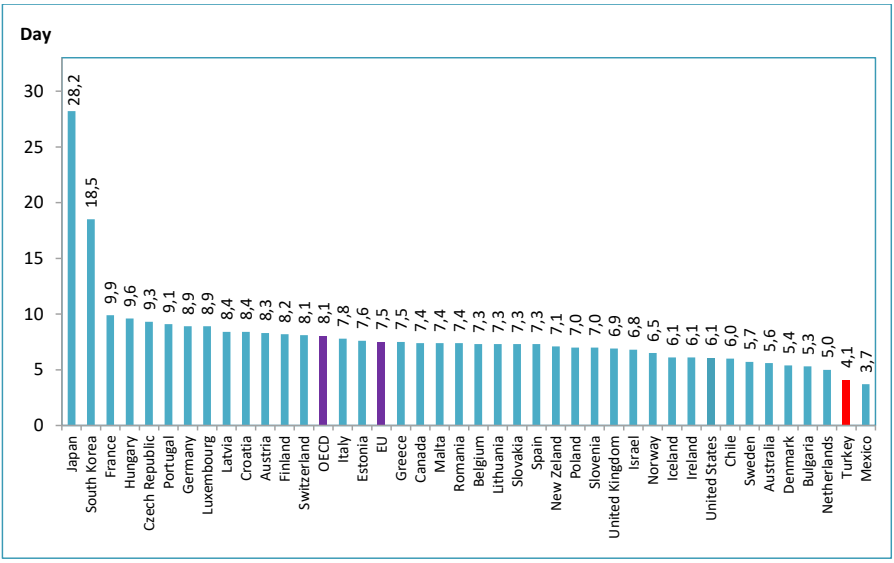
Source: General Directorate of Health Services Diagnosis-Related Groups Database

Figure 8.18. Average Length of Stay in Hospitals by NUTS-1, MoH, (Day), 2002, 2018



Source: General Directorate of Health Services

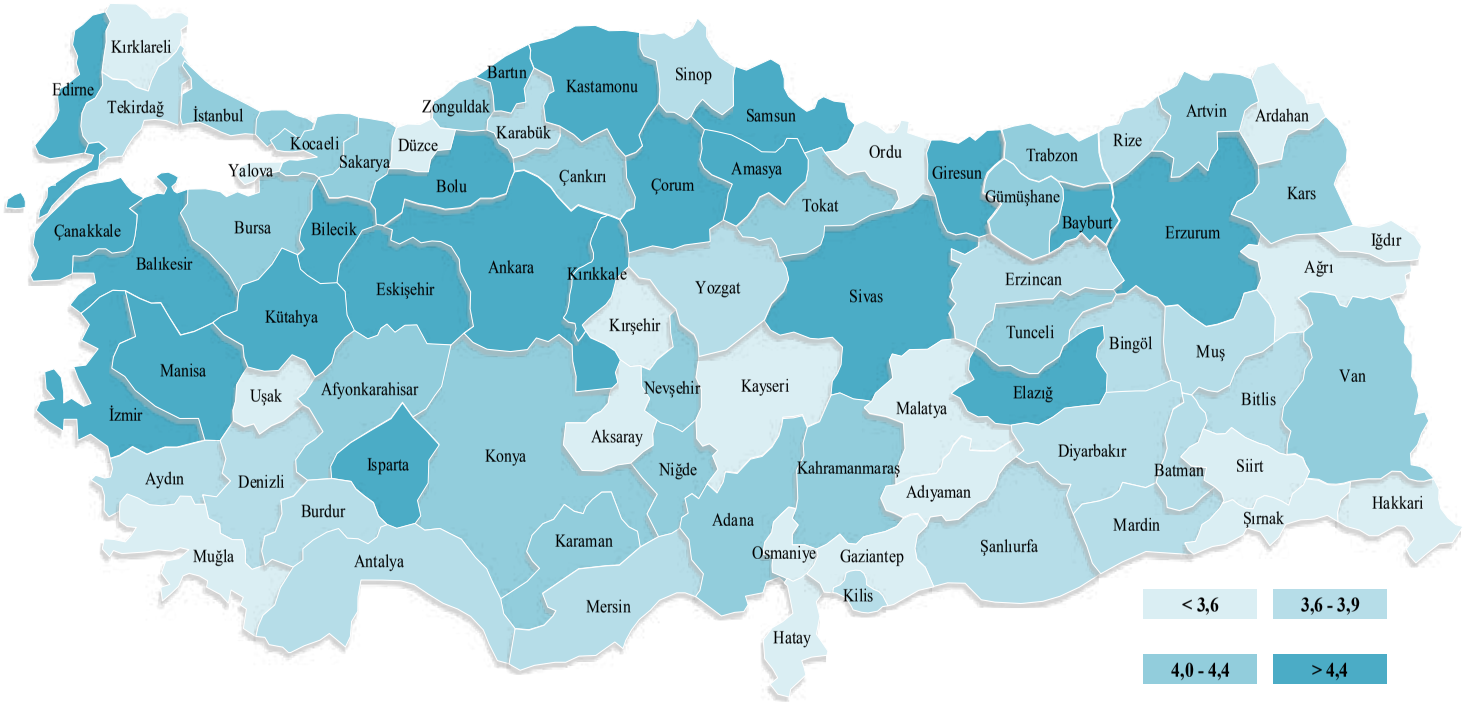
Figure 8.19. International Comparison of Average Length of Stay in Hospitals, 2017



Source: General Directorate of Health Services, OECD Health Data 2019

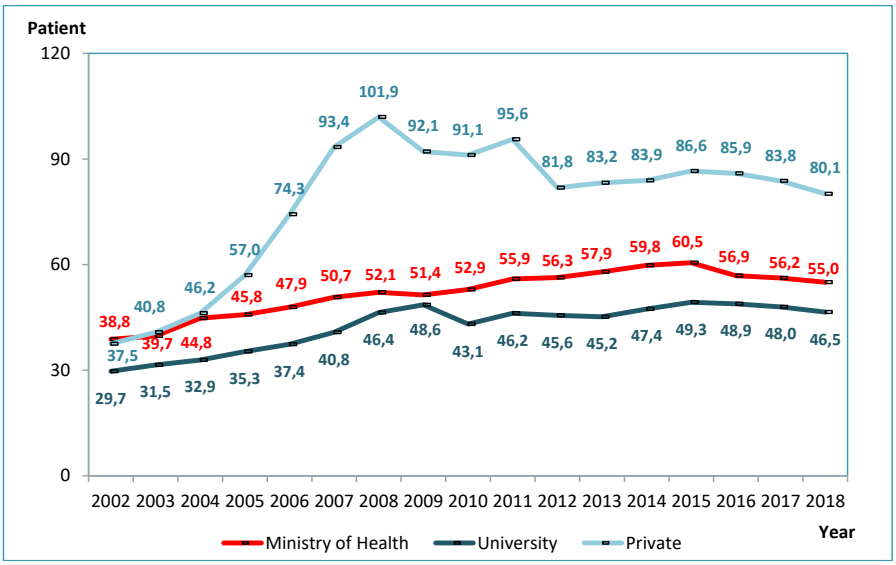
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Map 8.5. Average Length of Stay in Hospitals by Provinces, (Day), All Sectors, 2018



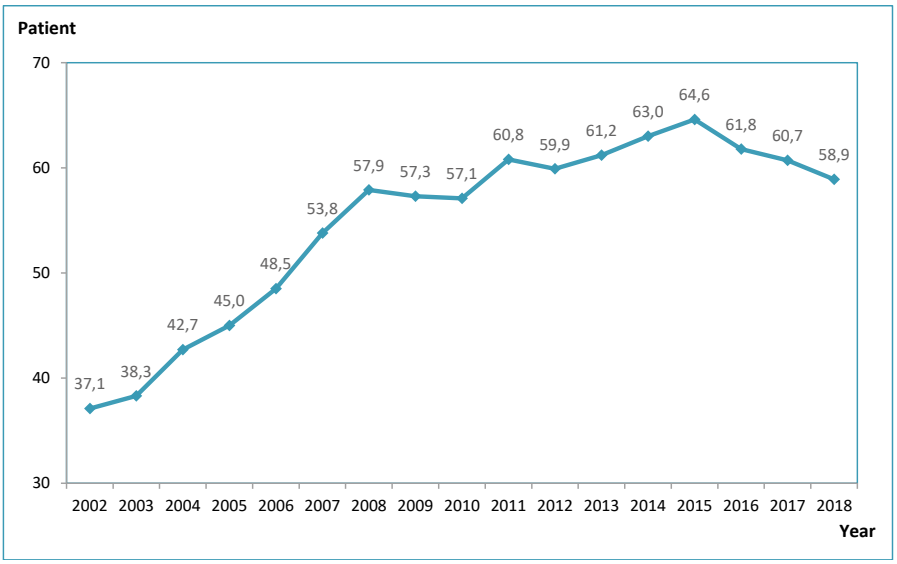
Source: General Directorate of Health Services

Figure 8.20. Bed Turnover Rate in Hospitals by Years and Sectors, (Patient)



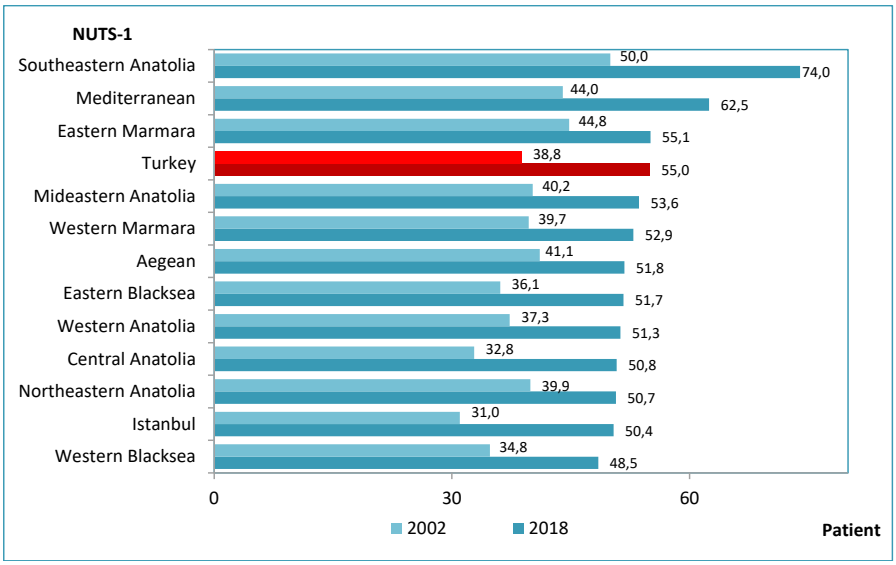
Source: General Directorate of Health Services

Figure 8.21. Bed Turnover Rate in Hospitals by Years, (Patient), All Sectors



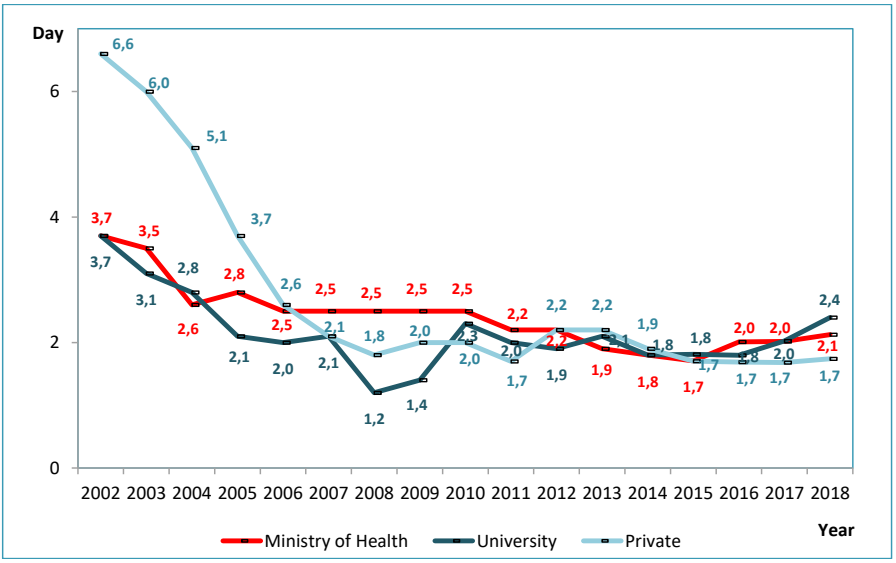
Source: General Directorate of Health Services

Figure 8.22. Bed Turnover Rate in Hospitals by NUTS-1, (Patient), MoH, 2002, 2018



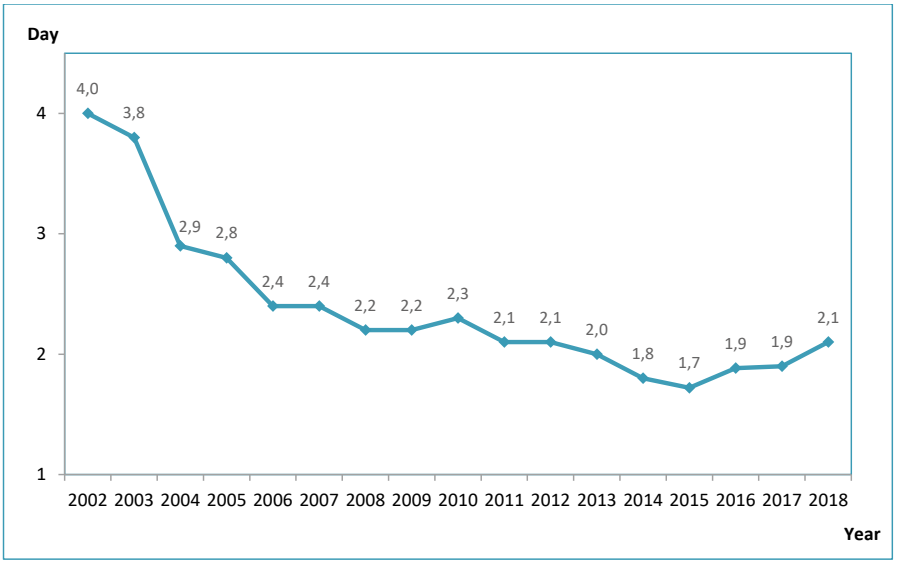
Source: General Directorate of Health Services

Figure 8.23. Bed Turnover Interval in Hospitals by Years and Sectors, (Day)



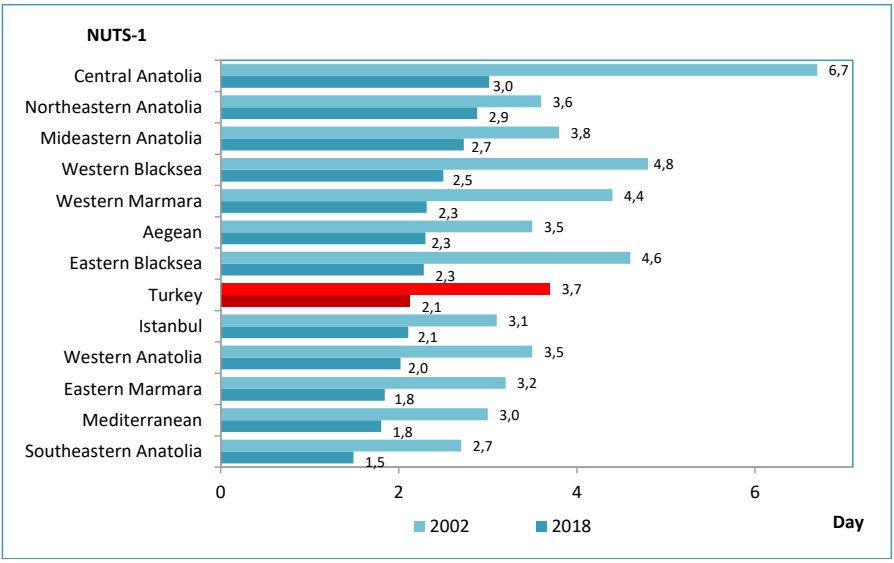
Source: General Directorate of Health Services

Figure 8.24. Bed Turnover Interval in Hospitals by Years, (Day), All Sectors



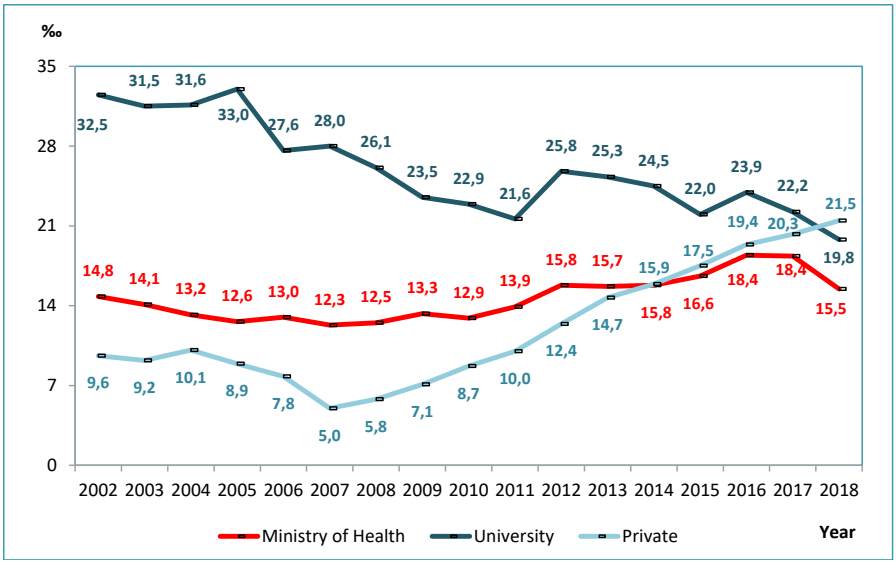
Source: General Directorate of Health Services

Figure 8.25. Bed Turnover Interval in Hospitals by NUTS-1, (Day), MoH, 2002, 2018



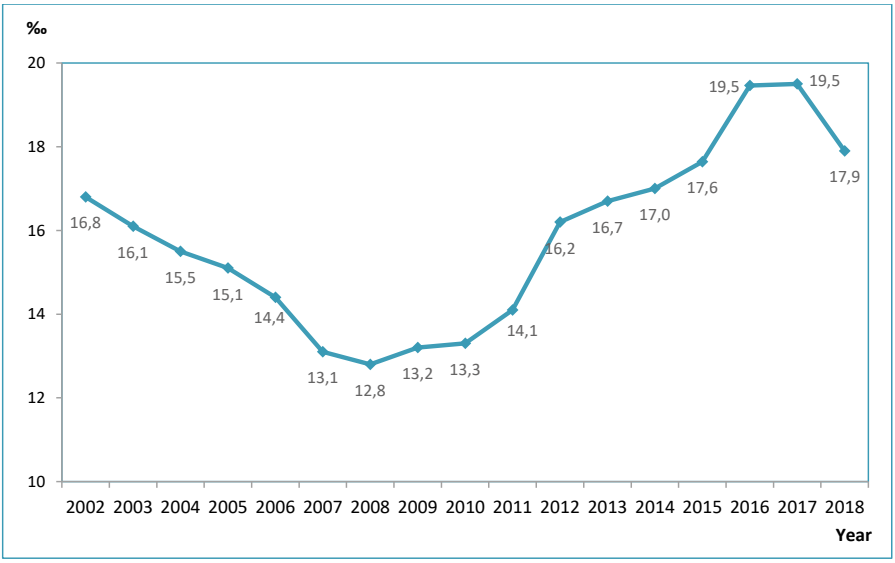
Source: General Directorate of Health Services

Figure 8.26. Crude Death Rate in Hospitals by Years and Sectors, (‰)



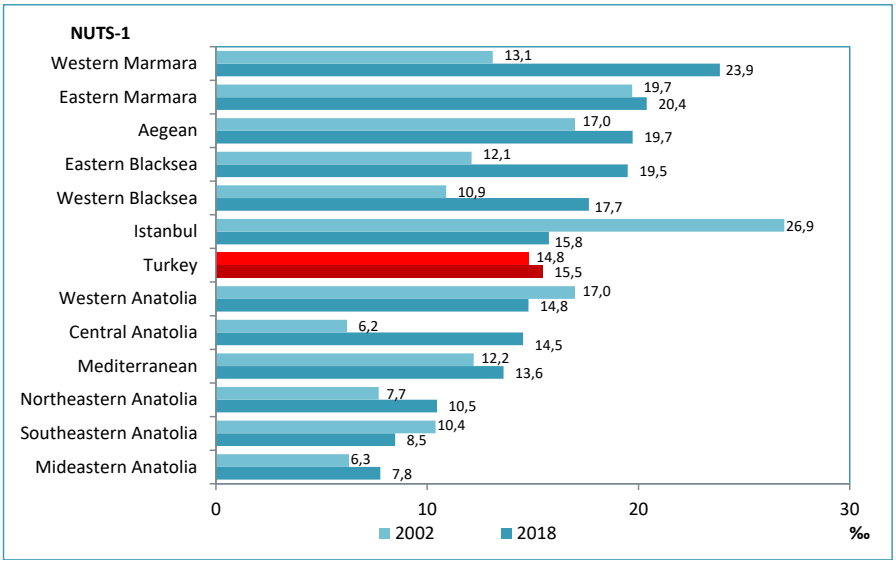
Source: General Directorate of Health Services

Figure 8.27. Crude Death Rate in Hospitals by Years, All Sectors, (‰)



Source: General Directorate of Health Services

Figure 8.28. Crude Death Rate in Hospitals by NUTS-1, MoH, (‰), 2002, 2018



Source: General Directorate of Health Services

Table 8.13. Number of Organ Transplantations by Years, All Sectors

	2002	2014	2015	2016	2017	2018
Kidney	550	2.924	3.204	3.419	3.341	3.866
Liver	159	1.212	1.216	1.395	1.446	1.588
Heart	20	78	89	69	77	91
Heart Valve	15	0	0	0	0	0
Lung	0	33	30	22	42	43
Heart-Lung	0	0	0	0	0	0
Pancreas	0	9	7	6	0	4
Small Intestine	1	5	6	0	2	0
Total	745	4.261	4.552	4.911	4.908	5.592

Source: General Directorate of Health Services

Table 8.14. Number of Exams of Some Imaging Devices in Hospitals by Sectors, 2018

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	10.180.784	13.255.939	17.998.067	14.526.373	6.535.140	1.452.964
University	1.967.369	2.632.116	2.409.065	983.610	937.498	306.181
Private	3.135.503	2.433.929	5.629.537	1.983.226	1.678.765	380.668
Total	15.283.656	18.321.984	26.036.669	17.493.209	9.151.403	2.139.813

Source: General Directorate of Health Services

Table 8.15. Number of Exams of Some Imaging Devices in Hospitals per Scanner by Sectors, 2018

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	30.300	24.594	6.627	3.891	4.283	3.697
University	16.395	18.406	3.191	2.003	3.511	4.194
Private	6.831	4.601	2.370	1.488	2.309	761
Total	16.703	15.130	4.454	3.148	3.632	2.215

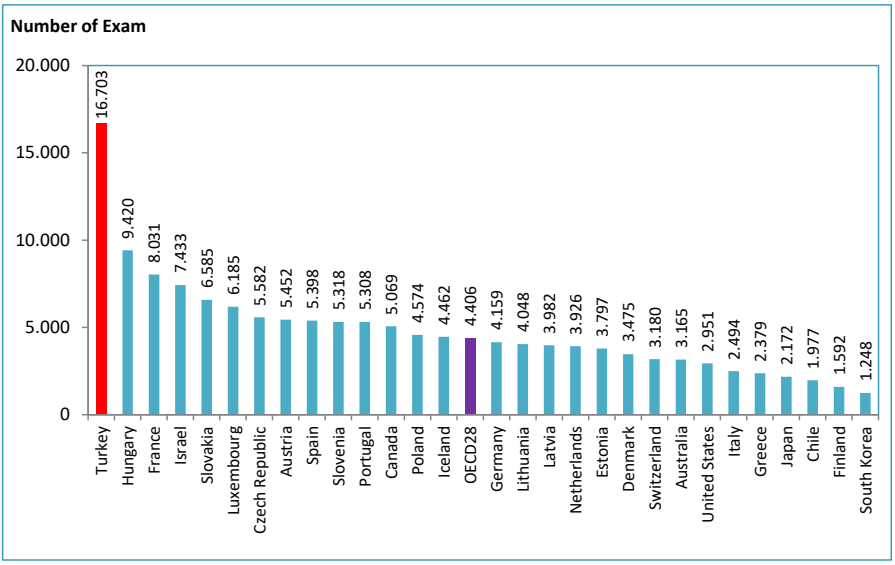
Source: General Directorate of Health Services

Table 8.16. Number of Exams of Some Imaging Devices in Hospitals per 1.000 Population by Sectors, 2018

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	124	162	219	177	80	18
University	24	32	29	12	11	4
Private	38	30	69	24	20	5
Total	186	223	318	213	112	26

Source: General Directorate of Health Services

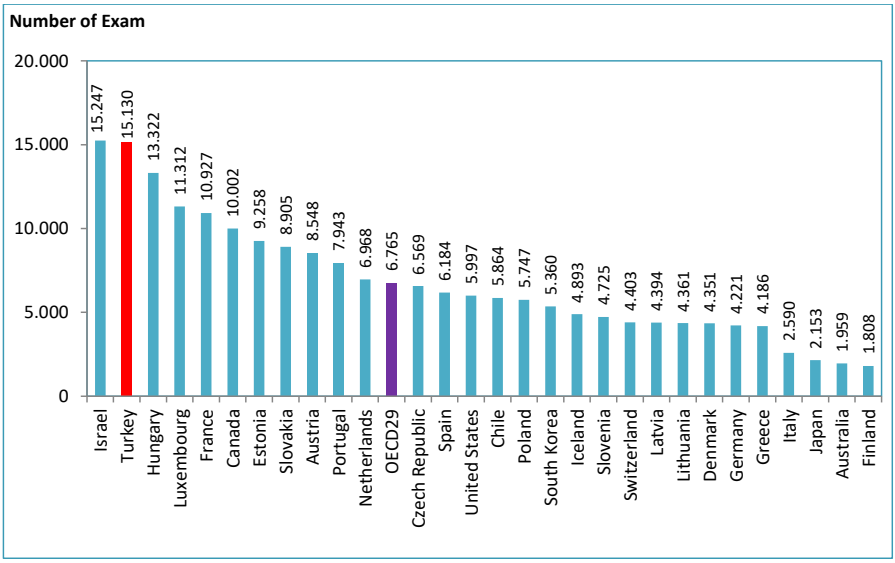
Figure 8.29. International Comparison of Number of Exams per MRI Scanner, 2017



Source: General Directorate of Health Services, OECD Health Data 2019

Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

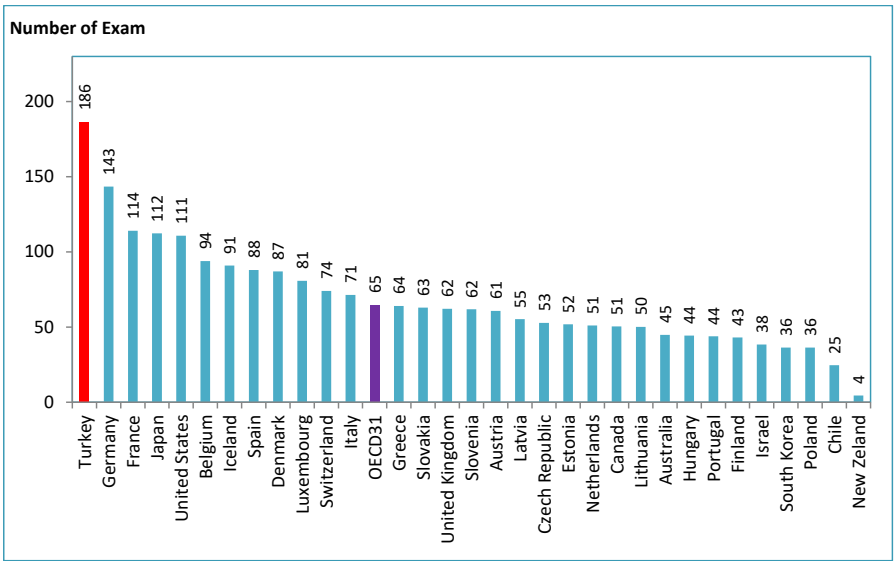
Figure 8.30. International Comparison of Number of Exams per CT Scanner, 2017



Source: General Directorate of Health Services, OECD Health Data 2019

Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

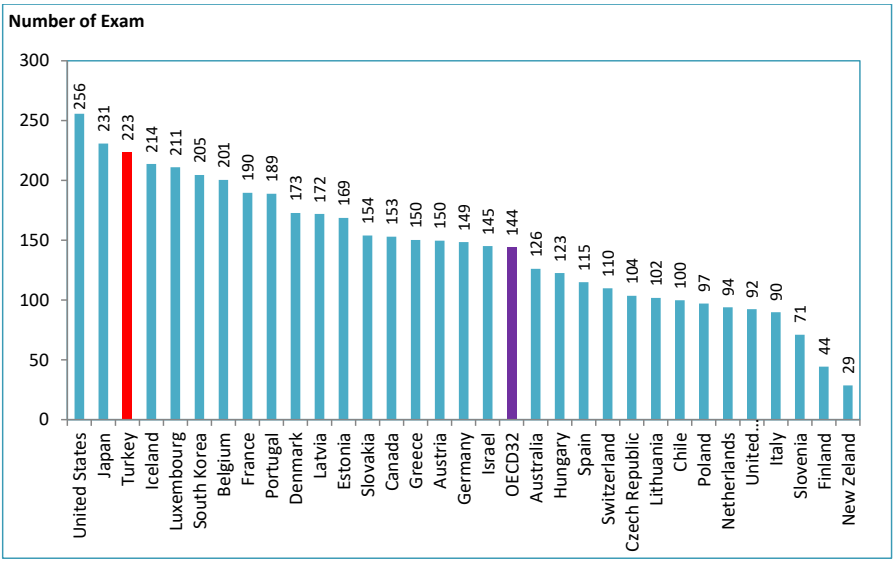
Figure 8.31. International Comparison of Number of MRI Exams per 1.000 Population, 2017



Source: General Directorate of Health Services, OECD Health Data 2019

Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Figure 8.32. International Comparison of Number of CT Exams per 1.000 Population, 2017



Source: General Directorate of Health Services, OECD Health Data 2019

Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Table 8.17. Number of MRI Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Western Blacksea	22,2	59,7	45,9	26,9
Southeastern Anatolia	21,2	46,6	49,4	27,0
Central Anatolia	21,6	55,6	40,9	27,7
Northeastern Anatolia	22,2	81,1	34,4	28,3
Mediterranean	25,2	40,4	39,7	29,3
Aegean	26,9	34,7	41,9	29,7
Eastern Marmara	25,0	42,1	46,9	29,8
Turkey	**26,7**	**46,1**	**42,0**	**30,7**
Western Marmara	24,9	64,1	49,9	30,7
Mideastern Anatolia	24,6	59,5	50,1	30,8
Western Anatolia	28,7	43,9	43,7	32,3
Eastern Blacksea	30,7	60,0	45,6	33,7
Istanbul	35,6	42,7	35,1	36,0

Source: General Directorate of Health Services

Table 8.18. Number of CT Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Southeastern Anatolia	29,2	47,4	40,6	31,9
Western Marmara	29,0	73,0	30,5	32,4
Central Anatolia	28,7	79,6	26,7	33,5
Mideastern Anatolia	28,4	83,8	32,6	34,6
Eastern Blacksea	33,2	62,0	34,2	34,6
Western Anatolia	31,7	55,9	30,4	34,8
Eastern Marmara	33,6	72,7	29,2	35,7
Turkey	**34,8**	**61,7**	**32,6**	**36,8**
Aegean	34,3	62,5	32,5	36,9
Mediterranean	35,0	60,8	34,6	37,4
Northeastern Anatolia	33,1	89,1	30,4	38,1
Istanbul	45,7	43,0	29,0	41,9
Western Blacksea	39,4	69,4	46,1	42,0

Source: General Directorate of Health Services

Table 8.19. Number of Ultrasound Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Eastern Blacksea	24,0	50,6	83,1	31,8
Eastern Marmara	35,6	32,5	59,5	39,3
Western Marmara	37,8	59,3	61,9	42,2
Istanbul	36,2	47,3	69,0	44,0
Western Blacksea	48,3	34,5	68,3	49,4
Mediterranean	44,0	65,6	67,8	50,4
Turkey	**47,3**	**56,5**	**75,4**	**52,3**
Aegean	54,6	46,9	74,9	56,5
Mideastern Anatolia	52,1	70,4	79,5	56,7
Western Anatolia	54,5	60,7	79,6	58,1
Northeastern Anatolia	55,3	105,3	81,2	61,4
Central Anatolia	55,0	57,4	125,2	64,9
Southeastern Anatolia	67,0	83,9	97,0	72,6

Source: General Directorate of Health Services

Table 8.20. Number of Doppler Ultrasound Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Central Anatolia	14,0	62,1	18,8	19,5
Northeastern Anatolia	24,2	27,7	13,2	23,9
Western Blacksea	25,1	55,9	35,5	28,1
Aegean	29,6	19,5	33,3	29,1
Southeastern Anatolia	30,5	17,4	27,2	29,3
Western Anatolia	39,9	15,4	23,2	34,8
Turkey	**38,2**	**23,1**	**26,6**	**35,1**
Mediterranean	42,5	15,8	22,7	36,4
Western Marmara	38,0	22,6	33,7	36,4
Mideastern Anatolia	37,6	25,2	47,6	37,3
Eastern Blacksea	41,4	9,2	24,7	38,1
Eastern Marmara	45,3	32,1	33,1	42,4
Istanbul	55,9	15,2	20,9	45,4

Source: General Directorate of Health Services

Table 8.21. Number of ECHO Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Eastern Marmara	15,7	17,2	20,6	16,6
Eastern Blacksea	15,9	21,8	22,0	16,9
Western Marmara	15,7	16,9	24,7	16,9
Southeastern Anatolia	16,4	33,2	14,1	16,9
Istanbul	15,7	31,1	20,5	17,9
Turkey	**17,2**	**22,0**	**22,5**	**18,4**
Central Anatolia	17,0	25,0	22,1	18,5
Western Blacksea	16,2	20,0	37,2	18,5
Northeastern Anatolia	18,3	30,0	8,9	18,8
Mediterranean	18,6	23,5	17,4	18,8
Aegean	17,7	13,0	30,2	18,9
Western Anatolia	18,2	21,6	37,5	20,7
Mideastern Anatolia	23,2	12,0	19,0	21,6

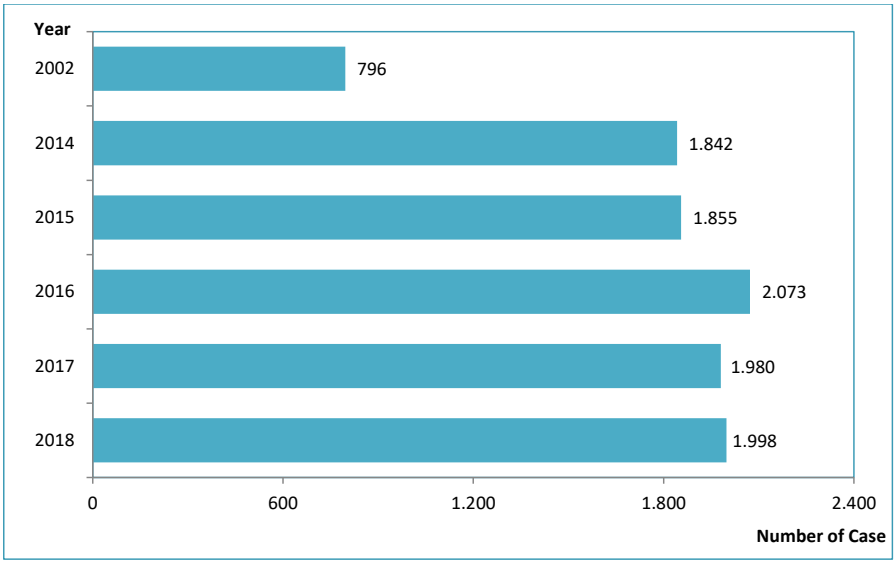
Source: General Directorate of Health Services

Table 8.22. Number of Mammography Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2018

NUTS-1	Ministry of Health	University	Private	Total
Southeastern Anatolia	1,0	2,5	2,2	1,3
Northeastern Anatolia	1,5	4,0	1,3	1,7
Mideastern Anatolia	1,9	6,5	2,2	2,4
Central Anatolia	2,3	5,6	4,9	3,0
Eastern Blacksea	2,6	17,4	2,5	3,3
Western Blacksea	3,3	7,5	4,0	3,7
Mediterranean	3,6	6,3	4,1	3,9
Turkey	**3,8**	**7,2**	**5,1**	**4,3**
Eastern Marmara	3,8	7,6	5,5	4,4
Aegean	4,4	7,3	4,9	4,7
Western Marmara	5,6	7,5	3,2	5,5
Istanbul	5,5	6,0	7,7	6,0
Western Anatolia	5,8	10,4	6,8	6,6

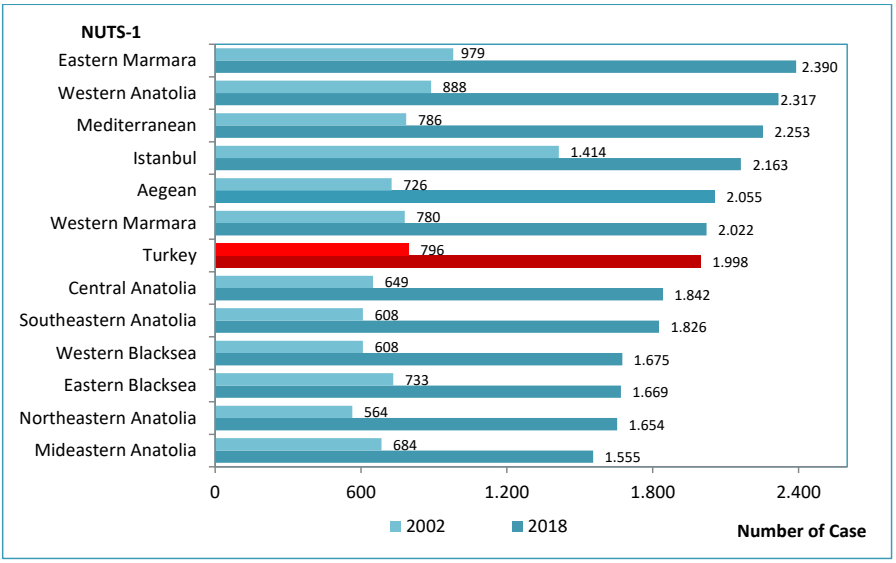
Source: General Directorate of Health Services

Figure 8.33. Number of Case per 112 Emergency Care Station by Years



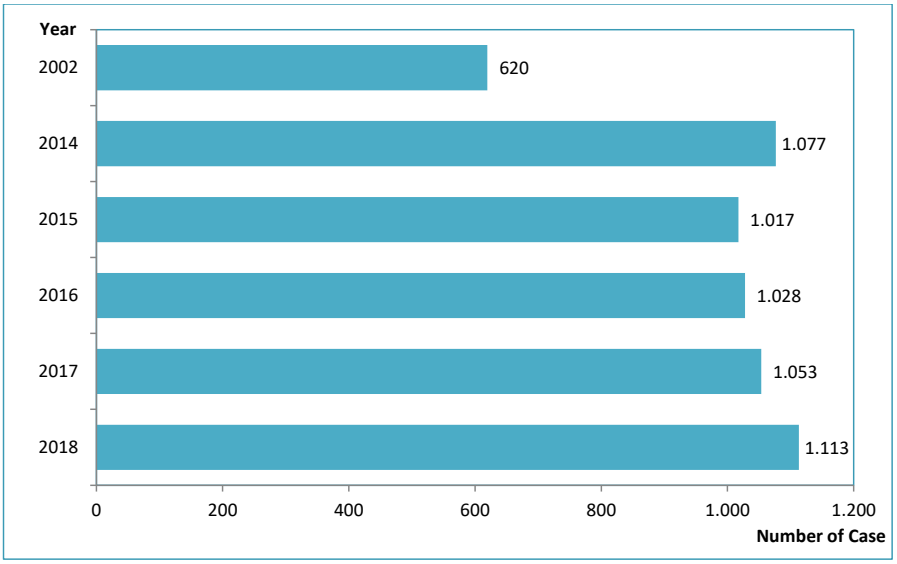
Source: General Directorate of Emergency Health Services

Figure 8.34. Number of Case per 112 Emergency Care Station by NUTS-1, 2002, 2018



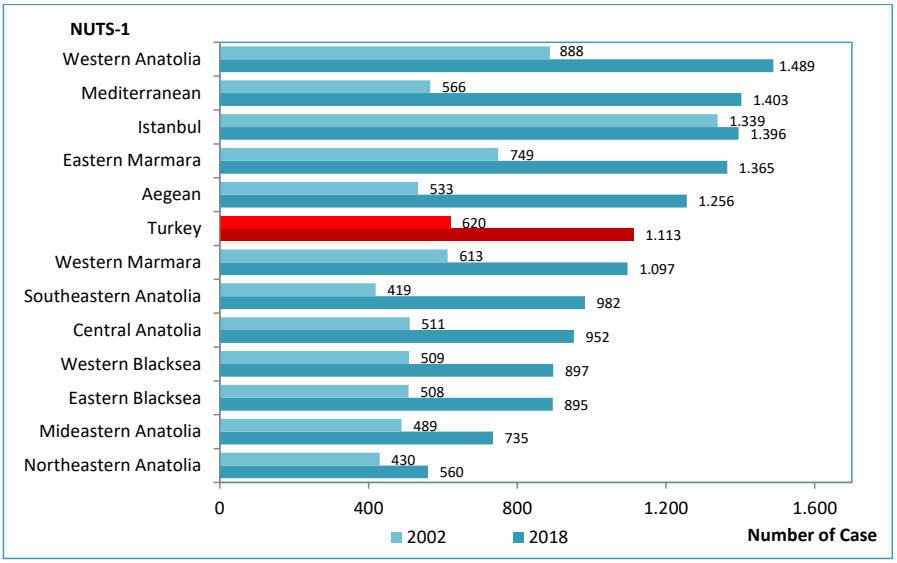
Source: General Directorate of Emergency Health Services

Figure 8.35. Total Number of Case per 112 Emergency Care Ambulance by Years



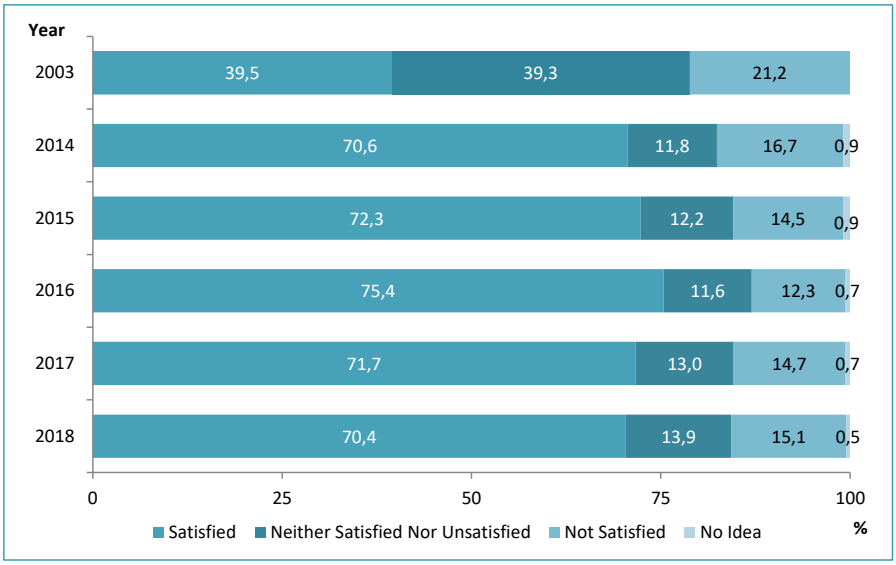
Source: General Directorate of Emergency Health Services

Figure 8.36. Total Number of Case per 112 Emergency Care Ambulance by NUTS-1, 2002, 2018



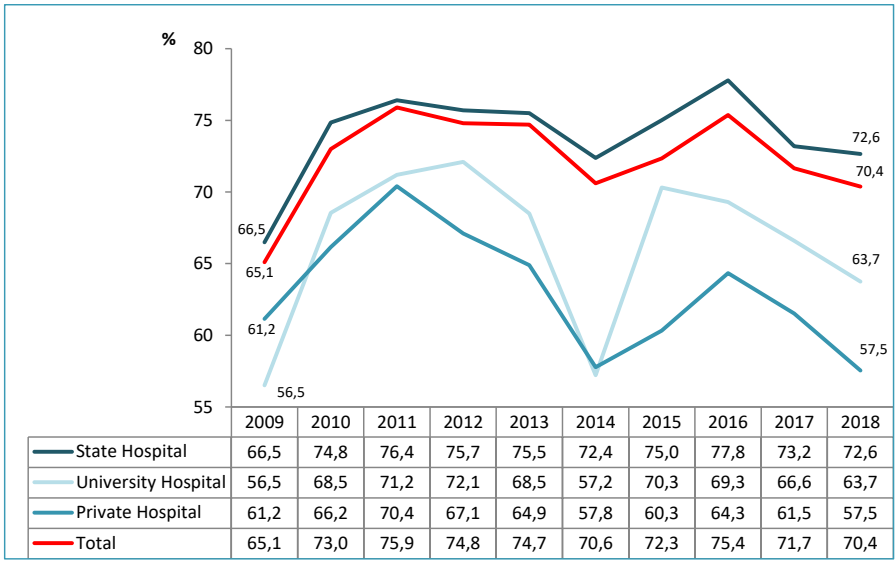
Source: General Directorate of Emergency Health Services

Figure 8.37. Satisfaction Ratio with Healthcare Services by Years, (%)



Source: TURKSTAT, Life Satisfaction Survey 2003-2018

Figure 8.38. Satisfaction Ratio with Healthcare Services by Years and Sectors, (%)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
State Hospital	66,5	74,8	76,4	75,7	75,5	72,4	75,0	77,8	73,2	72,6
University Hospital	56,5	68,5	71,2	72,1	68,5	57,2	70,3	69,3	66,6	63,7
Private Hospital	61,2	66,2	70,4	67,1	64,9	57,8	60,3	64,3	61,5	57,5
Total	65,1	73,0	75,9	74,8	74,7	70,6	72,3	75,4	71,7	70,4

Source: TURKSTAT, Life Satisfaction Survey 2009-2018

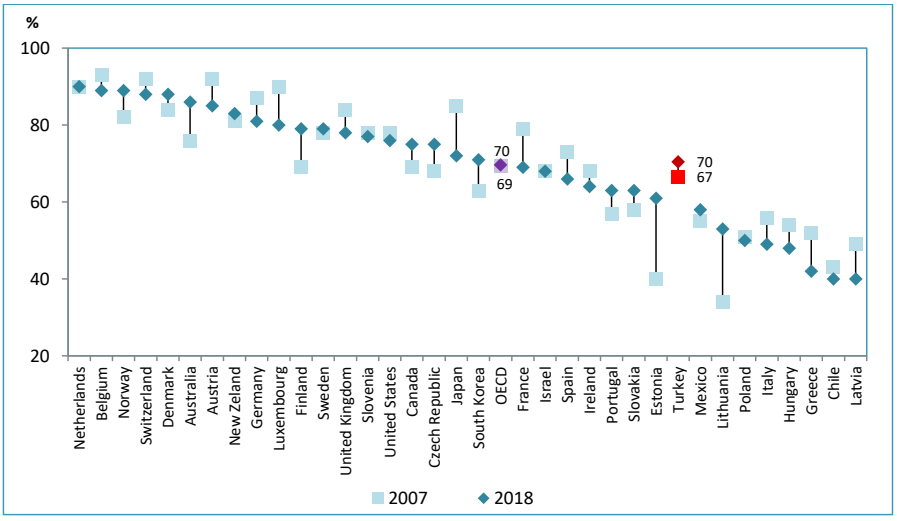
Note: "Total" data refers to the satisfaction ratio with healthcare services of all healthcare facilities.

Table 8.23. Satisfaction Ratio with Healthcare Services, (%), 2018

	Satisfied	Neither Satisfied Nor Unsatisfied	Not Satisfied	No Idea
Hospitals				
State	72,6	12,3	14,4	0,6
University	63,7	18,9	17,4	0,0
Private	57,5	19,6	22,2	0,7
Family Health Center	72,0	14,2	13,4	0,4
Private Policlinic	59,6	11,7	23,8	4,9
Organization's Doctor	48,7	23,1	28,2	0,0
Private Medical Centers	38,7	25,2	17,7	18,4

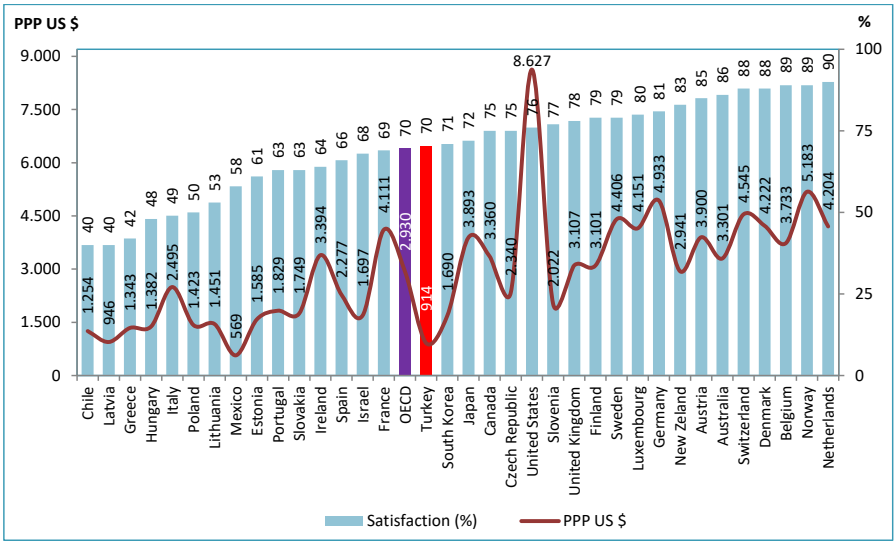
Source: TURKSTAT, Life Satisfaction Survey 2018

Figure 8.39. International Comparison of Satisfaction Ratio with Healthcare Services, (%), 2007, 2018



Source: TURKSTAT Life Satisfaction Survey, OECD Health Data 2019

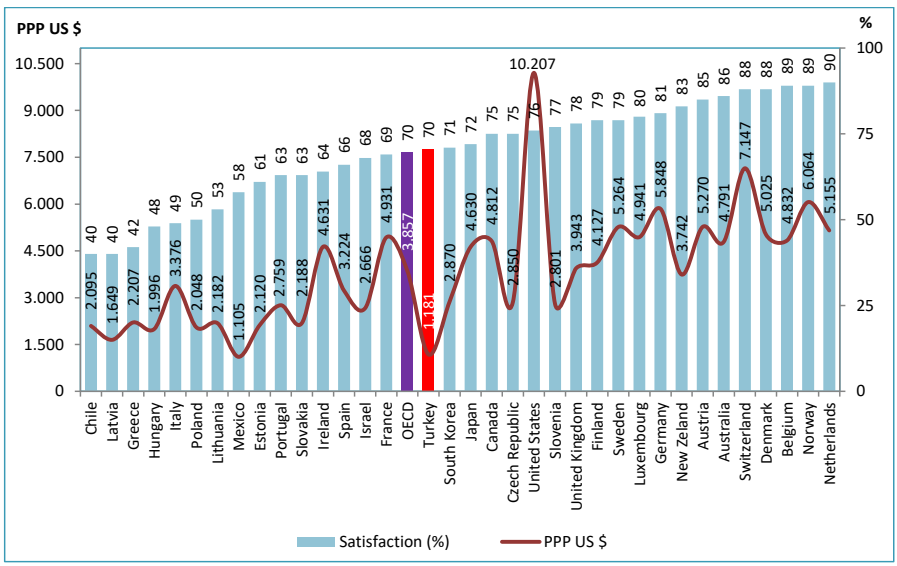
Figure 8.40. Satisfaction with Health Care Services, (%), 2018 and Public Current Health Expenditure Per Capita, (PPP US $), 2017



Source: TURKSTAT, OECD Health Data 2019

Note: Turkey's expenditure data belongs to the year 2018. The country values of expenditure belong to the year of 2017 or nearest.

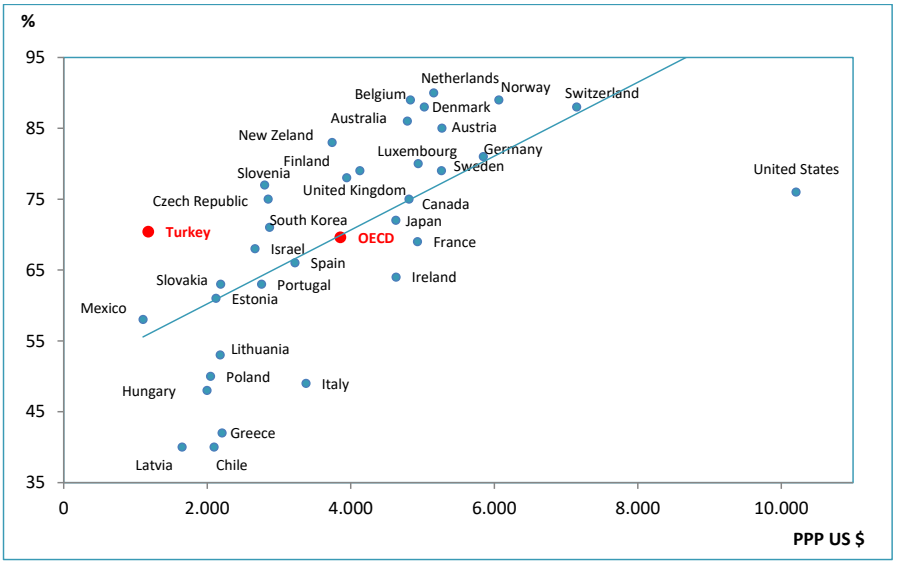
Figure 8.41. Satisfaction with Health Care Services, (%), 2018 and Total Current Health Expenditure Per Capita, (PPP US $), 2017



Source: TURKSTAT, OECD Health Data 2019

Note: Turkey's expenditure data belongs to the year 2018. The country values of expenditure belong to the year of 2017 or nearest.

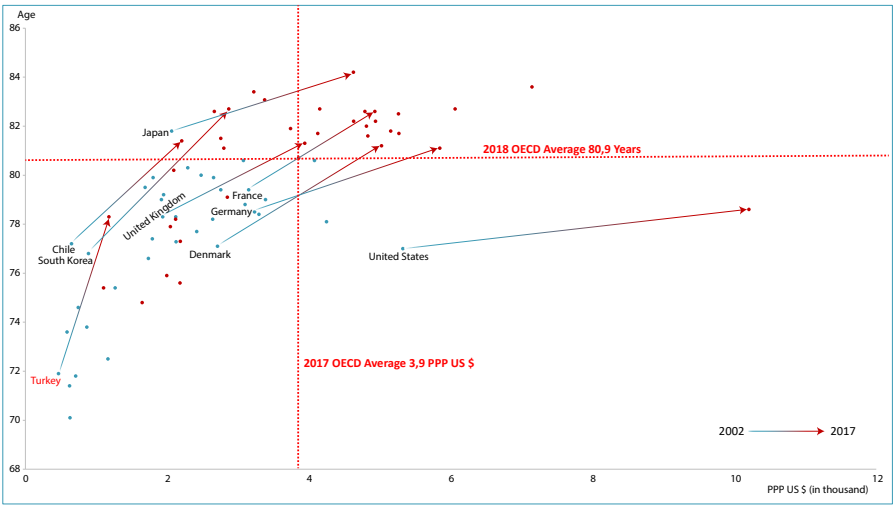
Figure 8.42. Satisfaction with Health Care Services (%), 2018 and Total Current Health Expenditure per Capita, (PPP US $), 2017



Source: TURKSTAT, OECD Health Data 2019

Note: Turkey's expenditure data belongs to the year 2018. The country values of expenditure belong to the year of 2017 or nearest.

Figure 8.43. Life Expectancy at Birth, (Age) and Total Current Health Expenditure Per Capita, (PPP US $), 2002, 2017



Source: TURKSTAT, UNPD, OECD Health Data 2019

Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Table 8.24. Some Health Indicators by Provinces, 2018

City	Primary Health Care Facilities Visits	Secondary and Tertiary Health Care Visits	Per Capita Physician Visits	Number of Dentist Visits	Per Capita Dentist Visits
Adana	10.054.256	13.901.085	10,8	1.069.734	0,48
Adıyaman	1.780.532	3.684.530	8,8	453.312	0,73
Afyonkarahisar	2.691.365	4.343.764	9,7	385.352	0,53
Ağrı	775.516	2.880.230	6,8	267.110	0,49
Amasya	1.366.404	2.125.035	10,3	254.928	0,76
Ankara	16.399.003	37.622.130	9,8	4.265.952	0,78
Antalya	8.007.437	16.104.615	9,9	1.409.124	0,58
Artvin	457.789	956.722	8,1	115.505	0,66
Aydın	3.886.083	7.933.151	10,8	707.981	0,64
Balıkesir	4.952.191	7.830.040	10,4	757.397	0,62
Bilecik	774.494	1.238.736	9,0	165.922	0,74
Bingöl	524.059	1.413.241	6,9	175.893	0,63
Bitlis	499.531	1.978.622	7,1	173.908	0,50
Bolu	1.087.739	2.343.824	11,0	431.060	1,38
Burdur	946.977	1.781.922	10,1	168.865	0,63
Bursa	11.554.591	17.540.933	9,7	1.837.841	0,61
Çanakkale	2.101.795	3.428.504	10,2	315.954	0,58
Çankırı	567.277	1.112.999	7,8	139.229	0,64
Çorum	1.629.064	3.184.885	9,0	364.318	0,68
Denizli	4.550.310	6.771.834	11,0	703.577	0,68
Diyarbakır	5.233.747	9.014.680	8,2	942.753	0,54
Edirne	1.742.974	3.247.625	12,1	289.926	0,70
Elazığ	1.934.247	3.656.923	9,4	459.390	0,77
Erzincan	613.853	1.416.308	8,6	185.445	0,79
Erzurum	2.054.355	5.130.724	9,4	756.410	0,99
Eskişehir	2.994.945	5.907.338	10,2	853.964	0,98
Gaziantep	6.433.645	13.704.393	9,9	1.466.901	0,72
Giresun	1.628.901	2.789.364	9,7	242.915	0,54
Gümüşhane	376.742	735.085	6,8	106.197	0,65
Hakkari	336.805	1.255.858	5,6	119.571	0,42
Hatay	5.399.690	10.018.429	9,6	842.834	0,52
Isparta	1.698.845	3.437.143	11,6	597.572	1,35
Mersin	8.131.344	10.541.718	10,3	755.163	0,42
İstanbul	42.092.404	94.393.122	9,1	8.333.984	0,55
İzmir	15.908.843	29.329.318	10,5	3.213.941	0,74
Kars	622.542	1.554.574	7,5	179.778	0,62
Kastamonu	1.189.639	2.102.281	8,6	242.268	0,63
Kayseri	5.163.205	8.252.804	9,7	1.163.812	0,84
Kırklareli	1.405.453	2.161.158	9,9	243.074	0,67
Kırşehir	599.155	1.474.877	8,6	211.450	0,87
Kocaeli	6.375.340	12.484.691	9,9	1.320.051	0,69

Source: General Directorate of Public Health, General Directorate of Health Services

Table 8.24. Some Health Indicators by Provinces, 2018 - Continued

City	Primary Health Care Facilities Visits	Secondary and Tertiary Health Care Visits	Per Capita Physician Visits	Number of Dentist Visits	Per Capita Dentist Visits
Konya	7.868.468	14.099.307	10,0	1.733.050	0,79
Kütahya	2.444.917	3.277.457	9,9	358.345	0,62
Malatya	2.409.721	5.271.534	9,6	643.881	0,81
Manisa	4.974.898	9.710.316	10,3	968.865	0,68
Kahramanmaraş	3.228.591	7.594.697	9,5	616.315	0,54
Mardin	2.029.952	4.581.399	8,0	404.221	0,49
Muğla	3.842.896	5.451.485	9,6	559.918	0,58
Muş	671.514	2.250.563	7,2	200.308	0,49
Nevşehir	1.190.383	1.650.820	9,5	204.419	0,69
Niğde	1.246.552	2.083.260	9,1	218.140	0,60
Ordu	2.533.979	4.722.301	9,4	481.782	0,62
Rize	1.127.294	2.722.846	11,0	229.136	0,66
Sakarya	3.737.776	6.282.618	9,9	546.449	0,54
Samsun	5.142.850	9.752.732	11,2	1.295.926	0,97
Siirt	630.941	1.829.545	7,4	160.961	0,49
Sinop	776.641	1.275.265	9,3	169.891	0,77
Sivas	1.852.752	4.333.244	9,6	549.535	0,85
Tekirdağ	3.739.358	6.185.690	9,6	770.220	0,75
Tokat	1.833.653	3.858.757	9,3	517.246	0,84
Trabzon	3.018.712	5.919.030	11,1	675.910	0,84
Tunceli	308.229	409.722	8,1	77.065	0,87
Şanlıurfa	4.670.352	12.871.921	8,6	933.705	0,46
Uşak	1.671.611	2.302.747	10,8	211.771	0,58
Van	2.089.272	6.021.366	7,2	495.368	0,44
Yozgat	1.256.981	2.513.099	8,9	243.147	0,57
Zonguldak	1.628.448	4.558.677	10,3	507.961	0,85
Aksaray	1.431.547	2.159.875	8,7	200.297	0,49
Bayburt	194.570	462.333	8,0	72.996	0,89
Karaman	802.721	1.483.994	9,1	159.455	0,63
Kırıkkale	963.035	1.665.412	9,2	278.976	0,97
Batman	1.396.957	3.514.297	8,2	316.998	0,53
Şırnak	816.250	2.318.073	6,0	201.780	0,38
Bartın	863.322	1.359.012	11,2	140.917	0,71
Ardahan	312.076	494.404	8,2	80.953	0,82
Iğdır	472.389	1.157.824	8,3	136.853	0,69
Yalova	1.035.252	1.853.718	11,0	170.683	0,65
Karabük	900.648	1.727.462	10,6	182.218	0,73
Kilis	472.842	1.060.532	10,8	143.401	1,01
Osmaniye	1.914.341	3.212.182	9,6	303.128	0,57
Düzce	1.450.445	2.234.250	9,5	263.233	0,68
Turkey	265.496.223	517.018.981	9,5	53.115.784	0,65

Source: General Directorate of Public Health, General Directorate of Health Services

Table 8.24. Some Health Indicators by Provinces, 2018 - Continued

City	Number of Inpatients	Number of Days Stayed	Number of Surgical Operation	Bed Occupancy Rate	Average Length of Stay	Bed Turnover Rate	Bed Turnover Interval	Crude Death Rate in Hospital
Adana	438.879	1.928.289	182.537	75,1	4,4	62,4	1,5	16,7
Adıyaman	102.443	363.578	21.803	76,4	3,5	78,6	1,1	10,5
Afyonkarahisar	106.381	458.649	40.025	57,5	4,3	48,7	3,2	18,0
Ağrı	68.891	201.008	12.367	62,7	2,9	78,5	1,7	4,9
Amasya	41.432	187.195	19.978	61,4	4,5	49,6	2,8	16,6
Ankara	908.304	4.573.403	453.020	68,5	5,0	49,7	2,3	19,4
Antalya	467.973	1.679.367	183.594	64,2	3,6	65,3	2,0	17,8
Artvin	19.409	76.861	5.083	60,9	4,0	56,1	2,5	17,7
Aydın	238.469	918.870	70.803	80,0	3,9	75,8	1,0	19,4
Balıkesir	176.697	803.104	74.481	66,0	4,5	53,0	2,3	28,0
Bilecik	18.039	90.988	7.132	74,4	5,0	53,8	1,7	20,0
Bingöl	42.411	151.115	9.335	60,0	3,6	61,5	2,4	5,3
Bitlis	63.202	224.488	17.207	64,1	3,6	65,9	2,0	4,5
Bolu	67.789	357.177	20.074	67,6	5,3	46,8	2,5	21,1
Burdur	44.914	170.863	13.999	61,8	3,8	59,3	2,4	12,8
Bursa	493.227	2.079.060	181.502	77,4	4,2	67,0	1,2	21,6
Çanakkale	74.654	345.899	32.363	57,1	4,6	45,0	3,5	20,5
Çankırı	21.431	89.594	8.151	52,8	4,2	46,1	3,7	22,8
Çorum	81.330	417.106	20.435	68,8	5,1	48,9	2,3	25,8
Denizli	225.848	803.842	89.126	68,2	3,6	69,9	1,7	17,3
Diyarbakır	285.118	1.024.624	89.576	60,6	3,6	61,6	2,3	10,1
Edirne	97.099	455.458	27.436	64,5	4,7	50,2	2,6	18,3
Elazığ	146.212	721.814	36.879	66,1	4,9	48,9	2,5	12,7
Erzincan	34.280	126.475	9.640	64,2	3,7	63,5	2,1	15,2
Erzurum	169.011	940.655	73.706	71,1	5,6	46,6	2,3	13,0
Eskişehir	189.682	870.668	78.008	67,3	4,6	53,5	2,2	18,7
Gaziantep	464.731	1.569.644	147.865	71,5	3,4	77,3	1,3	15,6
Giresun	88.979	424.291	20.131	73,8	4,8	56,5	1,7	16,4
Gümüşhane	14.255	62.117	5.367	52,0	4,4	43,6	4,0	14,7
Hakkari	31.148	91.101	5.408	63,5	2,9	79,3	1,7	4,0
Hatay	314.229	1.043.736	109.819	68,3	3,3	75,0	1,5	19,8
Isparta	109.317	566.113	59.373	76,7	5,2	54,1	1,6	20,7
Mersin	309.875	1.173.188	106.431	67,5	3,8	65,1	1,8	19,5
İstanbul	2.083.714	8.691.770	973.460	60,5	4,2	53,0	2,7	20,1
İzmir	630.063	2.975.063	320.769	68,0	4,7	52,6	2,2	22,1
Kars	35.229	147.667	12.056	54,8	4,2	47,7	3,5	9,7
Kastamonu	46.432	228.331	13.040	56,9	4,9	42,2	3,7	24,0
Kayseri	308.217	1.036.385	93.106	62,1	3,4	67,4	2,1	16,6
Kırklareli	65.159	221.376	14.798	66,9	3,4	71,8	1,7	12,9
Kırşehir	33.930	117.461	7.764	68,2	3,5	71,9	1,6	18,5
Kocaeli	270.272	1.146.038	123.362	72,5	4,2	62,4	1,6	21,4

Source: General Directorate of Public Health, General Directorate of Health Services

Table 8.24. Some Health Indicators by Provinces, 2018 - Continued

City	Number of Inpatients	Number of Days Stayed	Number of Surgical Operation	Bed Occupancy Rate	Average Length of Stay	Bed Turnover Rate	Bed Turnover Interval	Crude Death Rate in Hospital
Konya	431.959	1.912.401	170.008	69,6	4,4	57,4	1,9	15,5
Kütahya	78.228	479.276	24.247	69,6	6,1	41,5	2,7	25,0
Malatya	190.574	673.957	61.377	62,4	3,5	64,4	2,1	12,7
Manisa	234.631	1.159.581	78.955	69,4	4,9	51,2	2,2	24,9
Kahramanmaraş	194.770	784.874	67.416	73,0	4,0	66,1	1,5	13,5
Mardin	98.021	369.634	32.097	70,0	3,8	67,8	1,6	13,3
Muğla	139.690	474.150	49.697	63,7	3,4	68,5	1,9	13,4
Muş	50.212	193.508	13.986	71,9	3,9	68,1	1,5	6,4
Nevşehir	42.056	179.918	15.010	70,7	4,3	60,3	1,8	12,1
Niğde	55.453	241.659	10.997	74,6	4,4	62,4	1,5	15,1
Ordu	157.970	527.218	49.864	67,4	3,3	73,7	1,6	15,7
Rize	71.221	264.452	20.734	65,3	3,7	64,2	2,0	19,7
Sakarya	122.974	507.889	51.816	72,0	4,1	63,7	1,6	18,0
Samsun	270.779	1.334.812	108.019	79,1	4,9	58,6	1,3	24,6
Siirt	59.200	196.873	13.289	62,9	3,3	69,0	2,0	5,5
Sinop	27.700	106.855	11.265	54,7	3,9	51,8	3,2	14,3
Sivas	103.505	537.287	34.145	56,3	5,2	39,6	4,0	23,6
Tekirdağ	176.865	648.487	56.814	66,6	3,7	66,3	1,8	19,3
Tokat	120.960	519.987	36.284	64,8	4,3	55,0	2,3	14,6
Trabzon	192.594	847.535	69.437	71,5	4,4	59,3	1,8	17,2
Tunceli	6.291	25.693	2.907	46,9	4,1	41,9	4,6	9,5
Şanlıurfa	300.438	1.087.097	96.564	73,8	3,6	74,4	1,3	10,8
Uşak	71.794	252.895	20.881	56,1	3,5	58,1	2,8	19,8
Van	173.994	698.425	45.137	66,3	4,0	60,3	2,0	11,4
Yozgat	68.001	247.740	19.623	52,8	3,6	52,9	3,3	11,5
Zonguldak	122.190	523.741	40.466	65,4	4,3	55,7	2,3	18,8
Aksaray	56.382	147.407	20.517	50,7	2,6	70,7	2,5	11,9
Bayburt	10.623	48.148	3.305	66,0	4,5	53,1	2,3	10,6
Karaman	33.645	143.776	14.749	65,9	4,3	56,3	2,2	14,0
Kırıkkale	62.528	320.145	18.241	69,9	5,1	49,9	2,2	21,7
Batman	94.430	341.329	33.492	71,9	3,6	72,6	1,4	13,7
Şırnak	40.811	121.096	13.079	52,6	3,0	64,7	2,7	2,8
Bartın	23.005	103.597	6.191	65,7	4,5	53,3	2,4	25,1
Ardahan	9.882	34.596	2.793	47,4	3,5	49,4	3,9	16,5
Iğdır	23.719	74.783	4.474	65,5	3,2	75,8	1,7	10,2
Yalova	48.365	165.314	13.104	79,7	3,4	85,1	0,9	29,3
Karabük	49.903	177.940	14.610	68,1	3,6	69,7	1,7	23,9
Kilis	26.045	99.209	10.373	84,7	3,8	81,1	0,7	8,6
Osmaniye	126.761	333.693	32.908	70,6	2,6	97,9	1,1	13,0
Düzce	54.533	180.627	21.858	62,4	3,3	68,8	2,0	17,4
Turkey	13.651.377	56.642.035	5.201.738	66,9	4,1	58,9	2,1	17,9

Source: General Directorate of Public Health, General Directorate of Health Services

Explanations for Chapter 8

☑ The data about the institutions, which served in the year (including those closed), were used in the tables, graphics where services of the hospitals are provided.

☑ **Number of visits:** It was defined by the OECD as "visits to physicians for any reason except via the phone".

☑ The service data from the Ministry of National Defense (MoND) were only included for 2012-2015.

☑ The services of the Other Public Institutions were included in the Private Sector to be comparable.

☑ The number of visits to a dentist is not included in the number of visits to a physician.

☑ The data belonging to the SSI hospitals between 2002-2005 have been included in the Ministry of Health to be comparable.

☑ The name of Mother-Child Health and Family Planning Center was changed to "Child, Adolescent, Women and Reproductive Health Unit" with the regulation published on 25 May 2018.

☑ 4-point Likert was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the Likert borders.

☑ The value of the provinces was rounded up to the closest whole number while making Map 8.2 and the value of the provinces was rounded up to 1 decimal place while making Map 8.1, Map 8.3, Map 8.4 and Map 8.5 in the Chapter. These numbers were taken into account while making the Likert scales.

☑ Totals in distribution tables and figures in the Chapter may not add up to 100% due to rounding.

☑ Values in the tables and figures in the Chapter may not give the sum due to rounding.

☑ Prior year data in the Chapter may changed due to TURKSTAT's population revision.

☑ **Referrals from the Family Medicine Unit:** It is calculated as follows: (Number of Visits of Family Medicine Unit/Number of Total Visits)x100.

☑ **Number of Inpatient:** The number of hospitalizations in a given year.

☑ **Information regarding the surgical operations;** The surgical classification is based on the World Health Organization's International Classification of Health Intervention (ICHI). Number of surgical operations (group A, B and C) were calculated in accordance with the definitions in this classification. According to the World Health Organization's ICHI, diagnostic and minor surgical procedures are not included in the surgical operations.

☑ **Bed Occupancy Rate:** This indicates the rate of bed usage by the patient within one year. It is calculated as follows: (Number of Days Stayed x 100) / (Number of Beds x 365).

☑ **Acute Care Bed Occupancy Rate:** This indicator is used by the OECD. It indicates the occupancy rate of beds used for acute services.

☑ **Average Length of Stay:** The average number of days a patient stays in a hospital. It is calculated as follows: (Number of Days Stayed) / (Discharged + Deceased).

☑ **Bed Turnover Rate:** This indicates how many times a bed has been used by patients per year. It is calculated as: (Discharged + Deceased) / (Number of Beds).

☑ **Bed Turnover Interval:** Average period in days that an available bed remains empty between the discharge of one inpatient and the admission of the next. It is calculated as: (Number of Beds x 365 - Number of Days Stayed) / (Discharged + Deceased).

☑ **Crude Death Rate (in Hospitals):** It indicates the proportion of patients who died in a hospital within a year to those who died and discharged from the hospital in the same period. (Deceased x 1.000) / (Discharged + Deceased).

☑ In international comparisons, the number of exams per country belongs to outpatient and inpatient health care institutions. Data of Turkey contains the number of exams in the hospital.

☑ **112 Emergency Care Ambulance:** A land vehicle with an ambulance crew, technical and medical equipment that are able to provide emergency medical interventions in any emergency situation for the sick and injured at the emergency scene and in the ambulance.

☑ **Current Health Expenditure:** It is calculated by subtracting Investment Health Expenditure from Total Health Expenditure.

Chapter 9

Pharmaceutical Statistics

Table 9.1. Box Sales of Pharmaceuticals by Years and ATC-1 Groups, Million Boxes

ATC-1 Group	2013	2014	2015	2016	2017	2018
Alimentary T.& Metabolism	280,6	286,7	324,1	346,1	374,8	398,7
Respiratory System	263,8	276,5	289,5	307,6	317,2	329,8
Nervous System	258,5	260,7	271,1	287,7	298,4	308,0
Systemic Anti-Infectives	275,1	270,3	280,6	284,0	257,3	262,7
Musculo-Skeletal System	216,8	228,0	244,4	253,9	258,1	259,7
Cardiovascular System	185,2	191,4	203,7	212,8	225,9	238,3
Dermatologicals	96,5	98,8	104,0	110,1	115,8	118,6
Blood & Blood Forming Organs	77,1	82,7	88,7	93,2	99,4	107,0
Hospital Solutions	72,1	75,8	91,4	90,3	99,2	92,6
G.U.System & Sex Hormones	64,1	66,1	69,8	71,5	74,1	77,6
Sensory Organs	55,2	58,2	64,0	66,1	68,1	71,2
Systemic Hormonal Preparations (Excl. Sex Hormones and Insulins)	37,5	41,7	45,6	48,4	54,3	59,7
Antineoplastic & Immunomodul Agents	8,2	9,3	10,0	9,8	10,2	11,3
Various (Other)	3,4	4,0	4,4	5,2	6,1	6,3
Antiparasitic Products, Insecticides and Repellents	5,1	5,0	5,5	5,1	5,1	5,4
Diagnostic Agents	3,8	3,6	4,1	4,3	4,5	4,3
Total	1.903,0	1.958,8	2.100,9	2.196,1	2.268,5	2.351,2

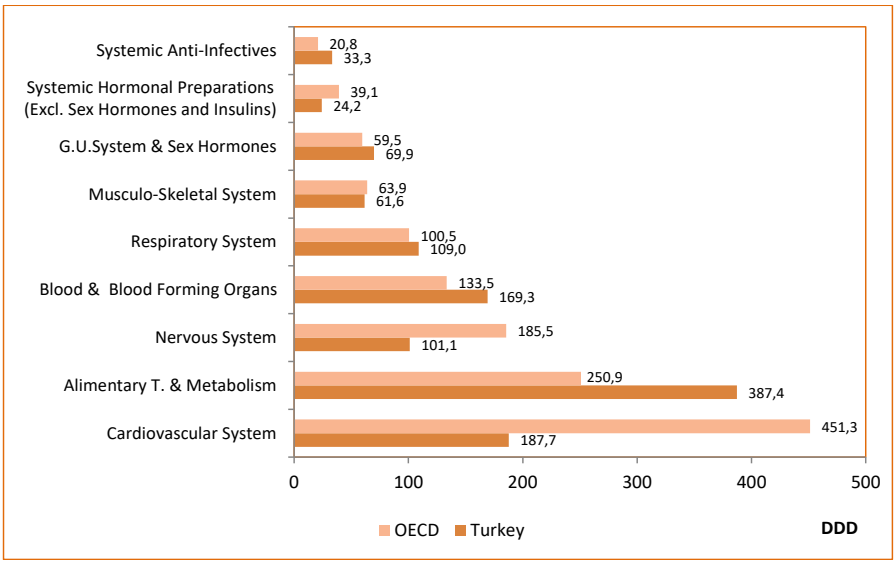
Source: Turkish Medicines and Medical Devices Agency

Table 9.2. Pharmaceutical Consumption per 1.000 Population by Years and Selected ATC-1 Groups, DDD

ATC-1 Group	2013	2014	2015	2016	2017	2018
Alimentary T.& Metabolism	199,1	224,0	286,2	332,7	340,6	387,4
Cardiovascular System	158,9	160,8	165,4	167,4	176,4	187,7
Blood & Blood Forming Organs	111,3	118,0	124,4	134,6	144,4	169,3
Respiratory System	82,7	87,3	94,3	96,4	99,9	109,0
Nervous System	79,3	86,6	91,2	93,8	98,4	101,1
G.U.System & Sex Hormones	50,1	53,0	56,4	53,5	68,5	69,9
Musculo-Skeletal System	56,2	59,2	61,6	64,7	62,0	61,6
Systemic Anti-Infectives	42,6	41,0	41,9	42,1	37,3	33,3
Systemic Hormonal Preparations(Excl. Sex Hormones and Insulins)	17,2	20,1	19,9	21,3	21,9	24,2

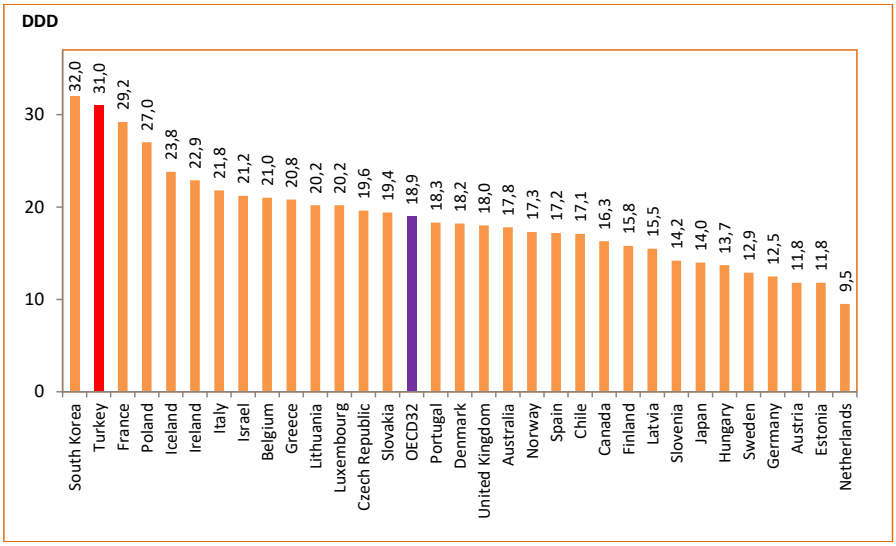
Source: Turkish Medicines and Medical Devices Agency

Figure 9.1. International Comparison of Pharmaceutical Consumption per 1.000 Population by Selected ATC-1 Groups, DDD, 2017



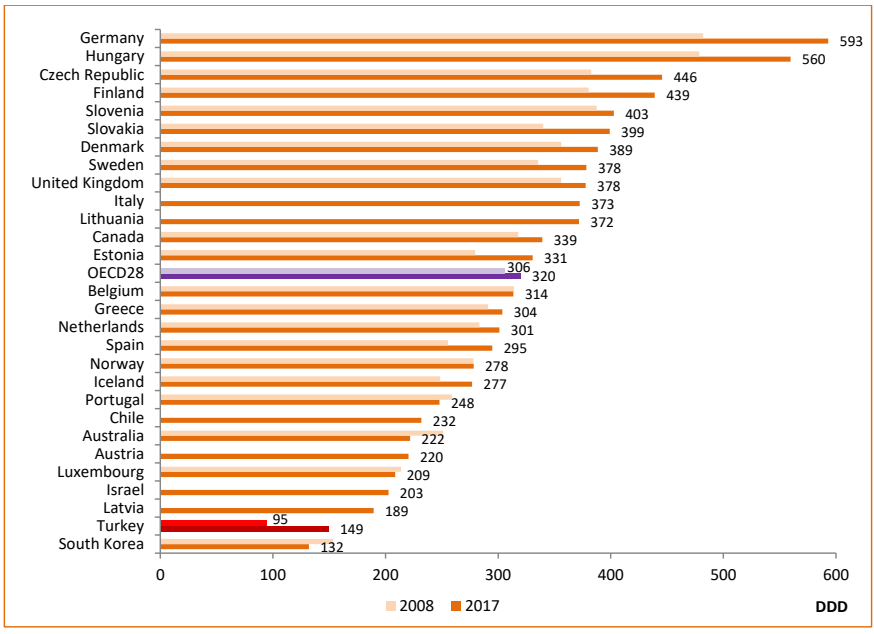
Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2019
Note: Turkey's data belong to the year 2018.

Figure 9.2. International Comparison of Antibiotic (ATC-J01) Consumption per 1.000 Population, DDD, 2017



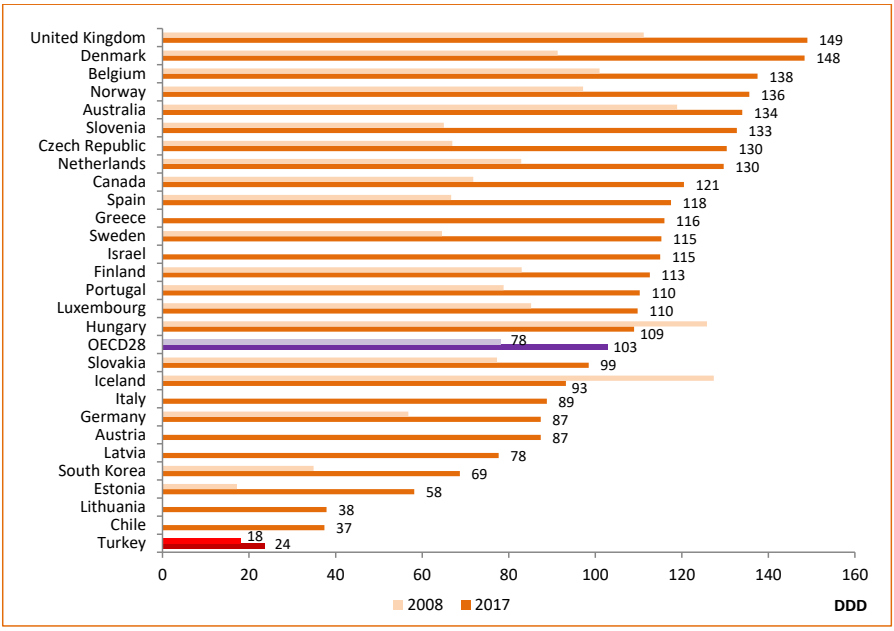
Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2019
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Figure 9.3. International Comparison of Antihypertensive Drug Consumption per 1.000 Population, DDD, 2008, 2017



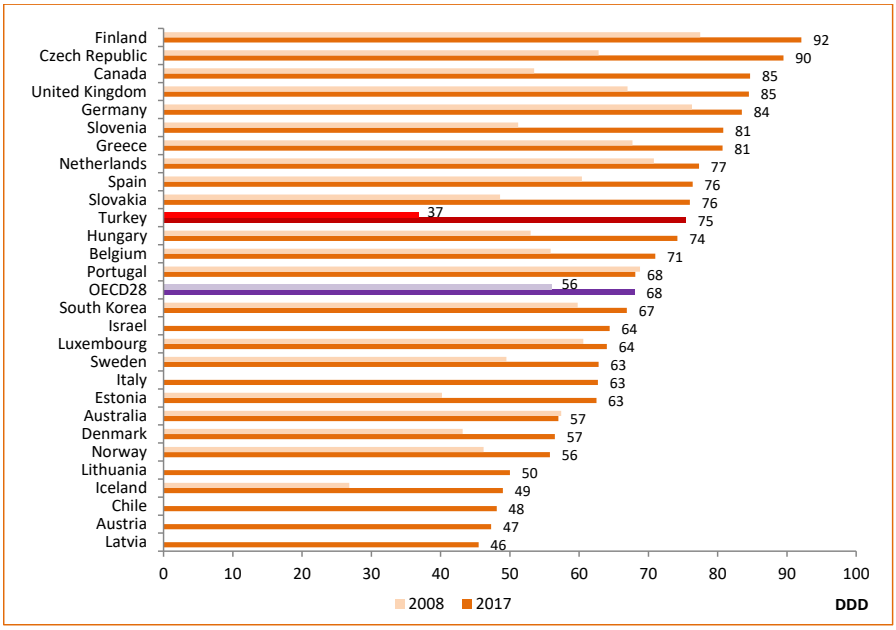
Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2019
Note: Turkey's data belong to the year 2008 and 2018. Data includes ATC codes C02, C03, C07, C08, C09.

Figure 9.4. International Comparison of Cholesterol-Lowering Drug (ATC-C10) Consumption per 1.000 Population, DDD, 2008, 2017



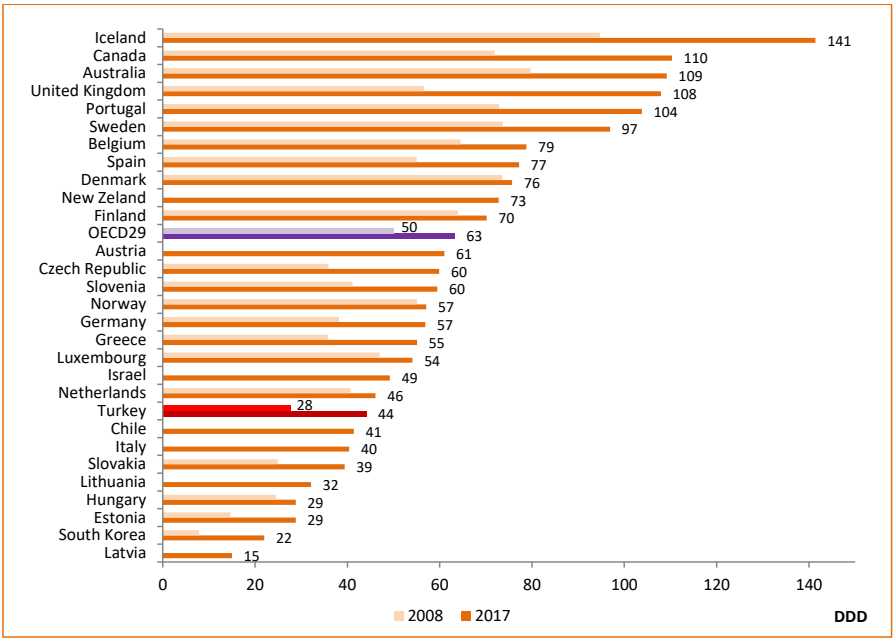
Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2019
Note: Turkey's data belong to the year 2008 and 2018.

Figure 9.5. International Comparison of Antidiabetic Drug (ATC-A10) Consumption per 1.000 Population, DDD, 2008, 2017



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2019
Note: Turkey's data belong to the year 2008 and 2018.

Figure 9.6. International Comparison of Antidepressant Drug (ATC-N06A) Consumption per 1.000 Population, DDD, 2008, 2017



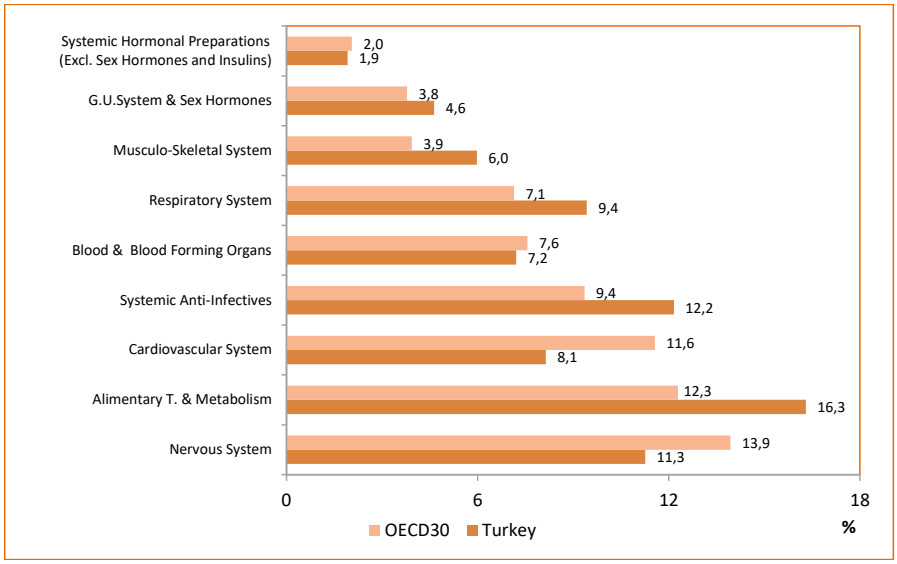
Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2019
Note: Turkey's data belong to the year 2008 and 2018.

Table 9.3. Pharmaceutical Sales Amounts by Years and Selected ATC-1 Groups, Million ₺

ATC-1 Group	2013	2014	2015	2016	2017	2018
Alimentary T.& Metabolism	2.115,4	2.328,7	2.779,4	3.361,1	4.163,1	5.223,5
Systemic Anti-Infectives	1.992,2	2.049,4	2.341,6	2.699,3	3.002,4	3.895,8
Nervous System	1.583,0	1.693,4	1.972,0	2.299,1	2.995,9	3.607,3
Respiratory System	1.432,0	1.549,6	1.685,7	2.002,8	2.431,2	3.019,9
Cardiovascular System	1.389,4	1.434,6	1.541,6	1.744,0	2.133,3	2.608,9
Blood & Blood Forming Organs	824,5	959,9	1.179,0	1.411,0	1.773,1	2.309,3
Musculo-Skeletal System	913,1	955,7	1.082,8	1.295,4	1.578,9	1.915,1
G.U.System & Sex Hormones	665,1	731,8	840,7	984,6	1.193,9	1.485,5
Systemic Hormonal Preparations, (Excl. Sex Hormones and Insulins)	258,0	297,2	352,6	411,4	476,7	614,3

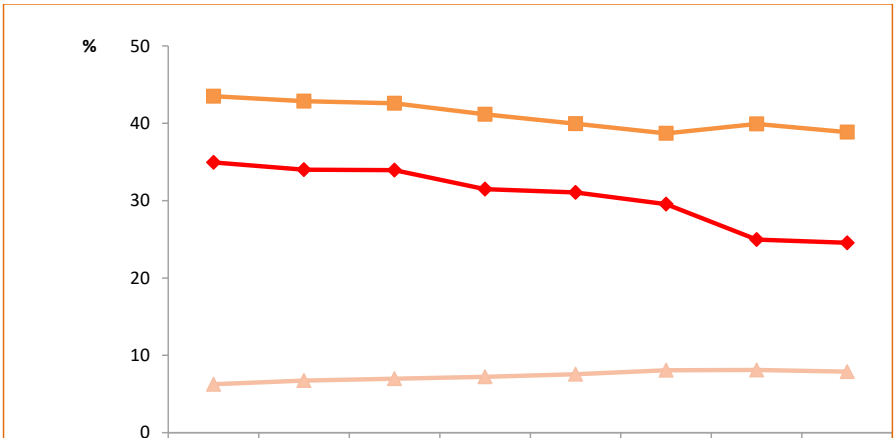
Source: Turkish Medicines and Medical Devices Agency

Figure 9.7. International Comparison of Pharmaceutical Sales Amounts (National Currency) by Selected ATC-1 Groups, (%), 2017



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2019
Note: Turkey's data belong to the year 2018.

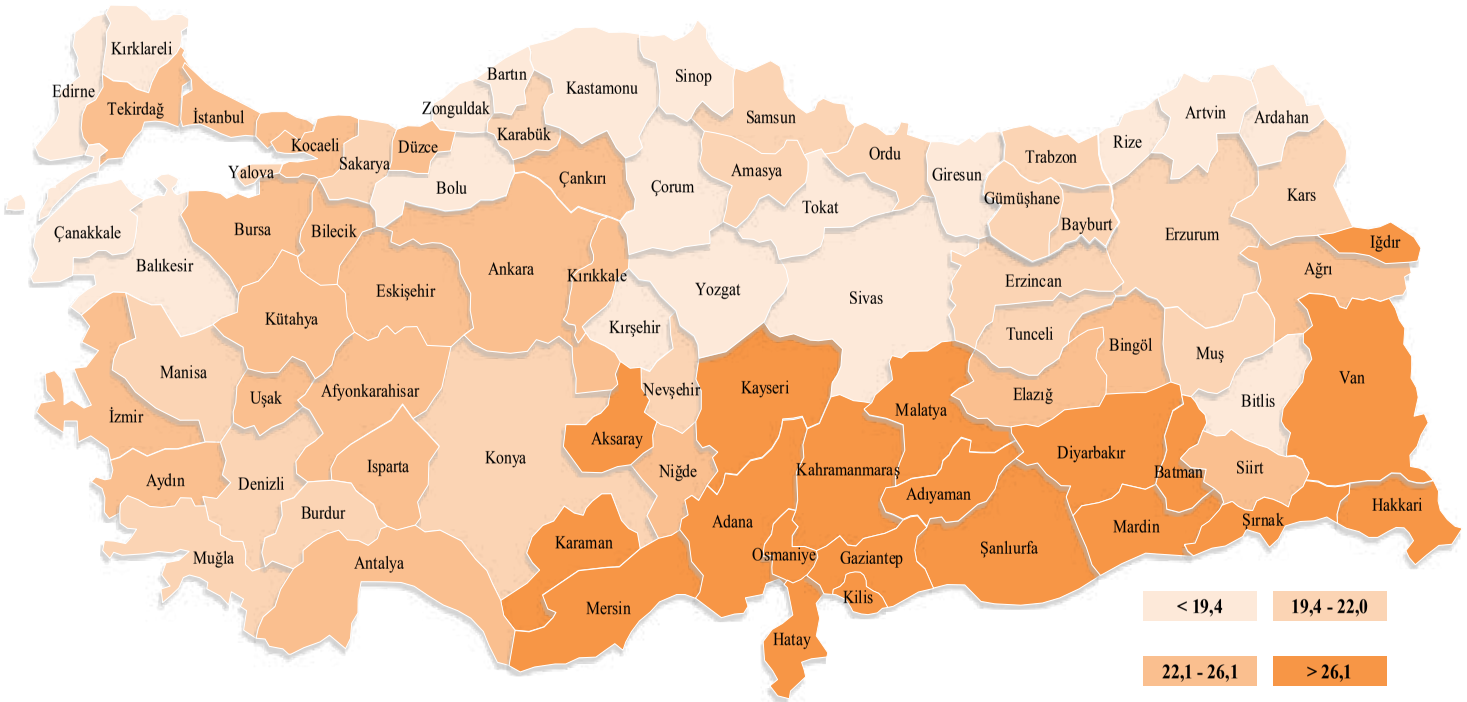
Figure 9.8. Ratio of Prescriptions Including Antibiotic, Analgesic, Injectable Drug Among All Prescriptions Written Out by Family Physicians by Years, (%)



	2011	2012	2013	2014	2015	2016	2017	2018
Antibiotic	34,9	34,0	34,0	31,5	31,1	29,5	25,0	24,6
Analgesic	43,5	42,9	42,6	41,2	39,9	38,7	39,9	38,9
Injectable	6,3	6,7	7,0	7,2	7,5	8,1	8,1	7,9

Source: Turkish Medicines and Medical Devices Agency

Map 9.1. Ratio of Prescriptions Including Antibiotic Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2018

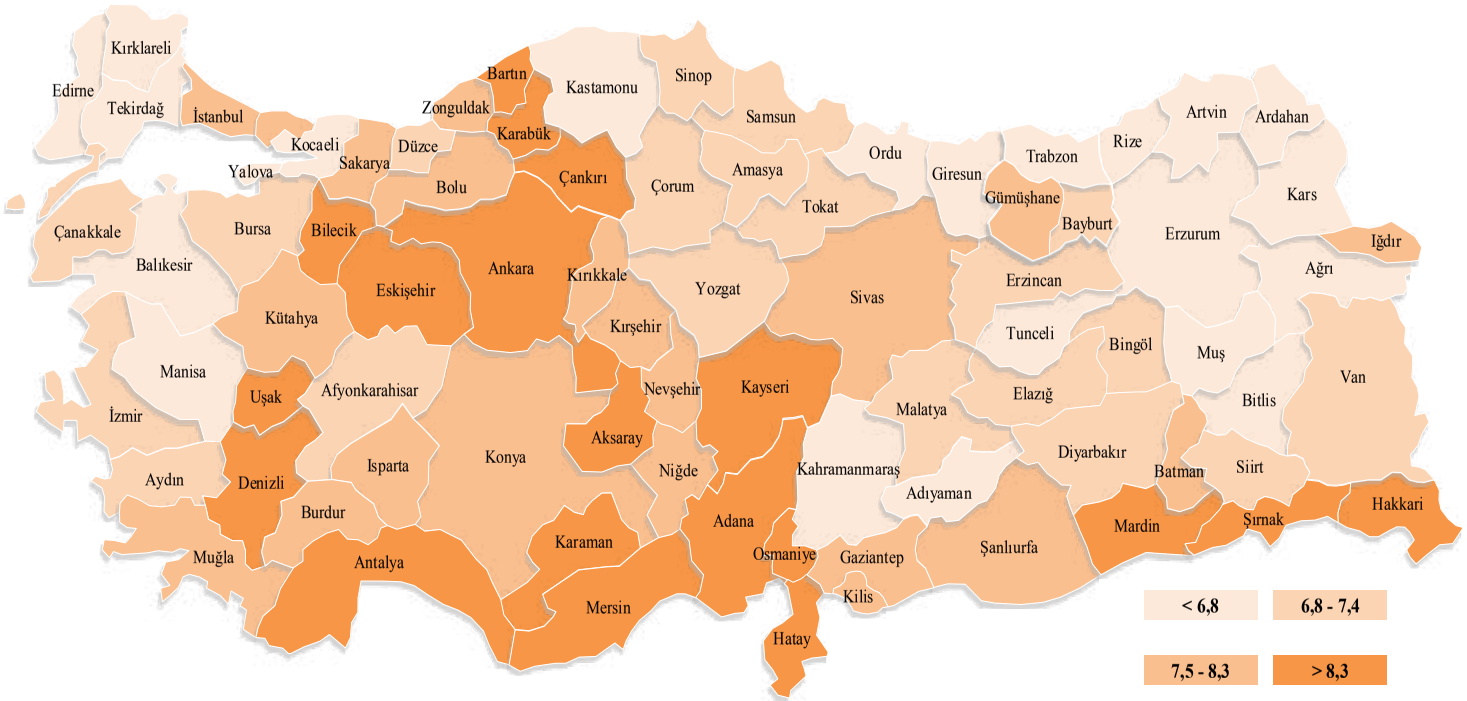


Source: Turkish Medicines and Medical Devices Agency

Map 9.2. Ratio of Prescriptions Including Analgesic Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2018

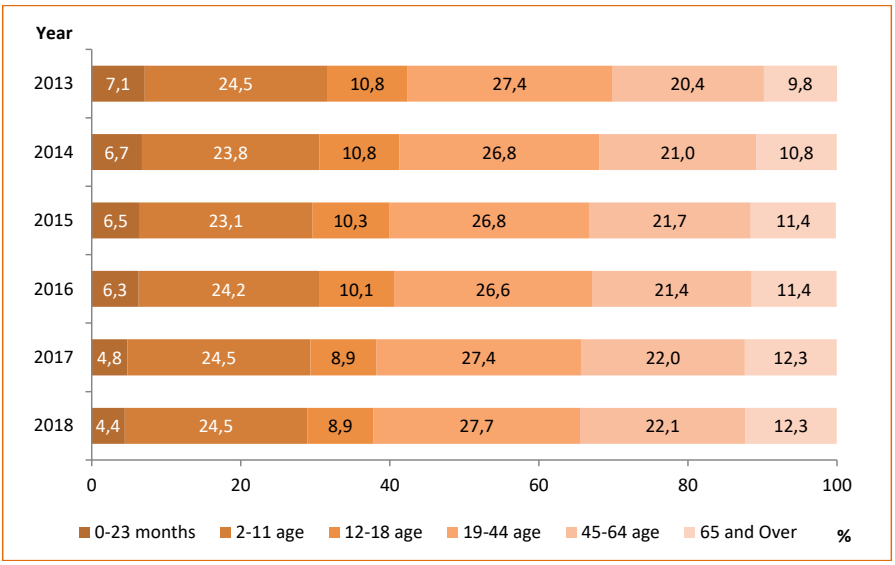
Source: Turkish Medicines and Medical Devices Agency

Map 9.3. Ratio of Prescriptions Including Injectable Drug Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2018



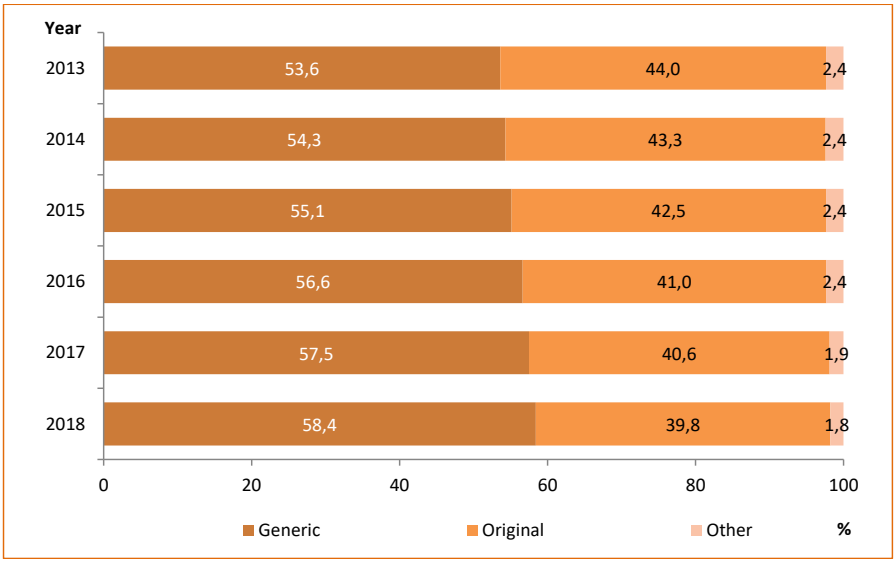
Source: Turkish Medicines and Medical Devices Agency

Figure 9.9. Distribution of Prescriptions Including Antibiotic Written Out by Family Physicians by Years and Age Groups, (%)



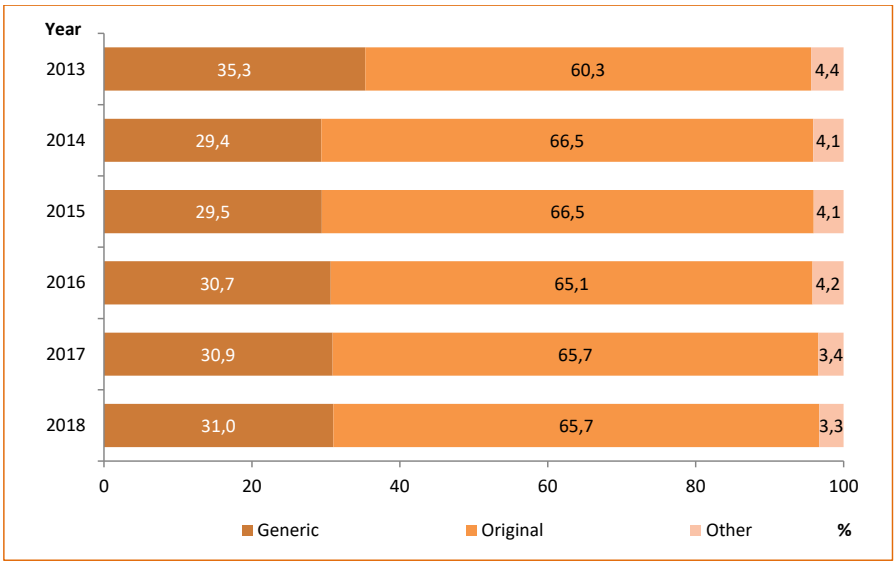
Source: Turkish Medicines and Medical Devices Agency
Note: In years when 100% is not completed, the age group of prescription data is unknown.

Figure 9.10. Distribution of Pharmaceutical Box Sales by Years and Types of Reference, (%)



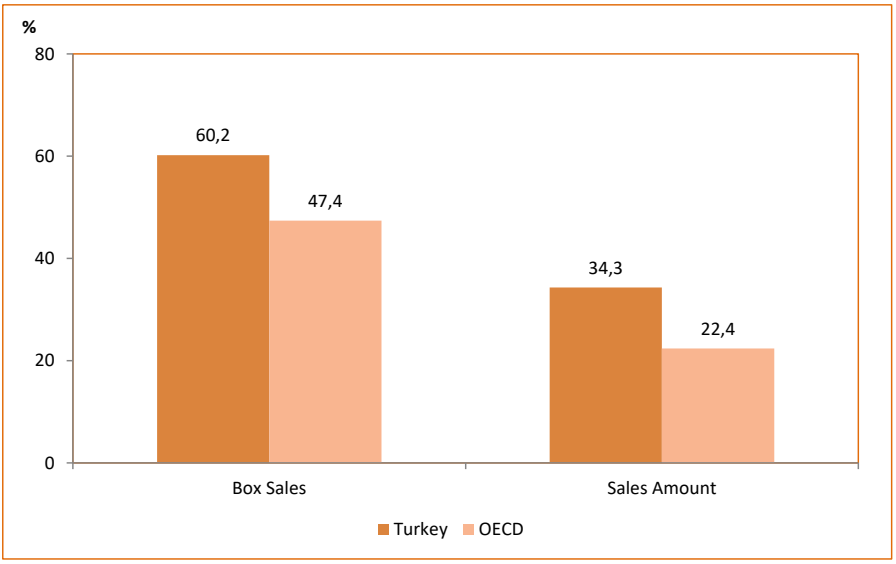
Source: Turkish Medicines and Medical Devices Agency

Figure 9.11. Distribution of Pharmaceutical Sales Amounts (in ₺) by Years and Types of Reference, (%)



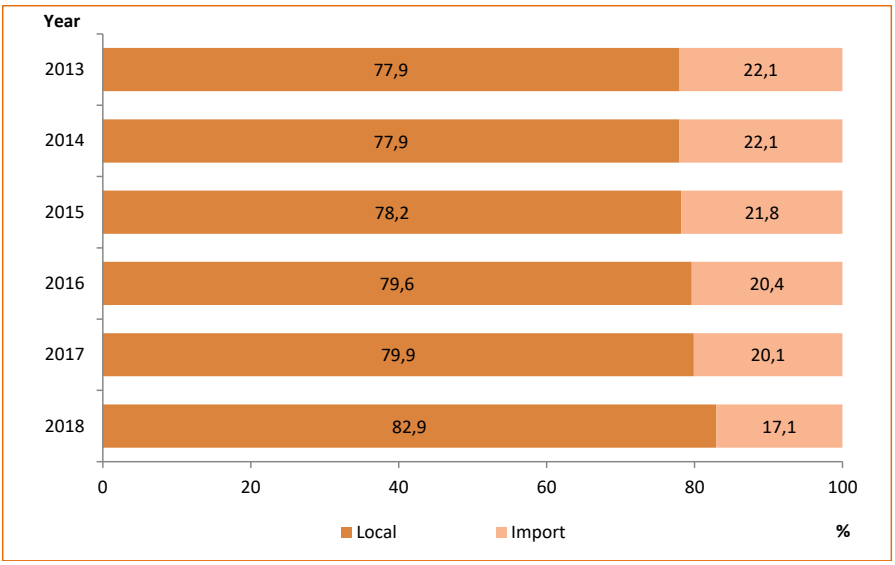
Source: Turkish Medicines and Medical Devices Agency

Figure 9.12. International Comparison of Box Sales and Sales Amounts (National Currency) of Generic Drugs, (%), 2017



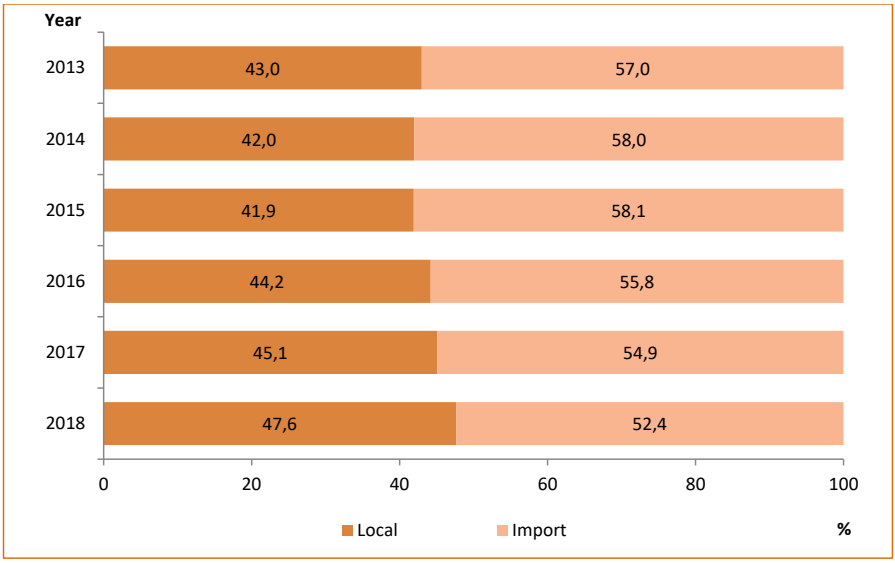
Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2019
Note: Turkey's data belong to the year 2018. Generic drugs include generic and drugs which is not specified original or generic.

Figure 9.13. Distribution of Pharmaceutical Box Sales by Years and Local/Imported Status, (%)



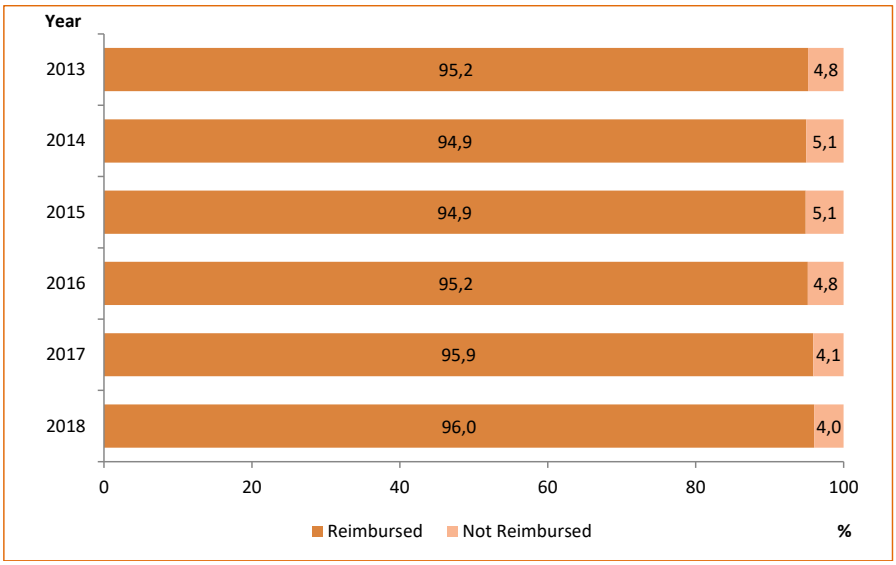
Source: Turkish Medicines and Medical Devices Agency

Figure 9.14. Distribution of Pharmaceutical Sales Amounts (in ₺) by Years and Local/Imported Status, (%)



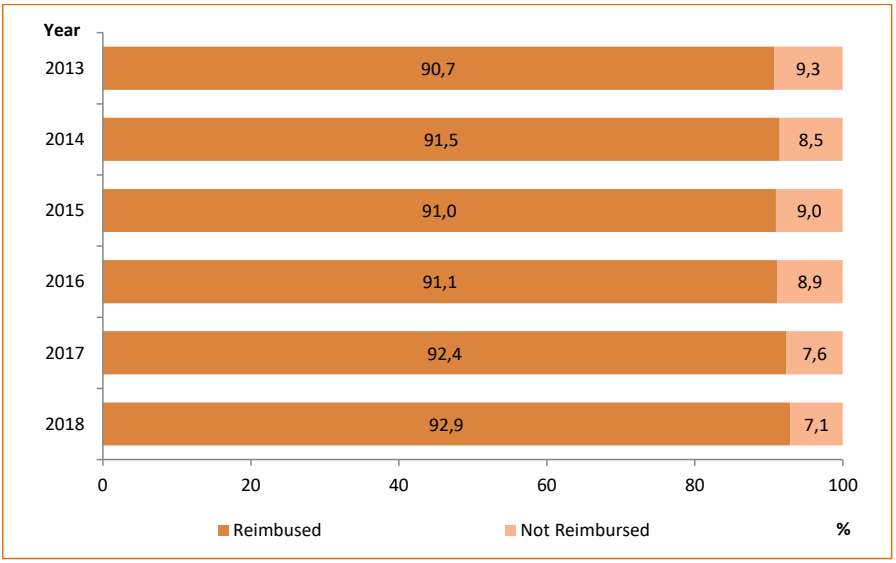
Source: Turkish Medicines and Medical Devices Agency

Figure 9.15. Distribution of Pharmaceutical Box Sales by Years and Reimbursement Status, (%)



Source: Turkish Medicines and Medical Devices Agency

Figure 9.16. Distribution of Pharmaceutical Sales Amounts (in ₺) by Years and Reimbursement Status, (%)



Source: Turkish Medicines and Medical Devices Agency

Table 9.4. OECD Health Care Quality Indicators on Primary Care Prescription by Years

Health Care Quality Indicators	2014			2015			2016		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Ratio of adequate use of cholesterol lowering treatment in people with diabetes, (%)	32,3	31,9	32,1	30,5	29,3	29,8	30,1	28,5	32,3
Ratio of first choice antihypertensive for people with diabetes, (%)	80,4	85,5	83,6	79,8	85,1	83,0	79,3	84,6	80,4
Ratio of long-term use of benzodiazepines and related drugs in 65 and over aged (per 1.000 population in FMIS)	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3
Ratio of use of long-acting benzodiazepines in 65 and over aged (per 1.000 population in FMIS)	1,5	1,5	1,5	1,3	1,3	1,3	1,1	1,2	1,5
Volume of cephalosporines and quinolones as a proportion of all systemic antibiotics prescribed, (%)	37,8	40,2	39,1	34,7	37,2	36,1	31,1	33,8	37,8
Overall volume (DDD) of antibiotics for systemic use prescribed (per 1.000 population in FMIS)	18,2	18,3	18,2	17,6	17,1	17,3	16,7	16,5	18,2

Source: Turkish Medicines and Medical Devices Agency
Note: The calculations are based on OECD methodology. Data only covers patients which are registered in "Prescription Information System (PIS)". The methodology for calculation of indicators is as follow:
http://stats.oecd.org/wbos/fileview2.aspx?IDFile=62f94ae6-180c-4e4b-9a22-b030ddadfd35

Table 9.5. International Comparison of OECD Health Care Quality Indicators on Primary Care Prescription, 2017

Health Care Quality Indicators	Turkey	OECD
Ratio of first choice antihypertensives for people with diabetes, (%)	82,5	79,4
Volume of cephalosporines and quinolones as a proportion of all systemic antibiotics prescribed, (%)	32,6	17,2
Ratio of adequate use of cholesterol lowering treatment in people with diabetes, (%)	29,2	64,6
Overall volume (DDD) of antibiotics for systemic use prescribed (per 1.000 population in FMIS)	16,6	19,2
Ratio of use of long-acting benzodiazepines in 65 and over aged (per 1.000 population in FMIS)	1,2	52,6
Ratio of long-term use of benzodiazepines and related drugs in 65 and over aged (per 1.000 population in FMIS)	0,3	30,5

Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2019
Note: Turkey's data belong to the year 2016.

Explanations for Chapter 9

☑ 4-point Likert was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the Likert borders. The value of the provinces was rounded up to 1 decimal place. These whole numbers were taken into account while making the Likert scales.

☑ Totals in distribution tables and figures in the Chapter may not add up to 100% due to rounding.

☑ Values in the tables and figures in the Chapter may not give the sum due to rounding.

☑ **ATC (Anatomical Therapeutic Chemical):** ATC which is proposed, managed and developed by WHO is a classification system of drugs. It divides the drugs into different groups according to the organ or system on which they act and their chemical, pharmacological and therapeutic properties.

ATC Code	Group Name
A	**Alimentary T. & Metabolism**
A10	Drugs Used in Diabetes
B	**Blood and Blood Forming Organs**
C	**Cardiovascular System**
C02	Antihypertensives
C03	Diuretics
C07	Beta Blocking Agents
C08	Calcium Channel Blockers
C09	Agents Acting on The Renin-Angiotensin System
C10	Lipid Modifying Agents
G	**G.U. System & Sex Hormones**
H	**Systemic Hormonal Preparations (Excl. Sex Hormones and Insulins)**
J	**Systemic Anti-Infectives**
J01	Antibacterials for Systemic Use
M	**Musculo-Skeletal System**
N	**Nervous System**
N06A	Antidepressants

☑ **Pharmaceutical Track & Trace System (ITS):** The Pharmaceutical Track & Trace System enables to define the locations of the drugs in the supply and distribution chain beginning from the production or importation with the help of DataMatrix printed on the drug packages. System includes computers set up for tracking the drugs, data source, computer softwares and communication infrastructure.

☑ **DDD (Daily Defined Dose):** The DDD is the assumed average maintenance dose per day for a drug used for its main indication in adults. A DDD will only be assigned for drugs that already have an ATC code.

☑ Data on pharmaceutical consumption as DDD was obtained from Pharmaceutical Track & Trace System and data on pharmaceutical box sales and sales amounts was obtained from IQVIA Database. Prescription in primary care data was taken from Prescription Information System (PIS).

☑ **IQVIA:** IMS-Health (Intercontinental Marketing Services-Health) and Quintiles companies merged in 2017 to create a new brand called IQVIA. IQVIA is a tracking system of warehouse exits from the wholesalers to the pharmacies.

☑ **Generic Drug:** The products, which contain the same active substance with the reference product

with the same amount and in the same pharmaceutical form and the bio equivalency (BE) of which is accepted under different trade names, are called equivalent drugs.

☑ **Original Drug:** It is an international term used for the new drugs which have been proved to have positive effect on a particular disease as a result of long researches and clinical studies, which are based on a patented molecule, and which are previously unprecedented.

☑ The parts shown as Other in Figure 9.10. and Figure 9.11. are products which do not have a distinction of original/generic.

Chapter 10

Human Resources for Health

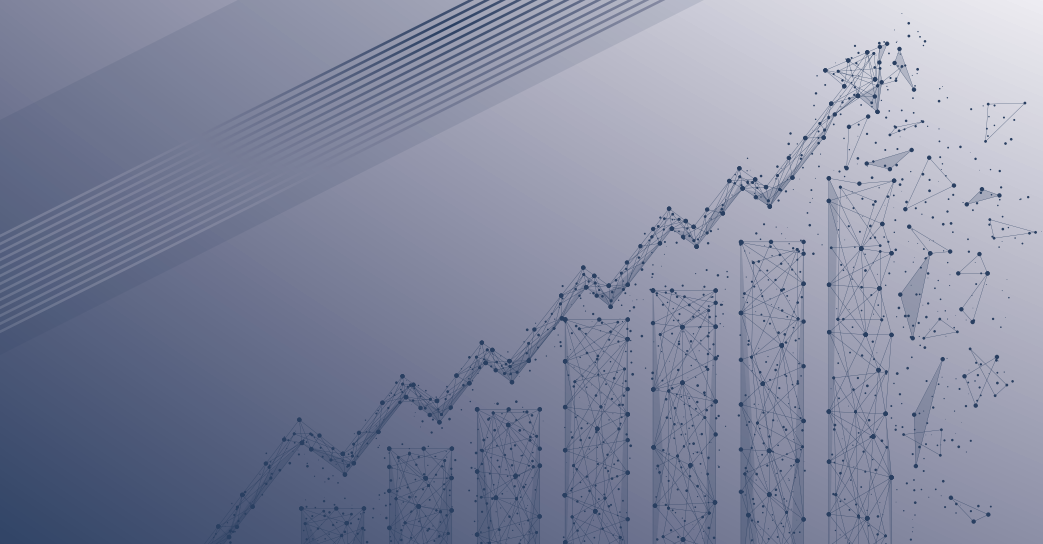


Table 10.1. Number of Health Care Professionals by Years, All Sectors

	2002	2014	2015	2016	2017	2018
Specialist Physicians	45.457	75.251	77.622	78.620	80.951	82.894
General Practitioners	30.900	39.045	41.794	43.058	44.649	44.053
Medical Residents	15.592	21.320	21.843	23.149	24.397	26.181
Total Physicians	**91.949**	**135.616**	**141.259**	**144.827**	**149.997**	**153.128**
Total Dentists	16.371	22.996	24.834	26.674	27.889	30.615
Pharmacists	22.289	27.199	27.530	27.864	28.512	32.032
Nurses	72.393	142.432	152.803	152.952	166.142	190.499
Midwives	41.479	52.838	53.086	52.456	53.741	56.351
Other Health Personnel	50.106	138.878	145.943	144.609	155.417	177.409
Other Personnel and Procurement of Services	83.964	303.110	311.337	321.952	339.241	376.367
Total Personnel	378.551	823.069	856.792	871.334	920.939	1.016.401

Source: General Directorate of Health Services

Note: 1.932 physicians in the subspecialty program are included to the number of "Medical Resident". 2.056 dental residents are included to the number of "Total Dentist". 1.727 pharmacists including graduated intern pharmacist and second pharmacists were added to the number of "Pharmacists".

Table 10.2. Distribution of Health Care Professionals by Sectors and Titles, 2018

	Ministry of Health	University	Private	Total
Specialist Physicians	43.347	14.438	25.109	82.894
General Practitioners	39.442	291	4.320	44.053
Medical Residents	8.770	17.411	-	26.181
Total Physicians	**91.559**	**32.140**	**29.429**	**153.128**
Specialist Dentists	902	1.959	2.029	4.890
Dentists	9.844	277	13.548	23.669
Dental Residents	68	1.988	-	2.056
Total Dentists	**10.814**	**4.224**	**15.577**	**30.615**
Pharmacists	3.064	691	28.277	32.032
Nurses	126.891	29.263	34.345	190.499
Midwives	52.495	789	3.067	56.351
Other Health Personnel	121.206	16.493	39.710	177.409
Other Personnel and Procurement of Services	236.155	48.377	91.835	376.367
Total Personnel	642.184	131.977	242.240	1.016.401

Source: General Directorate of Health Services

Table 10.3. Number of Health Care Professionals by Years, Ministry of Health

	2002	2014	2015	2016	2017	2018
Specialist Physicians	22.187	36.886	38.783	40.544	42.726	43.347
General Practitioners	29.030	33.060	35.833	37.173	38.721	39.442
Medical Residents	6.189	7.930	7.973	8.615	8.817	8.770
Total Physicians	**57.406**	**77.876**	**82.589**	**86.332**	**90.264**	**91.559**
Total Dentists	3.211	7.640	8.683	9.125	9.768	10.814
Pharmacists	1.596	2.102	2.156	2.318	2.855	3.064
Nurses	54.360	94.404	101.722	103.507	112.074	126.891
Midwives	39.473	48.103	48.078	47.766	49.003	52.495
Other Health Personnel	33.276	97.763	102.243	104.446	111.193	121.206
Other Personnel and Procurement of Services	67.496	189.998	194.689	204.778	215.402	236.155
Total Personnel	256.818	517.886	540.160	558.272	590.559	642.184

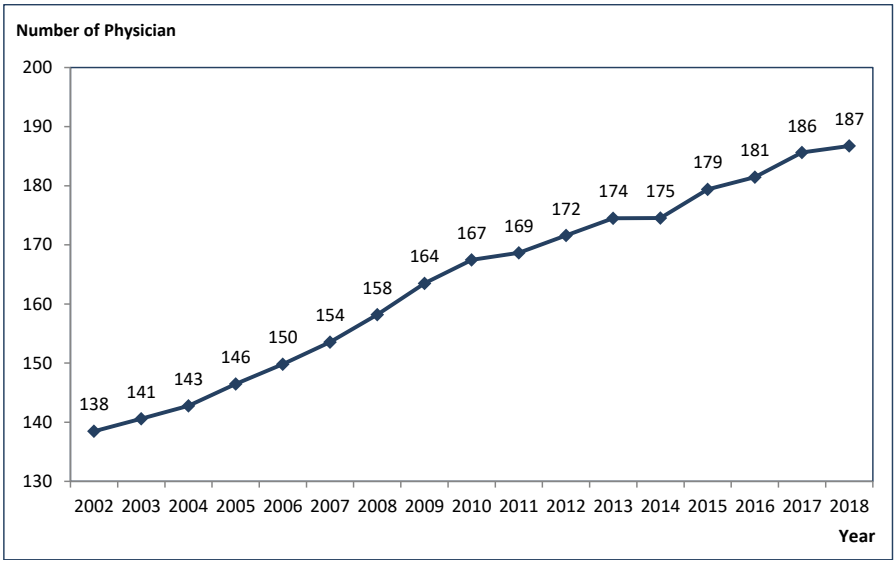
Source: General Directorate of Health Services

Table 10.4. Distribution of Health Care Professionals Working in Central Organization by Titles, MoH, 2018

	Central Organization
Specialist Physicians	149
General Practitioners	258
Medical Residents	-
Total Physicians	**407**
Specialist Dentists	7
Dentists	32
Dental Residents	-
Total Dentists	**39**
Pharmacists	367
Nurses	371
Midwives	144
Other Health Personnel	919
Other Personnel and Procurement of Services	4.443
Total Personnel	6.690

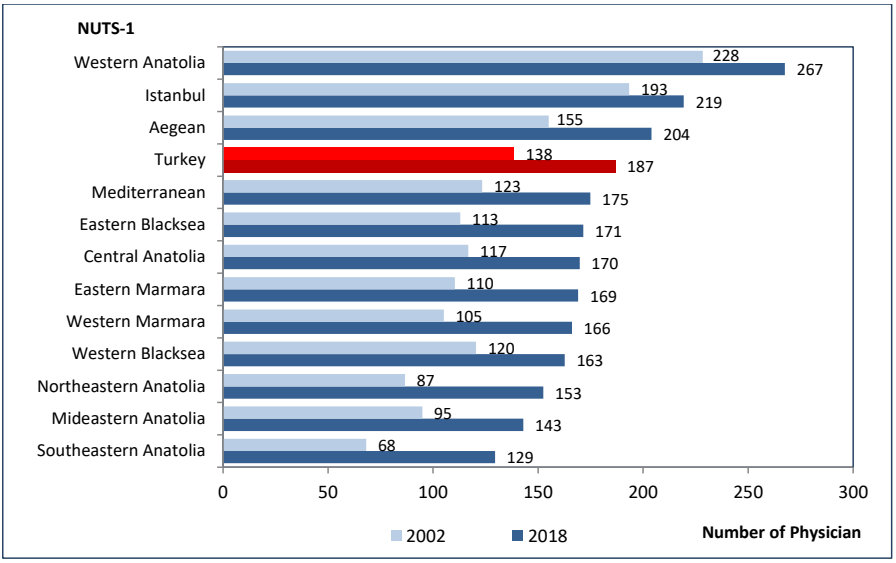
Source: General Directorate of Health Services

Figure 10.1. Number of Total Physicians per 100.000 Population by Years, All Sectors



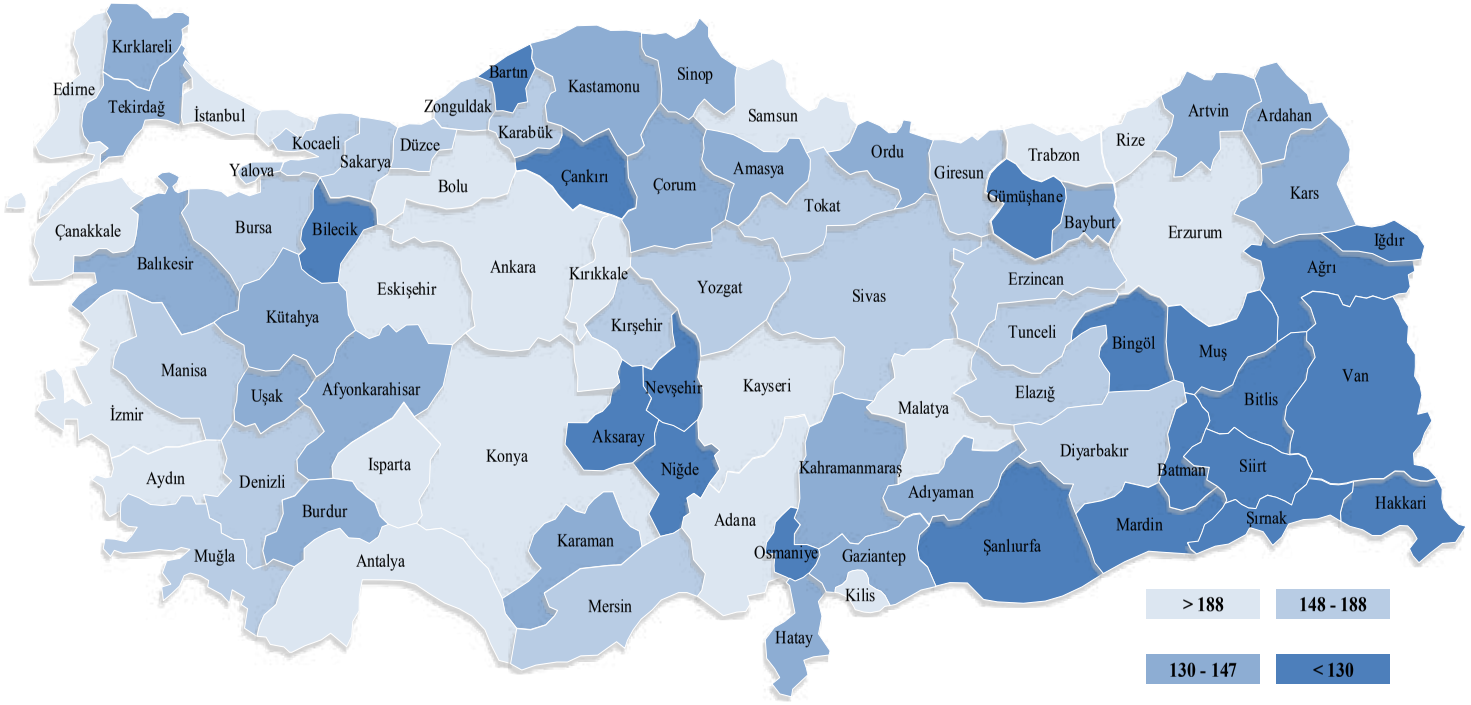
Source: General Directorate of Health Services

Figure 10.2. Number of Total Physicians per 100.000 Population by NUTS-1, All Sectors, 2002, 2018



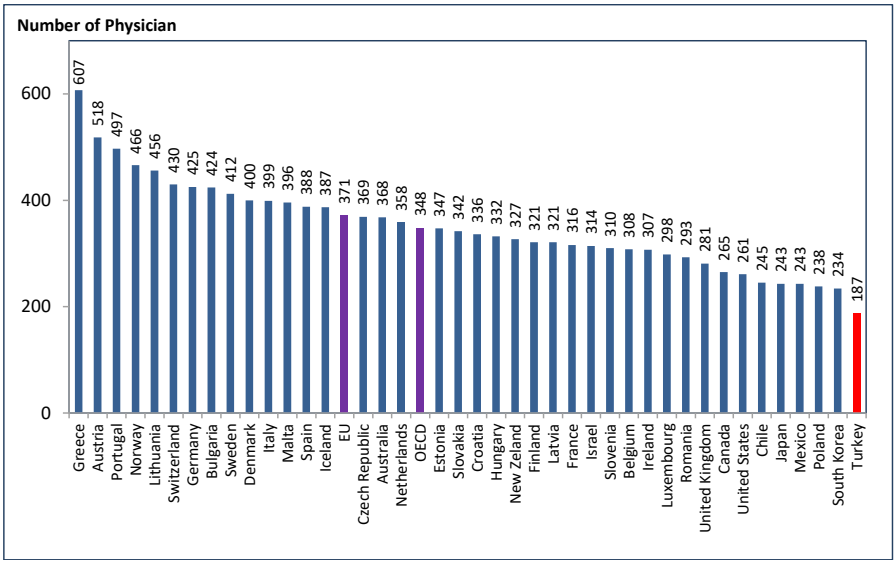
Source: General Directorate of Health Services

Map 10.1. Number of Total Physicians per 100.000 Population by Provinces, All Sectors, 2018



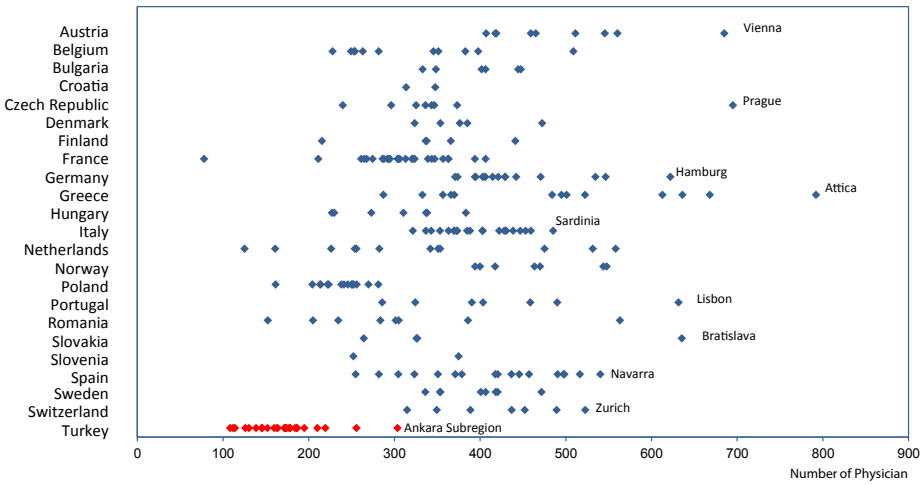
Source: General Directorate of Health Services

Figure 10.3. International Comparison of Number of Total Physicians per 100.000 Population, 2017



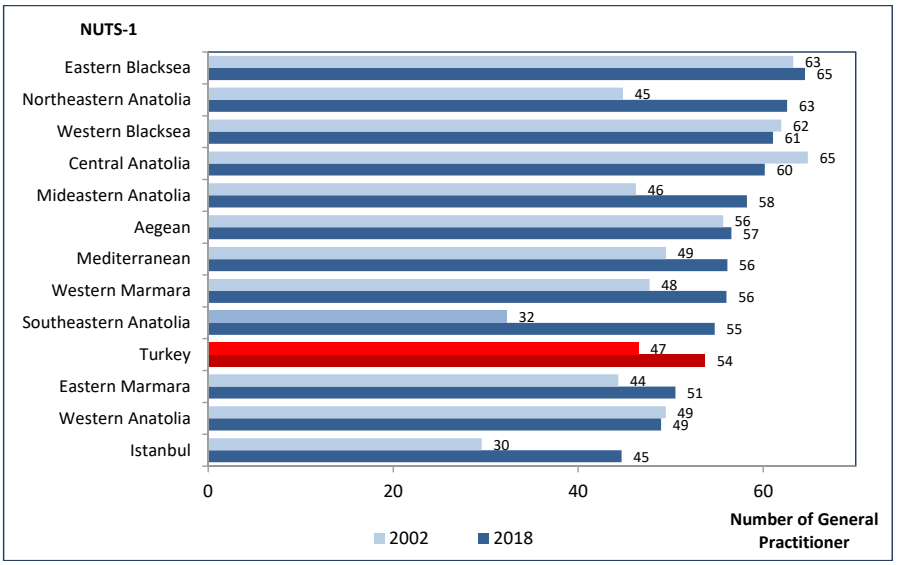
Source: General Directorate of Health Services, OECD Health Data 2019, EUROSTAT Database
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Figure 10.4. International Comparison of Number of Total Physicians per 100.000 Population by NUTS-2, 2017



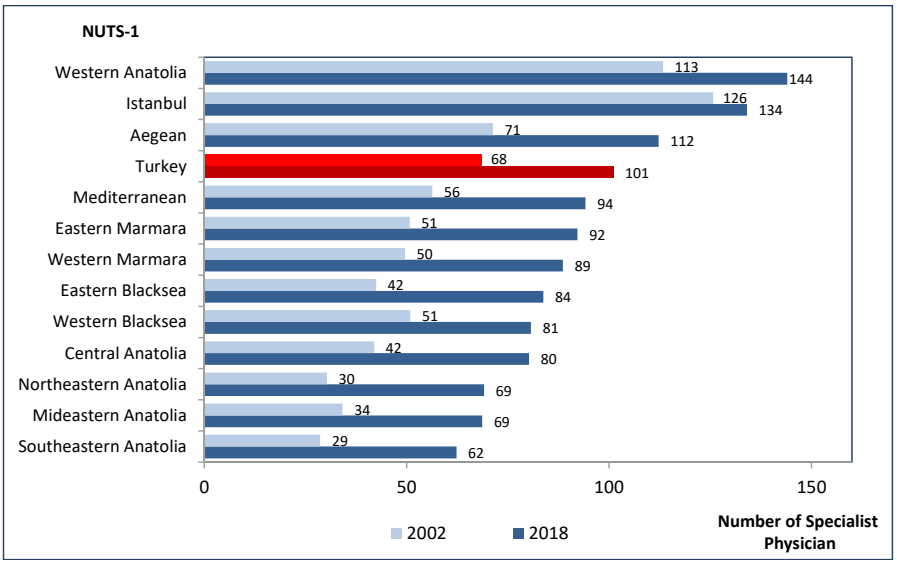
Source: General Directorate of Health Services, EUROSTAT Database
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Figure 10.5. Number of General Practitioners per 100.000 Population by NUTS-1, All Sectors, 2002, 2018



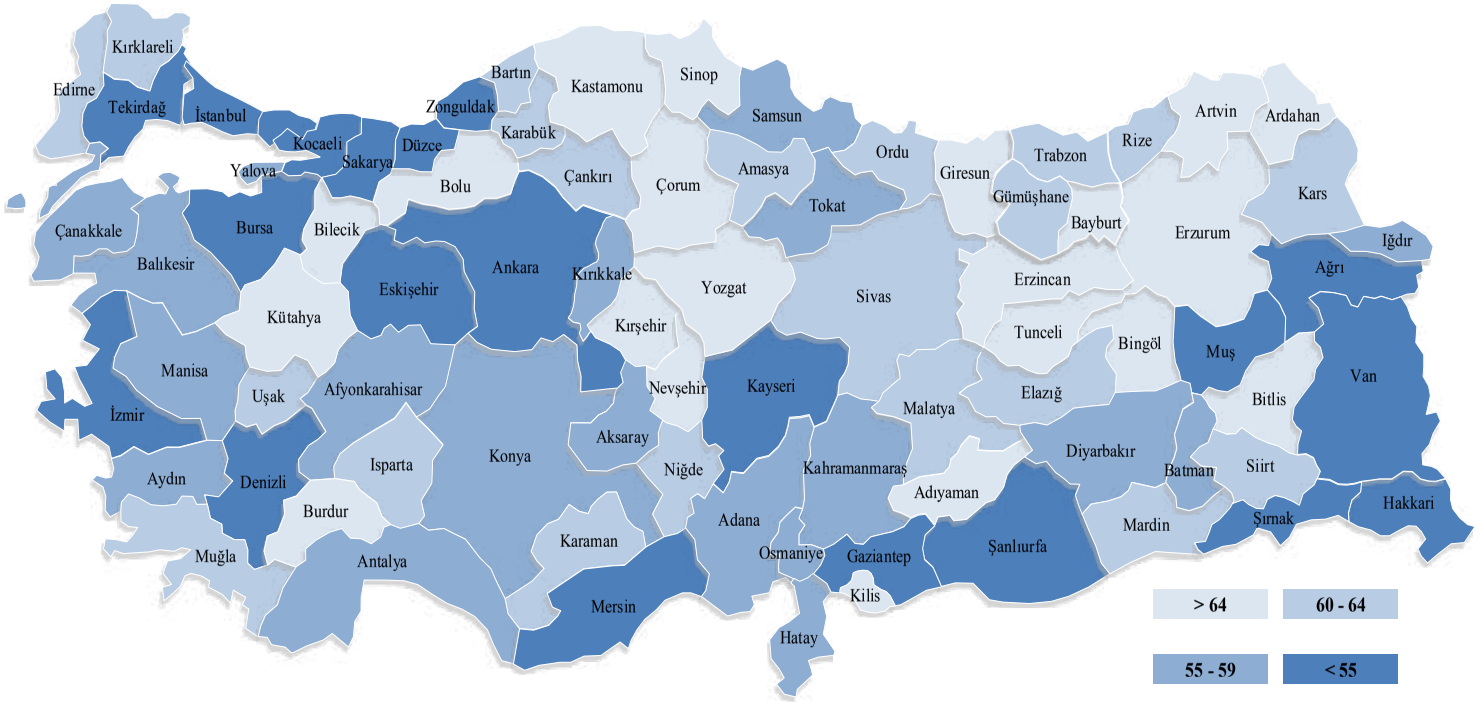
Source: General Directorate of Health Services

Figure 10.6. Number of Specialist Physicians per 100.000 Population by NUTS-1, All Sectors, 2002, 2018



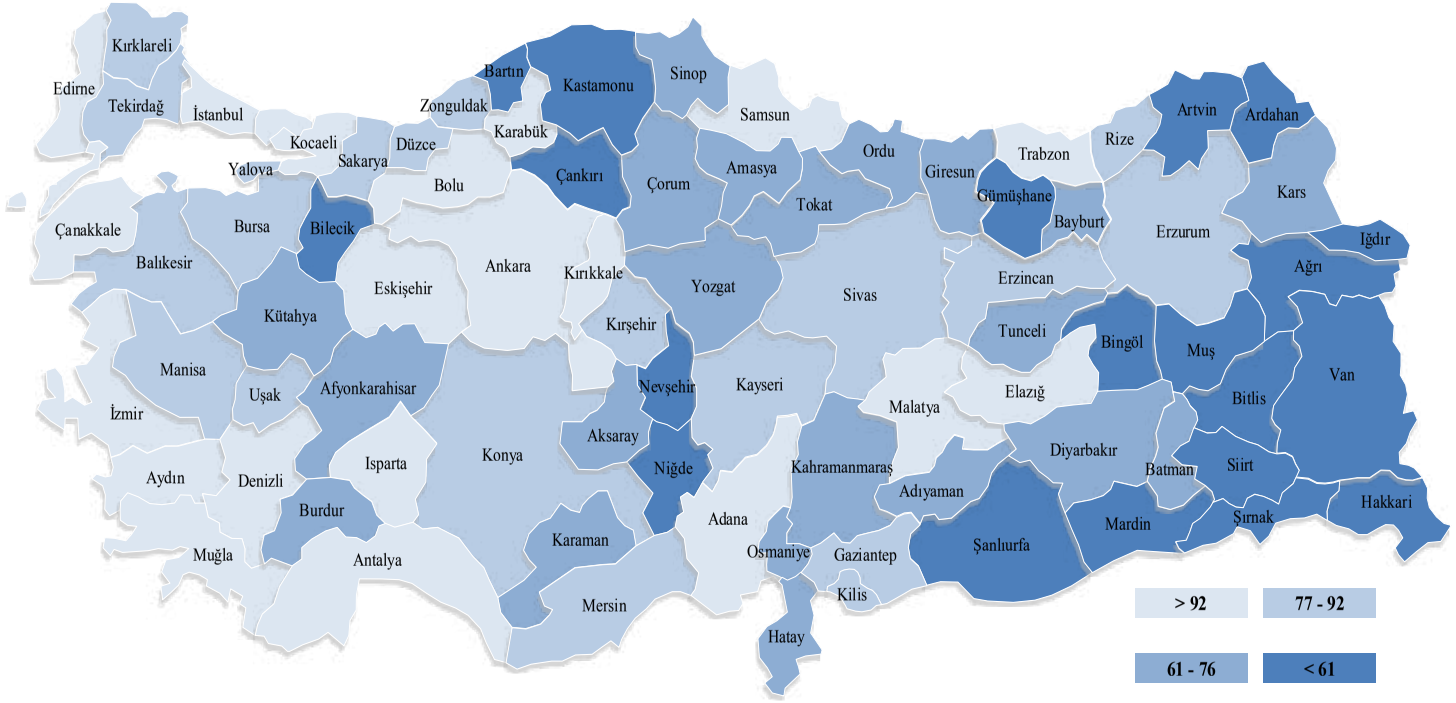
Source: General Directorate of Health Services

Map 10.2. Number of General Practitioners per 100.000 Population by Provinces, All Sectors, 2018



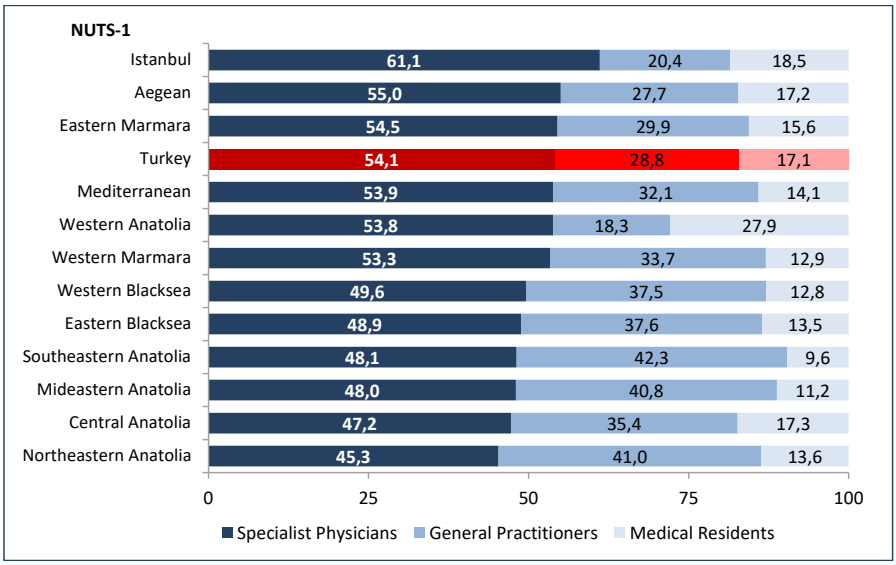
Source: General Directorate of Health Services

Map 10.3. Number of Specialist Physicians per 100.000 Population by Provinces, All Sectors, 2018



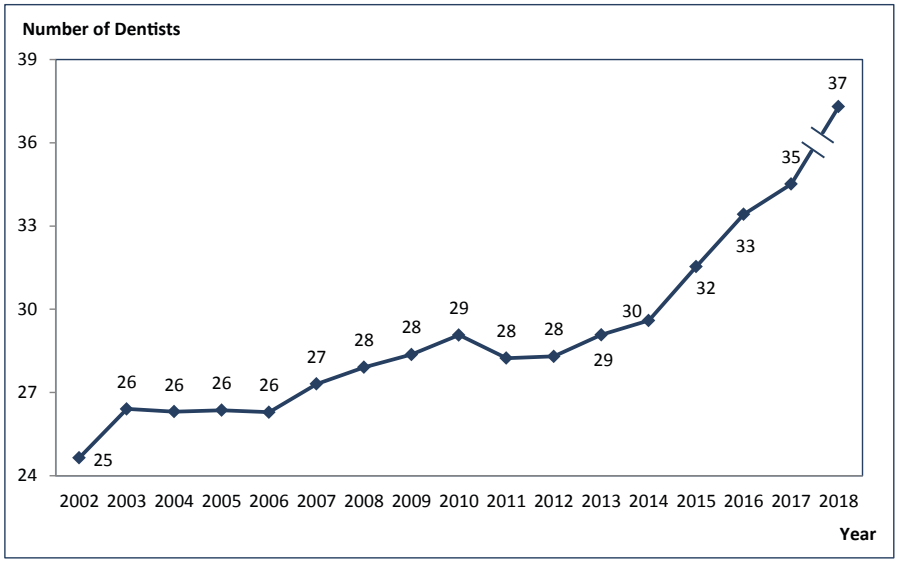
Source: General Directorate of Health Services

Figure 10.7. Distribution of Specialist Physicians, General Practitioners and Medical Residents by NUTS-1, All Sectors, (%), 2018



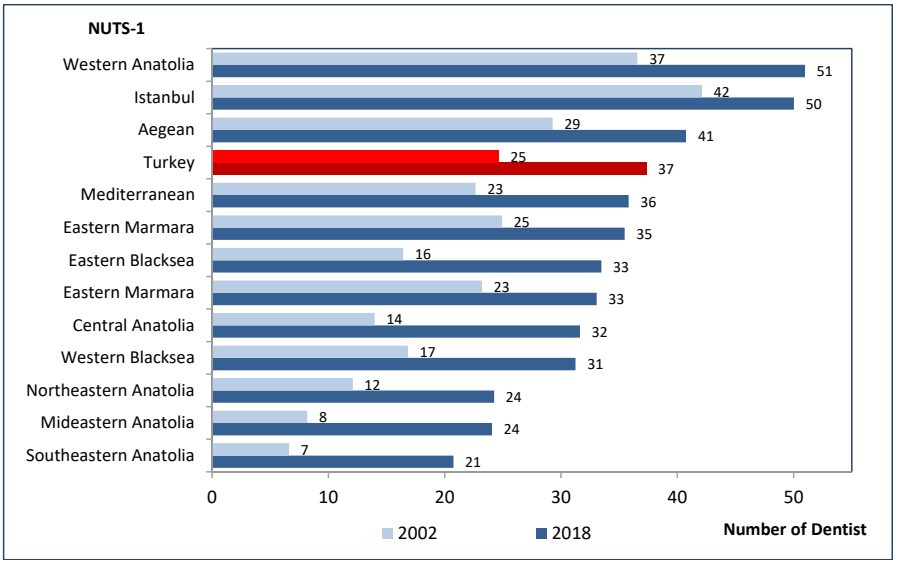
Source: General Directorate of Health Services

Figure 10.8. Number of Total Dentists per 100.000 Population by Years, All Sectors



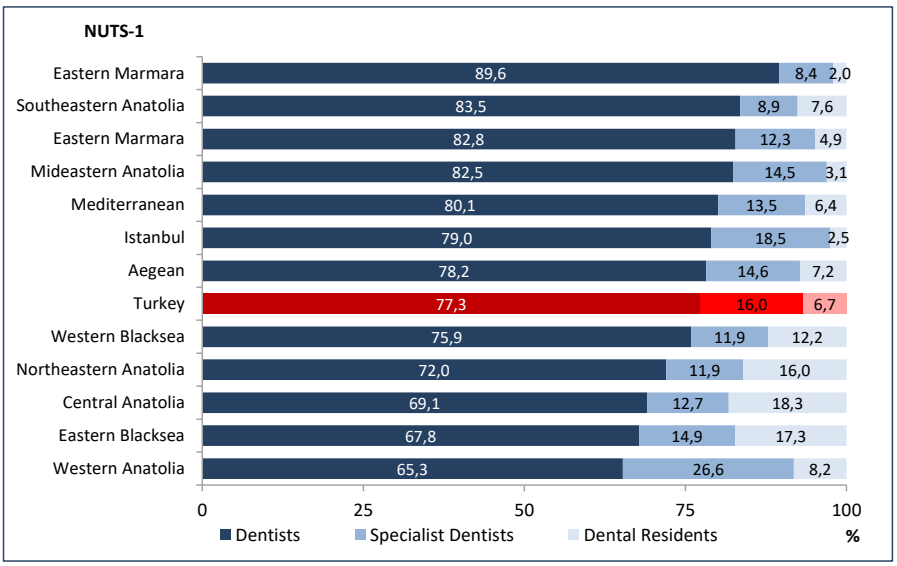
Source: General Directorate of Health Services
Note: Unlike the previous years, the number of dentists includes dental residents for the year of 2018. Number of dentists per 100.000 population not including dental residents is 35 for 2018.

Figure 10.9. Number of Total Dentists per 100.000 Population by NUTS-1, All Sectors, 2002, 2018



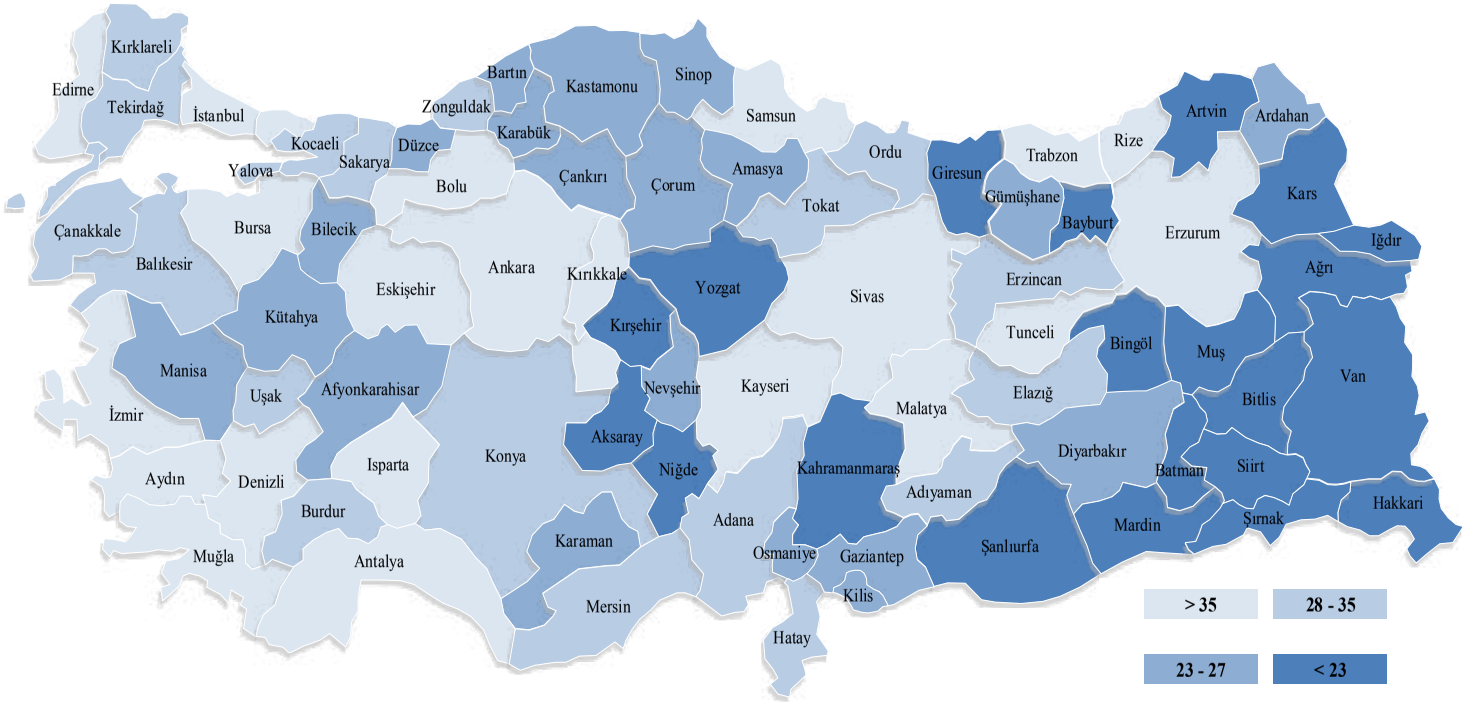
Source: General Directorate of Health Services
Note: Data for 2002 does not include dental residents.

Figure 10.10. Distribution of Dentists, Specialist Dentists and Dental Residents by NUTS-1, All Sectors, (%), 2018



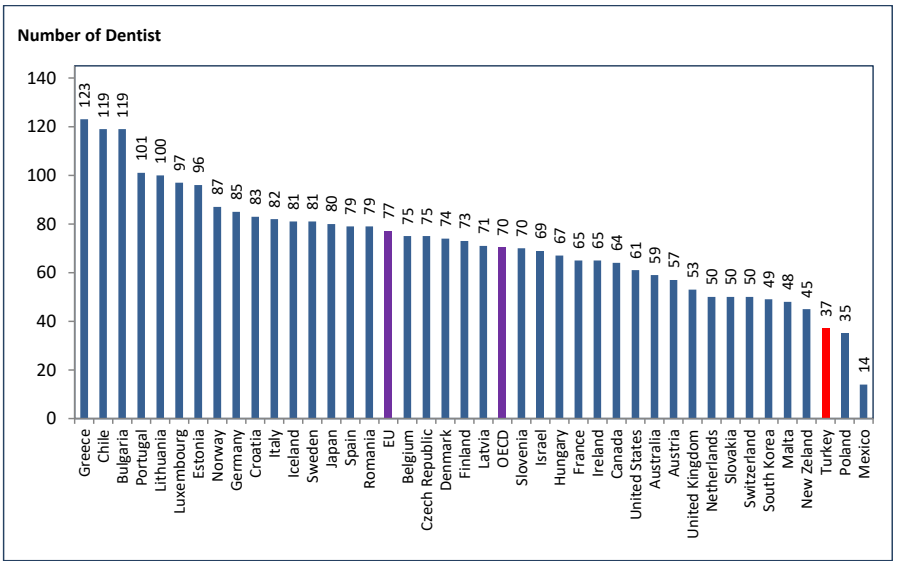
Source: General Directorate of Health Services

Map 10.4. Number of Total Dentists per 100.000 Population by Provinces, All Sectors, 2018



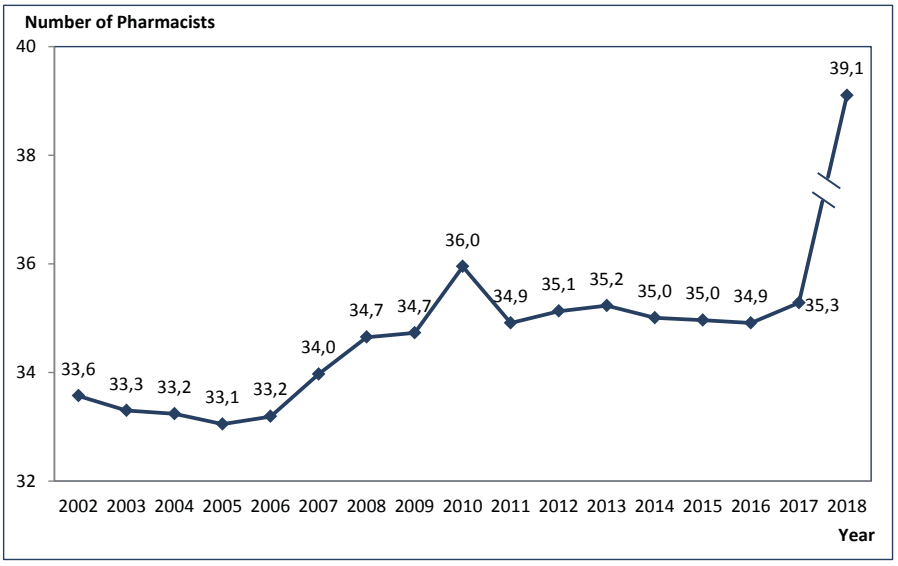
Source: General Directorate of Health Services

Figure 10.11. International Comparison of Number of Total Dentists per 100.000 Population, 2017



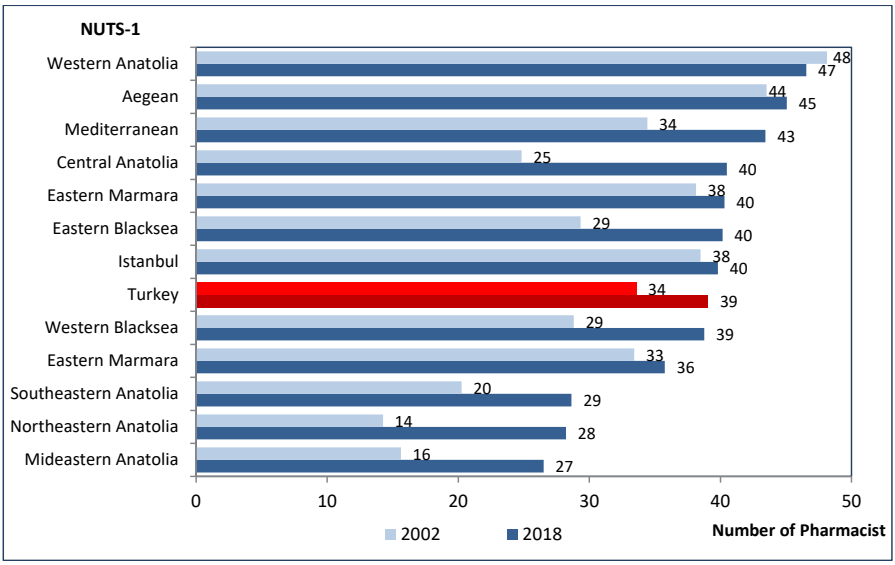
Source: General Directorate of Health Services, OECD Health Data 2019, EUROSTAT Database
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Figure 10.12. Number of Pharmacists per 100.000 Population by Years, All Sectors



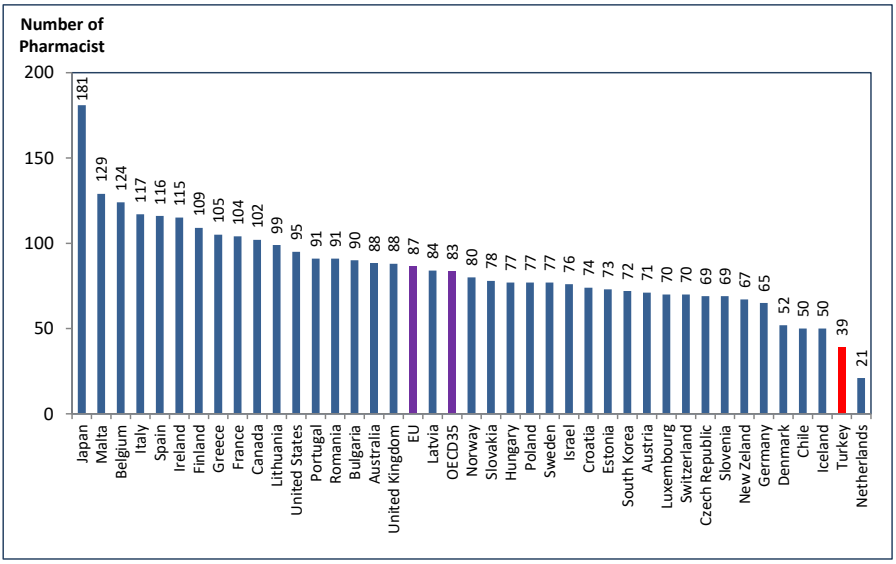
Source: General Directorate of Health Services
Note: Unlike the previous years, the number of pharmacist includes second pharmacists and graduated intern pharmacists for the year of 2018. Number of pharmacist per 100.000 population not including second pharmacists and graduated intern pharmacist is 37,0 for 2018.

Figure 10.13. Number of Pharmacists per 100.000 Population by NUTS-1, All Sectors, 2002, 2018



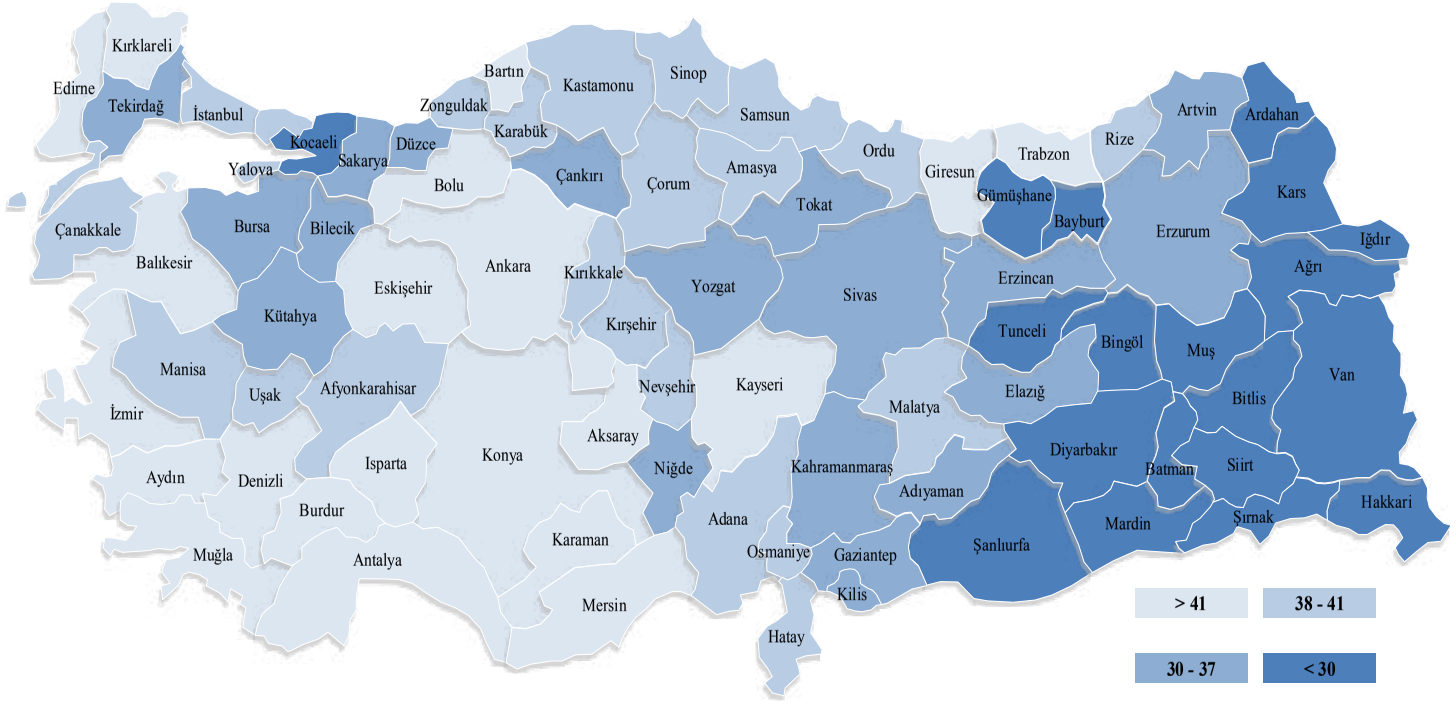
Source: General Directorate of Health Services
Note: Data for 2002 does not include second pharmacist and graduated intern pharmacist.

Figure 10.14. International Comparison of Number of Pharmacists per 100.000 Population, 2017



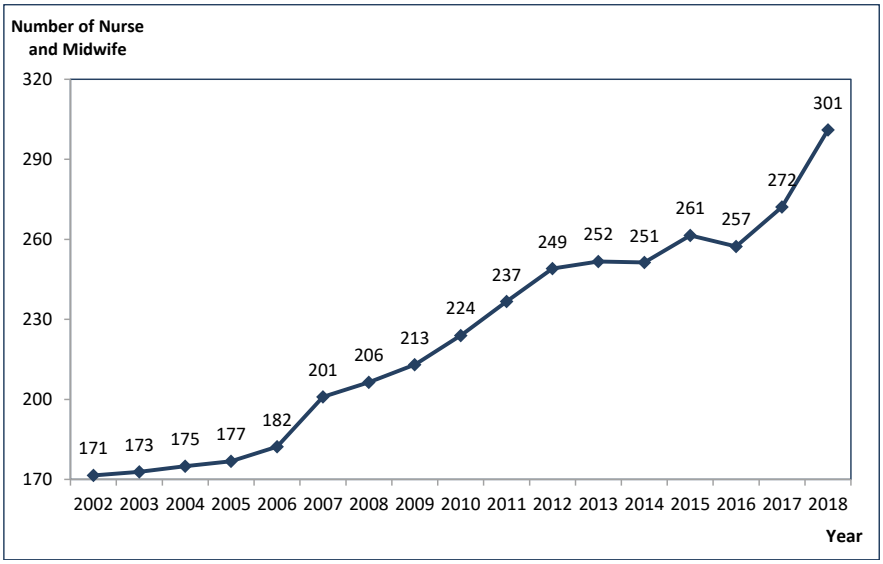
Source: General Directorate of Health Services, OECD Health Data 2019, EUROSTAT Database
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Map 10.5. Number of Pharmacists per 100.000 Population by Provinces, All Sectors, 2018



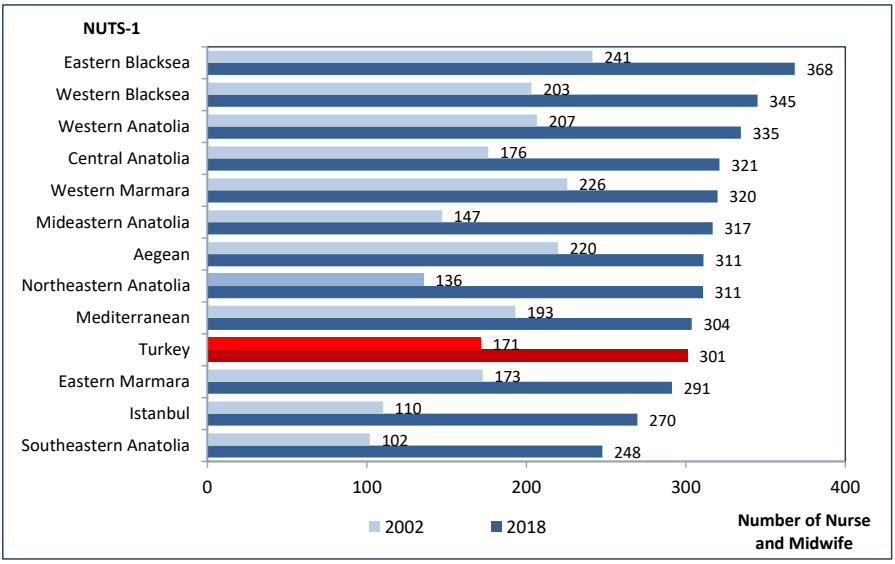
Source: General Directorate of Health Services

Figure 10.15. Number of Nurses and Midwives per 100.000 Population by Years, All Sectors



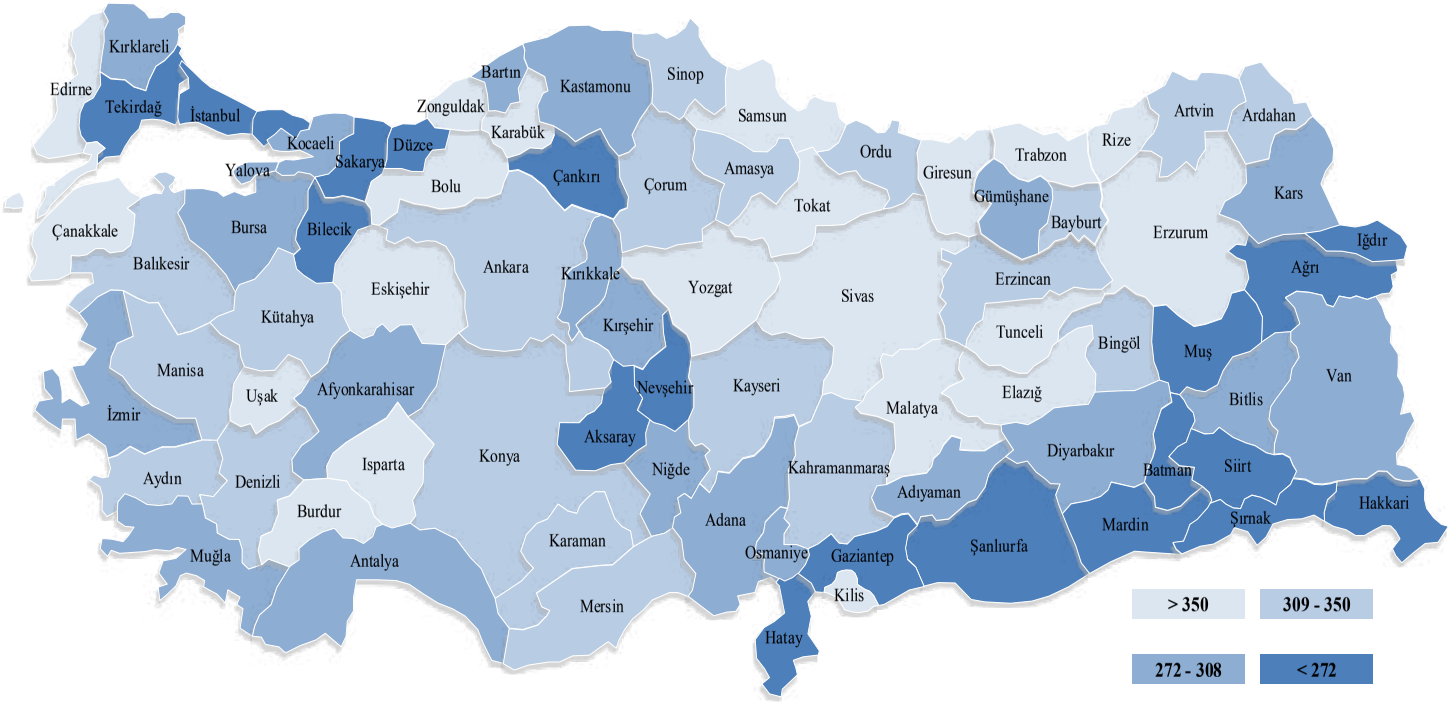
Source: General Directorate of Health Services

Figure 10.16. Number of Nurses and Midwives per 100.000 Population by NUTS-1, All Sectors, 2002, 2018



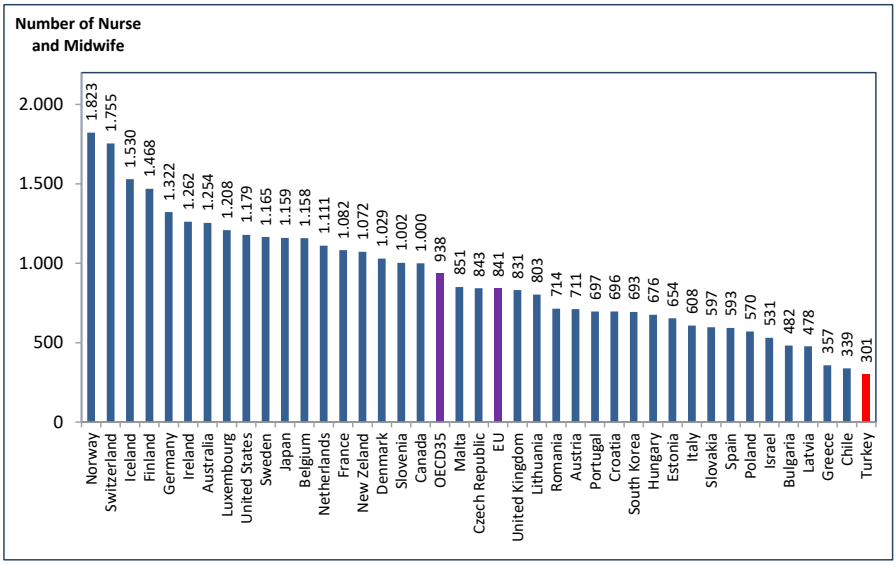
Source: General Directorate of Health Services

Map 10.6. Number of Nurses and Midwives per 100.000 Population by Provinces, All Sectors, 2018



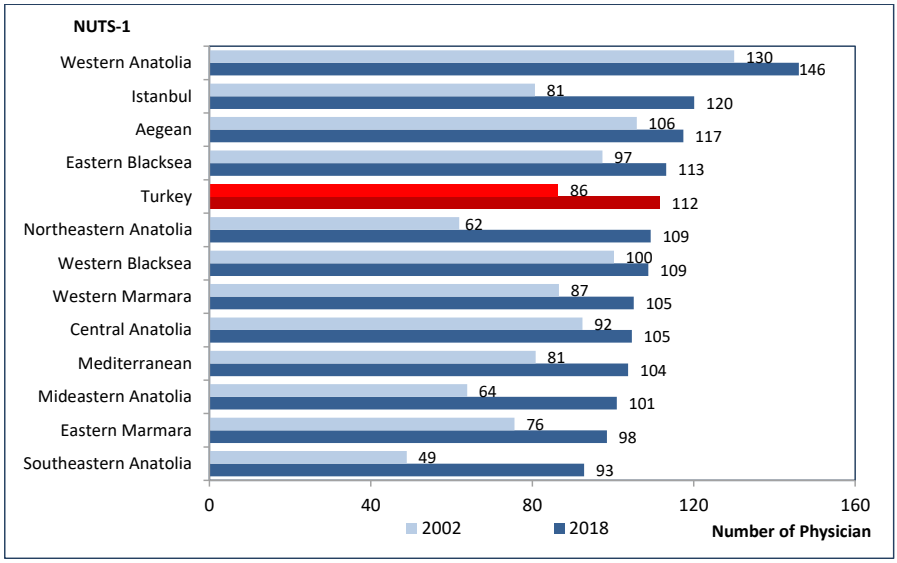
Source: General Directorate of Health Services

Figure 10.17. International Comparison of Number of Nurses and Midwives per 100.000 Population, 2017



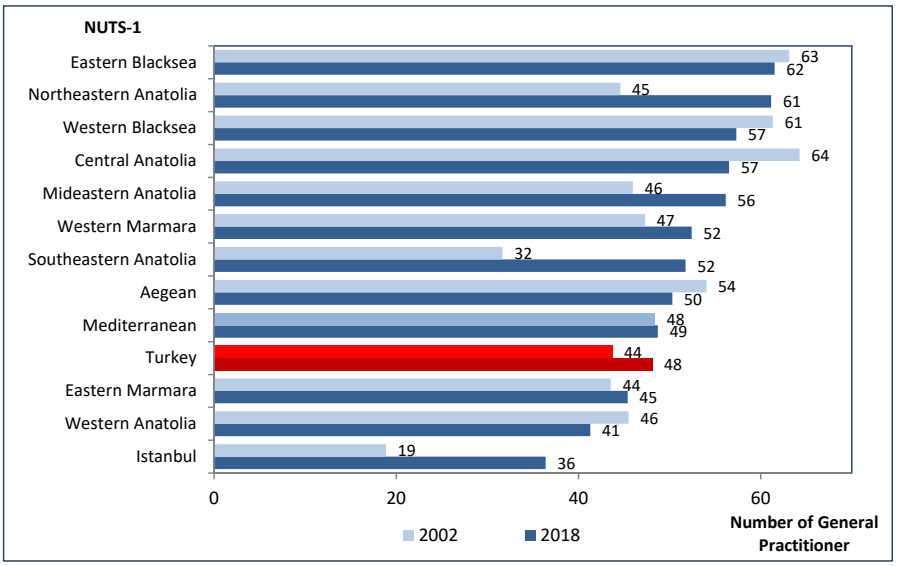
Source: General Directorate of Health Services, OECD Health Data 2019, EUROSTAT Database
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year of 2017 or nearest.

Figure 10.18. Number of Total Physicians per 100.000 Population by NUTS-1, MoH, 2002, 2018



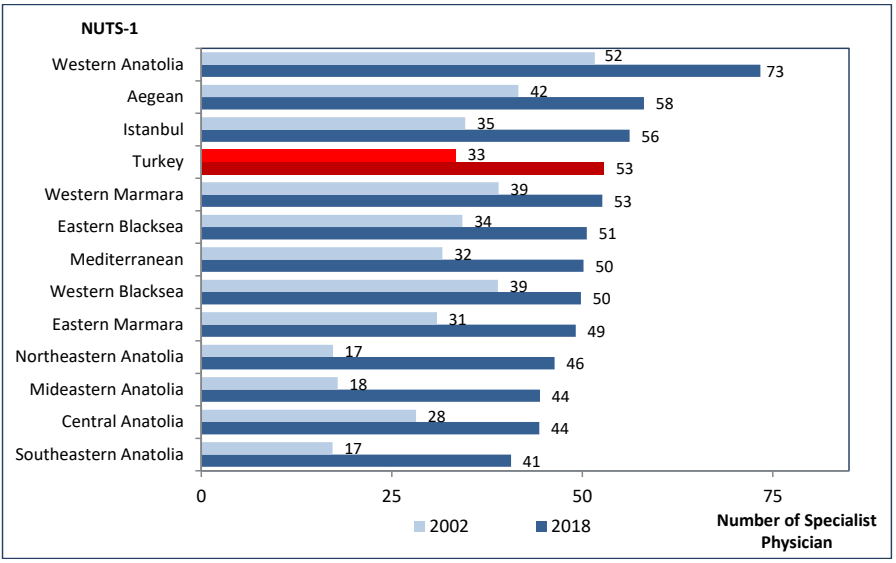
Source: General Directorate of Health Services

Figure 10.19. Number of General Practitioners per 100.000 Population by NUTS-1, MoH, 2002, 2018



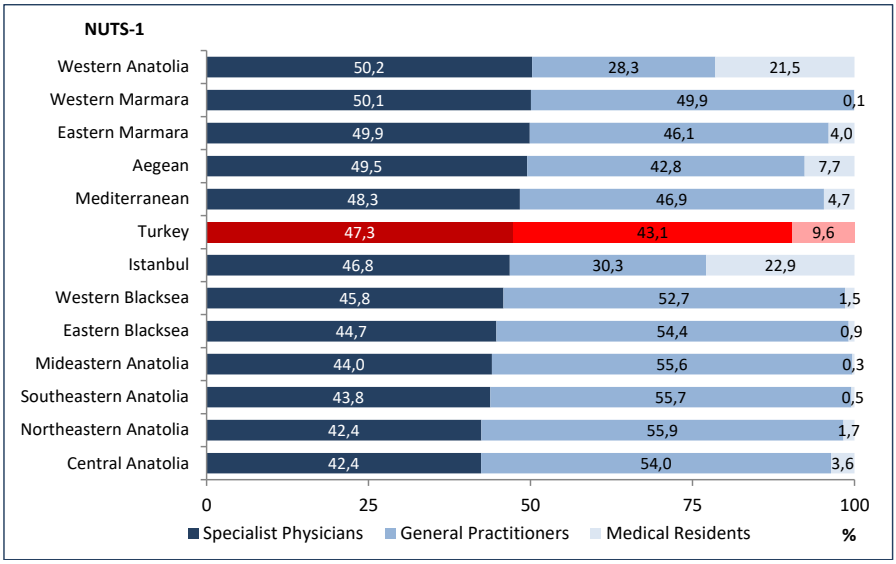
Source: General Directorate of Health Services

Figure 10.20. Number of Specialist Physicians per 100.000 Population by NUTS-1, MoH, 2002, 2018



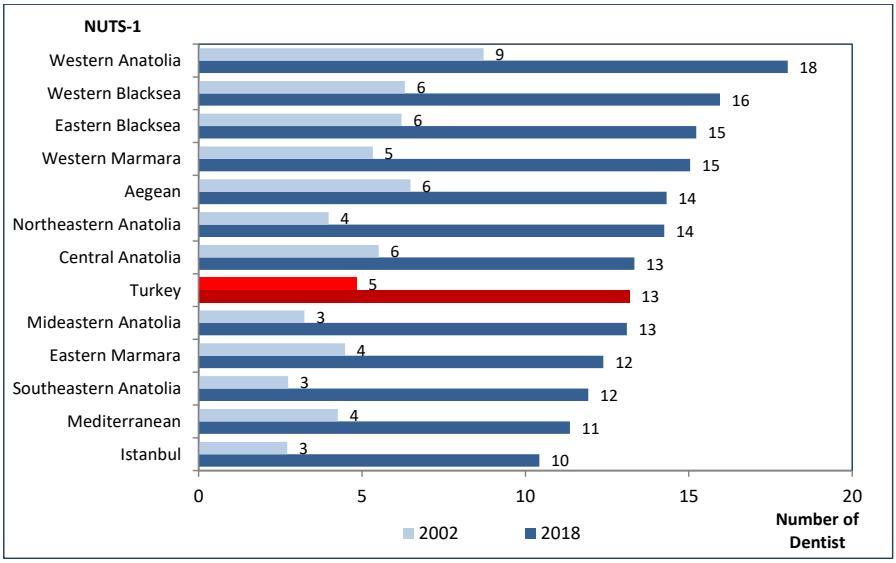
Source: General Directorate of Health Services

Figure 10.21. Distribution of Specialist Physicians, General Practitioners and Medical Residents by NUTS-1, MoH, (%), 2018



Source: General Directorate of Health Services

Figure 10.22. Number of Total Dentists per 100.000 Population by NUTS-1, MoH, 2002, 2018



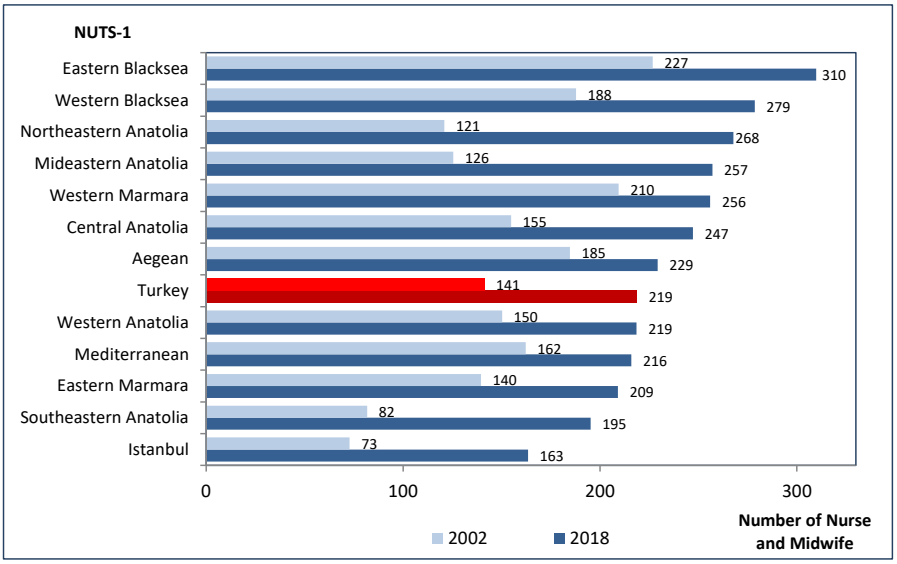
Source: General Directorate of Health Services
Note: Data for 2002 does not include dental residents.

Table 10.5. Distribution of Dentists, Specialist Dentists and Dental Residents by NUTS-1, MoH, (%), 2018

NUTS-1	Specialist Dentist	Dentist	Dental Resident
Istanbul	9,9	89,1	1,0
Western Marmara	5,8	94,2	0,0
Aegean	8,4	90,8	0,7
Eastern Marmara	7,7	92,1	0,2
Western Anatolia	19,0	79,8	1,3
Mediterranean	7,7	91,8	0,5
Central Anatolia	4,8	94,6	0,6
Western Blacksea	5,7	93,2	1,1
Eastern Blacksea	7,2	92,3	0,5
Northeastern Anatolia	1,6	98,1	0,3
Mideastern Anatolia	2,1	97,7	0,2
Southeastern Anatolia	3,2	96,8	0,0
Turkey	8,3	91,0	0,6

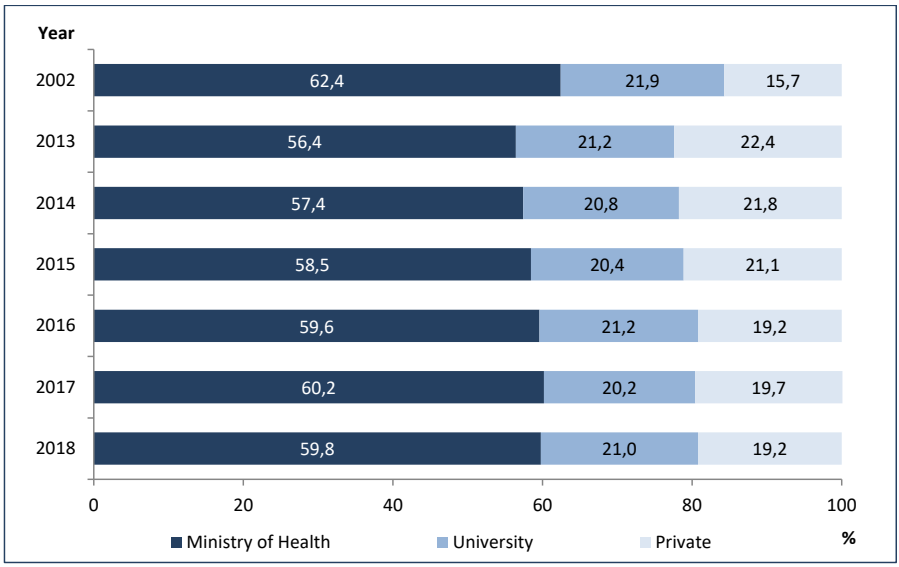
Source: General Directorate of Health Services

Figure 10.23. Number of Nurses and Midwives per 100.000 Population by NUTS-1, MoH, 2002, 2018



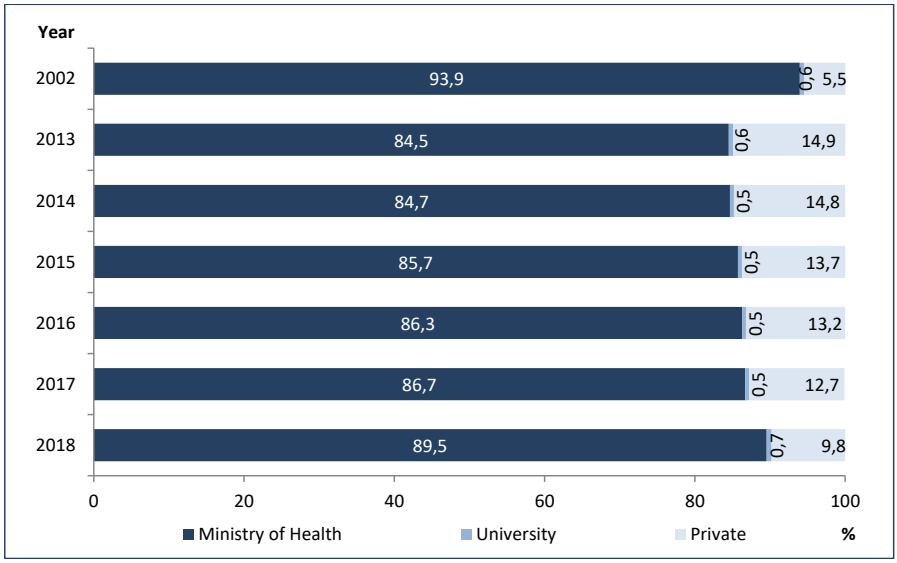
Source: General Directorate of Health Services

Figure 10.24. Distribution of Total Physicians by Years and Sectors, (%)



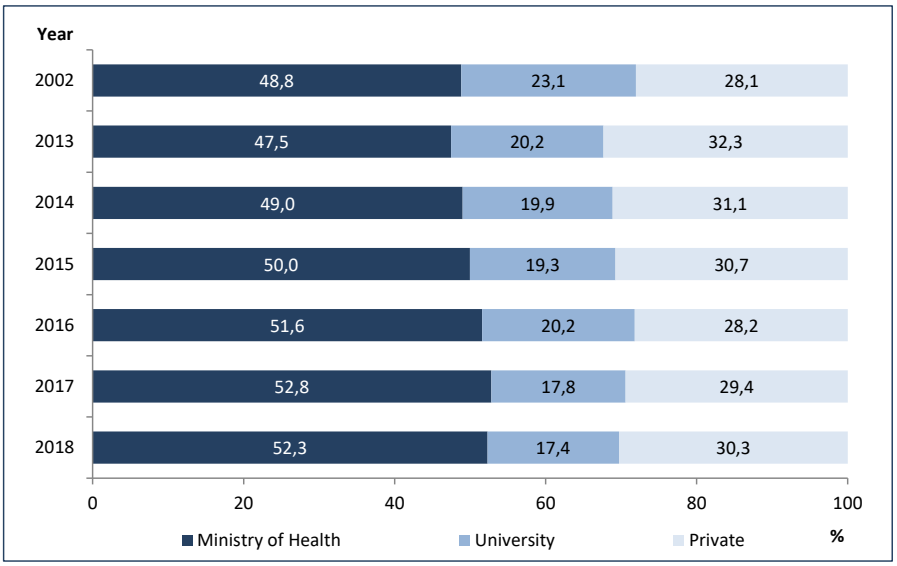
Source: General Directorate of Health Services

Figure 10.25. Distribution of General Practitioners by Years and Sectors, (%)



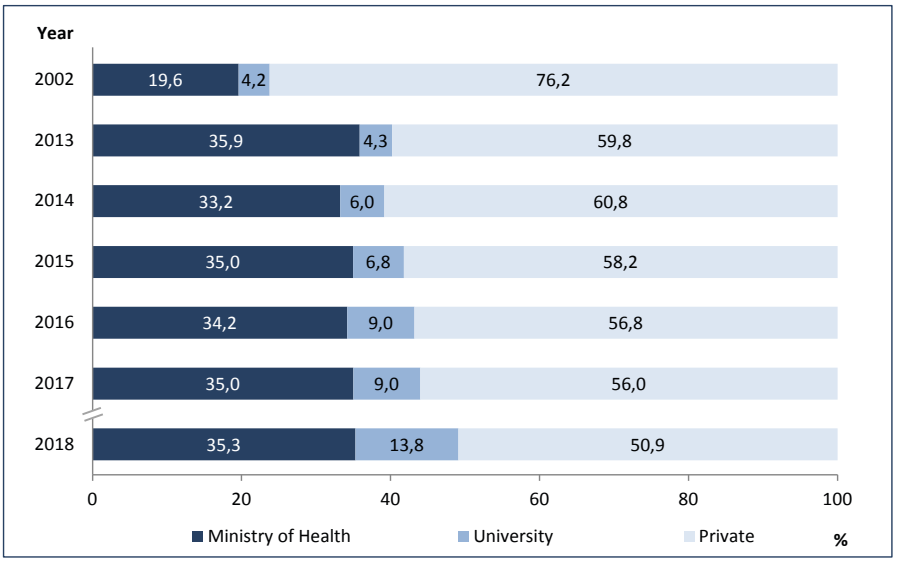
Source: General Directorate of Health Services

Figure 10.26. Distribution of Specialist Physicians by Years and Sectors, (%)



Source: General Directorate of Health Services

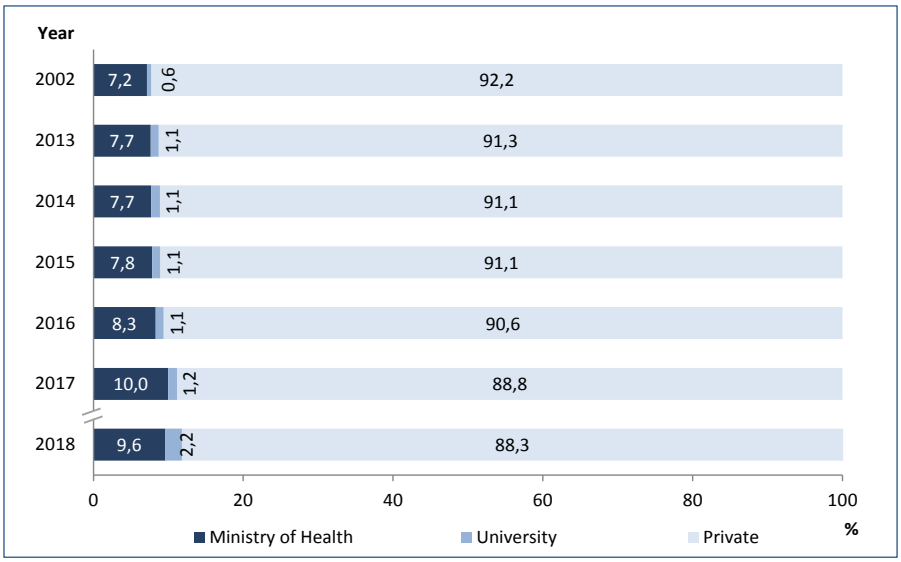
Figure 10.27. Distribution of Total Dentists by Years and Sectors, (%)



Source: General Directorate of Health Services

Note: Unlike the previous years, the number of dentists includes dental residents for the year of 2018. Distribution of total dentists not including dental residents is 37,6%, 7,8% and 54,5% for MoH, University and Private sector respectively.

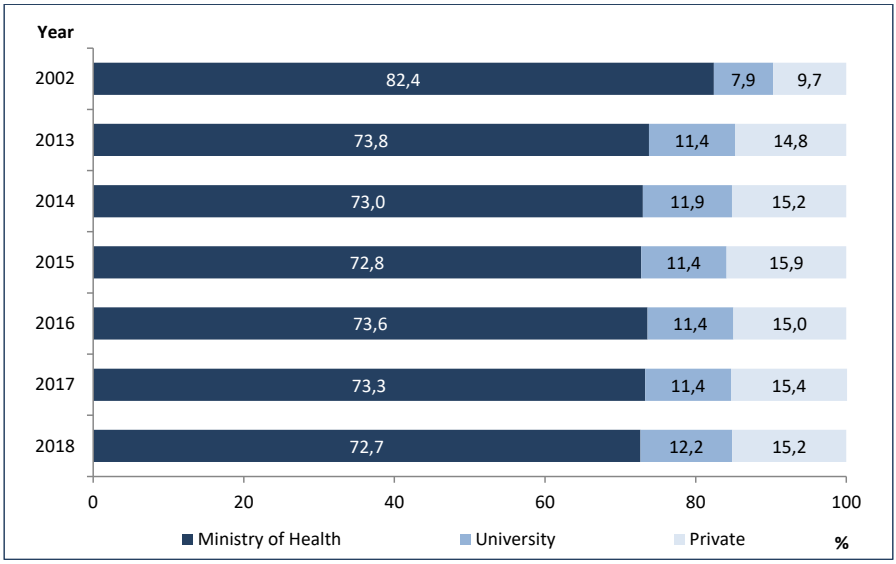
Figure 10.28. Distribution of Pharmacists by Years and Sectors, (%)



Source: General Directorate of Health Services

Note: Unlike the previous years, the number of pharmacists includes second pharmacist and graduated intern pharmacist for the year of 2018. Distribution of pharmacist not including second pharmacist and graduated intern pharmacist is 10,1%, 2,3% and 87,6% for MoH, University and Private sector respectively.

Figure 10.29. Distribution of Nurses and Midwives by Years and Sectors, (%)



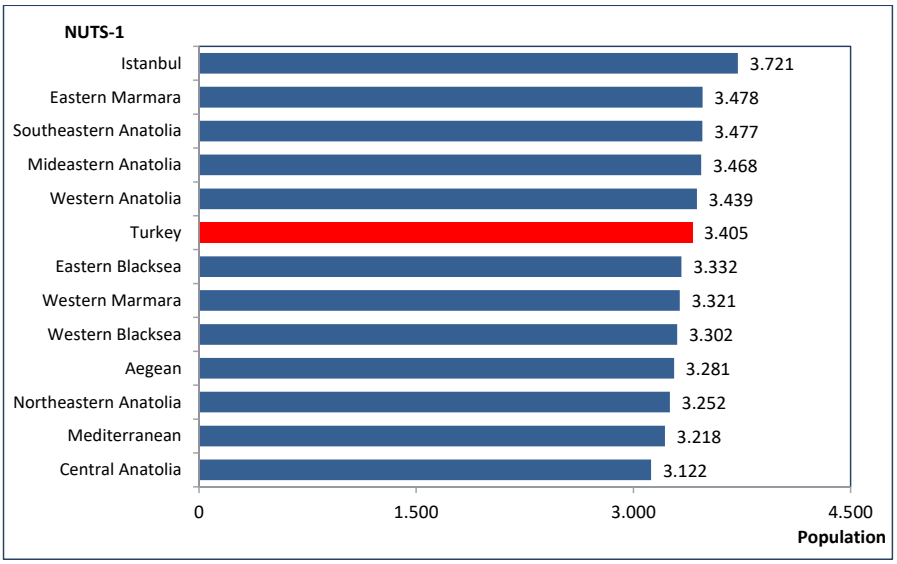
Source: General Directorate of Health Services

Table 10.6. Distribution of MoH Personnel by Service Units, 2018

	Hospitals	Family Medicine Unit	Other Facilities	Total
Specialist Physicians	40.541	1.814	992	43.347
General Practitioners	10.719	22.268	6.455	39.442
Medical Residents	8.770	0	0	8.770
Total Physicians	**60.030**	**24.082**	**7.447**	**91.559**
Total Dentists	4.642	0	6.172	10.814
Pharmacists	2.747	0	317	3.064
Nurses	113.641	7.448	5.802	126.891
Midwives	27.028	13.299	12.168	52.495
Other Health Personnel	73.226	1.874	46.106	121.206
Other Personnel and Procurement of Services	193.787	17.614	24.754	236.155
Total Personnel	475.101	64.317	102.766	642.184

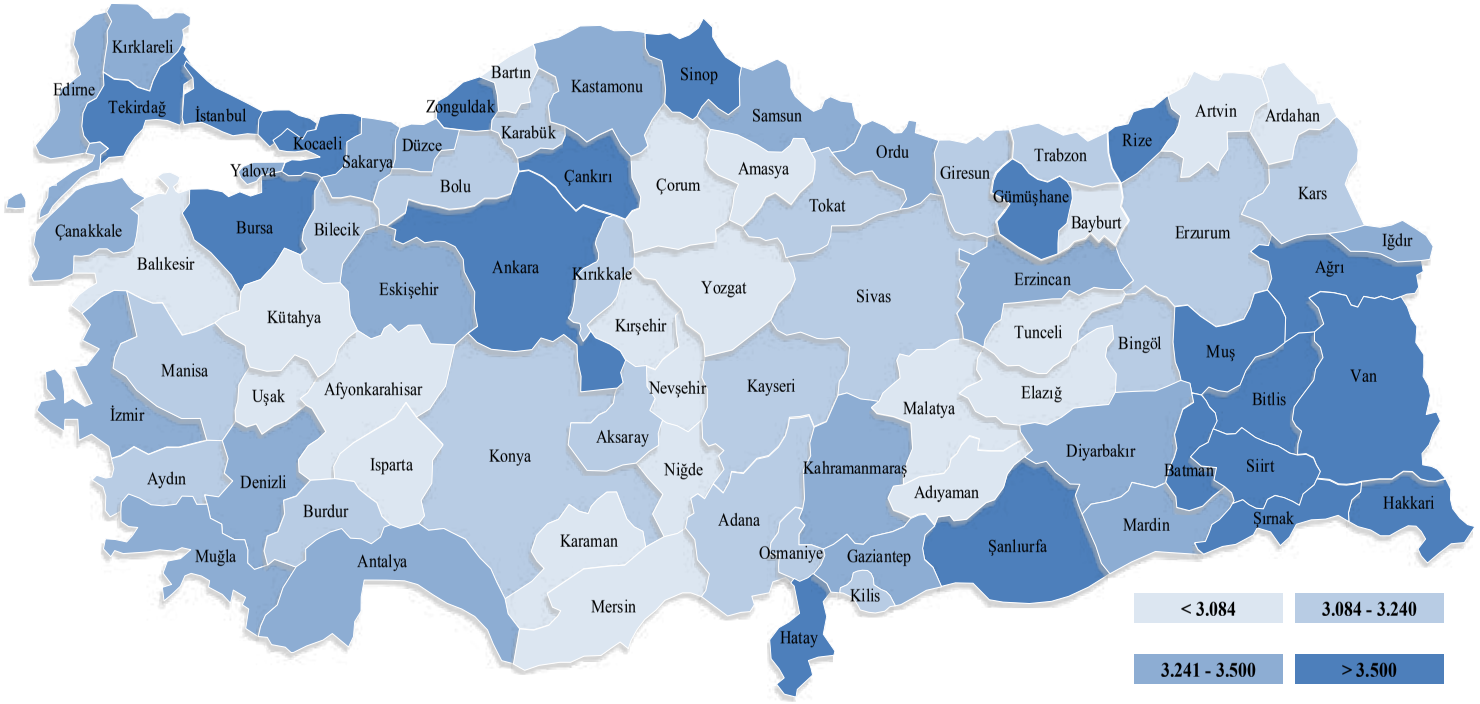
Source: General Directorate of Health Services, General Directorate of Public Health

Figure 10.30. Population per Actively Working Family Medicine by NUTS-1, 2018



Source: General Directorate of Health Services

Map 10.7. Population per Actively Working Family Medicine by Provinces, 2018



Source: General Directorate of Public Health

Table 10.7. Number of Students and Academic Staff Member in Faculties of Medicine by Education Terms

Education Term	Number of Faculties	Number of Student			Number of Academic Staff Member
		Recently Enrolled	Total	Graduates	
2002-2003	44	4.998	31.966	4.804	7.172
2014-2015	83	12.449	65.879	5.177	13.796
2015-2016	85	13.059	71.370	6.896	14.263
2016-2017	85	13.044	75.902	7.651	13.123
2017-2018	94	14.555	82.865	8.530	14.133
2018-2019	96	15.859	89.356	9.395	14.810

Source: Council of Higher Education, Higher Education Statistics
Note: Graduate numbers belong to previous education term.

Table 10.8. Number of Students and Academic Staff Member in Faculties of Dentistry by Education Terms

Education Term	Number of Faculties	Number of Student			Number of Academic Staff Member
		Recently Enrolled	Total	Graduates	
2002-2003	14	975	5.256	813	605
2014-2015	40	3.526	14.963	1.567	1.493
2015-2016	43	3.825	17.027	1.710	1.636
2016-2017	46	4.269	18.890	2.128	1.541
2017-2018	50	4.895	21.285	2.584	1.723
2018-2019	63	6.612	24.896	2.980	1.930

Source: Council of Higher Education, Higher Education Statistics
Note: Graduate numbers belong to previous education term.

Table 10.9. Number of Students and Academic Staff Member in Faculties of Pharmacy by Education Terms

Education Term	Number of Faculties	Number of Student			Number of Academic Staff Member
		Recently Enrolled	Total	Graduates	
2002-2003	11	939	4.120	919	354
2014-2015	24	2.017	9.212	1.227	681
2015-2016	25	2.135	10.108	1.304	726
2016-2017	29	2.319	10.905	1.448	741
2017-2018	31	2.613	11.953	1.545	786
2018-2019	35	3.605	13.943	1.723	862

Source: Council of Higher Education, Higher Education Statistics
Note: Graduate numbers belong to previous education term.

Table 10.10. Some Health Indicators by Provinces, 2018

City	Specialist Physician	General Practitioner	Medical Resident	Total Physician	Total Dentist	Pharmacist	Nurse	Midwife	Other Health Personnel
Adana	2.330	1.238	747	4.315	755	876	5.041	1.476	5.083
Adıyaman	394	408	91	893	173	193	1.340	557	1.440
Afyonkarahisar	481	423	153	1.057	175	283	1.576	544	1.864
Ağrı	223	281	2	506	62	127	811	300	754
Amasya	222	216	11	449	91	137	735	324	977
Ankara	9.277	2.507	4.924	16.708	3.230	2.647	15.702	3.286	14.681
Antalya	2.930	1.362	821	5.113	1.258	1.343	5.483	1.850	5.619
Artvin	102	152	1	255	35	63	414	195	524
Aydın	1.137	647	327	2.111	454	503	2.500	1.069	2.362
Balıkesir	1.002	719	82	1.803	356	528	2.798	1.367	2.606
Bilecik	125	145	0	270	56	75	416	179	572
Bingöl	127	188	2	317	58	77	632	278	685
Bitlis	157	242	2	401	65	76	757	249	688
Bolu	363	203	174	740	186	148	1.059	287	963
Burdur	191	204	1	396	78	124	639	345	831
Bursa	2.720	1.457	768	4.945	1.092	1.099	6.338	1.800	5.414
Çanakkale	546	312	163	1.021	179	219	1.375	601	1.374
Çankırı	107	130	1	238	51	72	419	166	683
Çorum	378	348	42	768	127	208	1.397	478	1.334
Denizli	1.031	535	362	1.928	388	500	2.548	1.040	2.599
Diyarbakır	1.228	953	472	2.653	406	438	3.684	1.030	3.037
Edirne	538	258	390	1.186	176	189	1.365	398	1.131
Elazığ	586	376	13	975	200	209	1.795	577	1.488
Erzincan	217	157	44	418	66	81	531	212	656
Erzurum	696	518	372	1.586	281	248	2.426	611	1.900
Eskişehir	1.031	457	419	1.907	380	401	2.874	759	2.462
Gaziantep	1.587	959	361	2.907	507	681	4.188	1.169	3.225
Giresun	346	314	18	678	99	197	1.191	490	1.415
Gümüşhane	88	98	0	186	38	43	331	123	401
Hakkari	148	125	0	273	41	49	428	178	501
Hatay	1.195	894	200	2.289	443	622	3.134	973	2.973
Isparta	547	275	260	1.082	267	214	1.607	539	1.400
Mersin	1.565	941	327	2.833	566	796	3.968	1.695	3.813
İstanbul	20.203	6.734	6.115	33.052	7.539	5.999	34.502	6.116	27.392
İzmir	6.256	2.323	2.468	11.047	2.226	2.015	10.093	2.715	8.853
Kars	193	179	39	411	50	67	569	288	585
Kastamonu	215	282	4	501	91	145	840	267	1.045
Kayseri	1.273	743	705	2.721	533	633	3.429	1.044	3.478
Kırklareli	279	222	1	502	125	155	727	332	793
Kırşehir	195	158	10	363	50	100	487	256	746
Kocaeli	1.779	898	332	3.009	626	561	4.083	1.190	3.845

Source: General Directorate of Health Services

Table 10.10. Some Health Indicators by Provinces, 2018 - Continued

City	Specialist Physician	General Practitioner	Medical Resident	Total Physician	Total Dentist	Pharmacist	Nurse	Midwife	Other Health Personnel
Konya	2.017	1.234	1.007	4.258	763	952	5.414	1.412	5.086
Kütahya	363	394	6	763	153	208	1.442	468	1.433
Malatya	838	505	365	1.708	301	305	2.225	914	2.163
Manisa	1.308	795	277	2.380	359	591	3.262	1.214	2.842
Kahramanmaraş	764	640	215	1.619	238	364	2.726	812	2.549
Mardin	415	503	3	921	157	235	1.376	537	1.432
Muğla	940	607	105	1.652	400	500	1.928	892	2.200
Muş	165	220	2	387	52	76	689	262	626
Nevşehir	176	195	0	371	75	120	552	241	809
Niğde	220	223	0	443	75	124	727	335	905
Ordu	568	480	24	1.072	248	298	1.804	703	1.830
Rize	322	222	157	701	140	133	993	254	898
Sakarya	780	541	239	1.560	297	350	1.863	638	1.761
Samsun	1.439	766	532	2.737	511	539	3.811	1.106	3.715
Siirt	168	210	1	379	50	89	708	186	626
Sinop	141	153	0	294	60	89	551	193	681
Sivas	559	400	248	1.207	245	235	1.941	607	1.786
Tekirdağ	798	489	130	1.417	344	348	1.871	587	1.783
Tokat	422	362	149	933	208	217	1.650	555	1.654
Trabzon	852	488	431	1.771	350	358	2.835	681	2.605
Tunceli	59	87	1	147	32	23	207	148	350
Şanlıurfa	1.017	1.070	168	2.255	326	578	3.071	1.040	2.527
Uşak	286	222	0	508	130	139	921	498	860
Van	618	546	245	1.409	197	227	2.410	702	2.011
Yozgat	282	325	41	648	84	149	1.083	427	1.117
Zonguldak	505	322	209	1.036	210	229	1.709	470	1.289
Aksaray	272	238	0	510	90	176	778	294	963
Bayburt	50	62	0	112	17	20	203	78	263
Karaman	171	156	0	327	65	107	596	228	632
Kırıkkale	284	164	192	640	134	109	605	249	1.034
Batman	370	348	0	718	97	163	1.195	371	1.182
Şırnak	213	237	5	455	83	104	661	232	624
Bartın	119	128	1	248	48	84	425	168	409
Ardahan	59	75	0	134	25	24	223	110	304
Iğdır	90	112	3	205	35	57	368	140	332
Yalova	241	145	2	388	91	100	538	177	643
Karabük	236	156	31	423	68	98	671	238	701
Kilis	121	156	0	277	37	53	419	150	462
Osmaniye	330	317	1	648	142	205	1.041	448	1.381
Düzce	308	179	167	654	99	115	775	233	749
Turkey	82.894	44.053	26.181	153.128	30.615	32.032	190.499	56.351	177.409

Source: General Directorate of Health Services

Explanations for Chapter 10

☑ Data collection method was changed in 2018 and personnel data were obtained from Health Personnel Tracking System (SPTS) Database.

☑ Number of health care professionals working in central organization is not included in personnel data within chapter for the 2018. Health care professionals working in central organization by titles are given in Table 10.4.

☑ The numbers of the SSI staff in years 2002 were included in the number of the Ministry of Health staff.

☑ The numbers of the health personnel working in the institutions and organizations affiliated to the Ministry of National Defence are not included in the numbers of personnel before 2012.

☑ 4-point Likert was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the Likert borders. The value of the provinces was rounded up to the closest whole number. These whole numbers were taken into account while making the Likert scales.

☑ Totals in distribution tables and figures in the Chapter may not add up to 100% due to rounding.

☑ Values in the tables and figures in the Chapter may not give the sum due to rounding.

☑ **Owner Pharmacist and Pharmacist Manager:** Pharmacist who has a Pharmacy license and right to operate a pharmacy.

☑ **Second Pharmacist:** In community pharmacy, second pharmacist work with the pharmacist who is owner of pharmacy or responsible for the pharmacy. They work in this pharmacy according to the prescribing number or endorsement of pharmacy or they can work independent of these criteria.

☑ **Graduated Intern Pharmacist:** In 2013 and later years, after graduating from the faculty of pharmacy, the pharmacists, who is called graduated intern pharmacist, work with responsible manager in community pharmacy or hospital pharmacy under the service contract for at least one year. It is a necessary condition to open a community pharmacy or to work as a responsible manager in a community pharmacy.

☑ Healthcare Professionals working in the following branches were included in the category of "Other Healthcare Professionals": Surgery Technician, Anesthesia Technician, Biologist, Environmental Health Technician, Child Development Specialist, Dental Technician, Dental Technician, Dietitian, Physical Therapy Technician, Physiotherapist, Emergency and First Aid Technician, First and Emergency Care Repairman, Heart-Lung Pump Operation Technician, Laboratory Repairman, Laboratory Technician, Audiologist, Audiometric Repairman, Audiometric Technician, Orthopedic Technician, Pathological Anatomy Technician, Perfusion Pump Technician, Prosthetic Technician, Psychologist, Radiographer, Health Physicist, Health Officer of the War, Health Technician, Health Repairman, Cytopathologist, Social Worker, Medical Secretary, Medical Technologist, Public Health Technician.

***Repairmen:** Person who graduated from Vocational High School

***Technician:** Person who graduated from High School

☑ "Other Institutions" which are indicated in the distribution of the Ministry of Health personnel: include 112 Emergency Care Center, Tuberculosis Dispensary, Cancer Early Diagnosis and Screening Center, Public Health Laboratory, CEKUS Unit, Oral and Dental Health Center personnel.

☑ In the table where the Medical Faculty Statistics are given: Ataturk University, Gazi, Hacettepe and Istanbul Universities offer medical education both in English and in Turkish in different departments and they are not listed separately. The number of faculty members from other departments is not included.

☑ Faculty professors, associate professors, and assistant professors are included in the number of academic staff member in faculty.

Chapter 11

Health Economics and Financing

Table 11.1. Current, Investment and Total Health Expenditure by Years

Year	Unit	GDP	Current Health Expenditure	Proportion of Current Health Expenditure to the GDP (%)	Investment Expenditure	Proportion of Investment Expenditure to the GDP (%)	Total Health Expenditure (Current + Investment)	Proportion of Total Health Expenditure to the GDP (%)
2002	Million ₺	359.359	18.331	5,1	443	0,1	18.774	5,2
	Million US $	236.336	12.056		291		12.347	
	Million PPP US $	607.794	31.004		749		31.753	
2005	Million ₺	673.703	33.292	4,9	2.067	0,3	35.359	5,2
	Million US $	499.877	24.702		1.534		26.236	
	Million PPP US $	807.227	39.890		2.477		42.367	
2006	Million ₺	789.228	40.949	5,2	3.120	0,4	44.069	5,6
	Million US $	547.834	28.424		2.166		30.590	
	Million PPP US $	936.569	48.593		3.703		52.296	
2007	Million ₺	880.461	46.495	5,3	4.409	0,5	50.904	5,8
	Million US $	677.439	35.774		3.392		39.167	
	Million PPP US $	1.033.243	54.563		5.174		59.738	
2008	Million ₺	994.783	52.320	5,3	5.420	0,5	57.740	5,8
	Million US $	776.640	40.847		4.231		45.078	
	Million PPP US $	1.130.486	59.457		6.159		65.617	
2009	Million ₺	999.192	55.294	5,5	2.616	0,3	57.911	5,8
	Million US $	646.895	35.799		1.694		37.492	
	Million PPP US $	1.104.759	61.136		2.893		64.029	
2010	Million ₺	1.160.014	58.623	5,1	3.054	0,3	61.678	5,3
	Million US $	772.367	39.033		2.034		41.067	
	Million PPP US $	1.260.360	63.694		3.319		67.013	
2011	Million ₺	1.394.477	65.372	4,7	3.236	0,2	68.607	4,9
	Million US $	831.691	38.989		1.930		40.919	
	Million PPP US $	1.443.295	67.660		3.349		71.009	
2012	Million ₺	1.569.672	70.288	4,5	3.901	0,2	74.189	4,7
	Million US $	871.123	39.008		2.165		41.173	
	Million PPP US $	1.539.112	68.919		3.825		72.744	
2013	Million ₺	1.809.713	79.702	4,4	4.688	0,3	84.390	4,7
	Million US $	950.351	41.855		2.462		44.317	
	Million PPP US $	1.690.856	74.467		4.380		78.848	
2014	Million ₺	2.044.466	88.878	4,3	5.871	0,3	94.750	4,6
	Million US $	934.855	40.641		2.685		43.325	
	Million PPP US $	1.851.026	80.469		5.316		85.785	
2015	Million ₺	2.338.647	96.786	4,1	7.782	0,3	104.568	4,5
	Million US $	861.879	35.669		2.868		38.537	
	Million PPP US $	2.012.361	83.282		6.696		89.978	
2016	Million ₺	2.608.526	112.540	4,3	7.216	0,3	119.756	4,6
	Million US $	862.744	37.222		2.387		39.608	
	Million PPP US $	2.087.370	90.056		5.774		95.830	
2017	Million ₺	3.110.650	130.981	4,2	9.666	0,3	140.647	4,5
	Million US $	852.618	35.901		2.650		38.551	
	Million PPP US $	2.264.002	95.331		7.035		102.366	
2018	Million ₺	3.724.388	154.998	4,2	10.236	0,3	165.234	4,4
	Million US $	789.043	32.838		2.169		35.006	
	Million PPP US $	2.310.621	96.161		6.350		102.512	

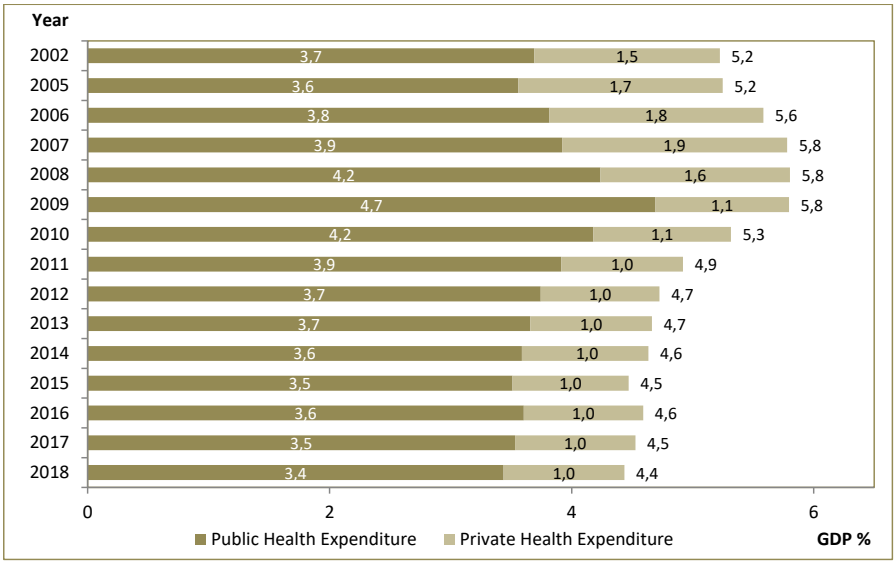
Source: TURKSTAT

Table 11.2. Public Current, Public Investment and Total Public Health Expenditure by Years

Year	Unit	Public Current Health Expenditure	Proportion of Public Current Health Expenditure to the GDP (%)	Public Investment Expenditure	Proportion of Public Investment Expenditure to the GDP (%)	Total Public Health Expenditure (Current + Investment)	Proportion of Total Public Health Expenditure to the GDP (%)
2002	Million ₺	12.827	3,6	443	0,1	13.270	3,7
	Million US $	8.436		291		8.727	
	Million PPP US $	21.695		749		22.444	
2005	Million ₺	22.554	3,3	1.433	0,2	23.987	3,6
	Million US $	16.735		1.063		17.798	
	Million PPP US $	27.024		1.717		28.741	
2006	Million ₺	28.194	3,6	1.922	0,2	30.116	3,8
	Million US $	19.571		1.334		20.905	
	Million PPP US $	33.458		2.281		35.738	
2007	Million ₺	31.981	3,6	2.549	0,3	34.530	3,9
	Million US $	24.607		1.961		26.568	
	Million PPP US $	37.531		2.991		40.522	
2008	Million ₺	38.033	3,8	4.126	0,4	42.159	4,2
	Million US $	29.693		3.221		32.914	
	Million PPP US $	43.221		4.689		47.910	
2009	Million ₺	44.511	4,5	2.379	0,2	46.890	4,7
	Million US $	28.817		1.540		30.357	
	Million PPP US $	49.214		2.630		51.844	
2010	Million ₺	45.726	3,9	2.756	0,2	48.482	4,2
	Million US $	30.445		1.835		32.280	
	Million PPP US $	49.681		2.994		52.675	
2011	Million ₺	51.728	3,7	2.852	0,2	54.580	3,9
	Million US $	30.851		1.701		32.552	
	Million PPP US $	53.539		2.952		56.490	
2012	Million ₺	55.648	3,5	3.137	0,2	58.785	3,7
	Million US $	30.883		1.741		32.624	
	Million PPP US $	54.564		3.076		57.640	
2013	Million ₺	62.447	3,5	3.781	0,2	66.228	3,7
	Million US $	32.793		1.986		34.779	
	Million PPP US $	58.345		3.533		61.878	
2014	Million ₺	68.974	3,4	4.407	0,2	73.382	3,6
	Million US $	31.539		2.015		33.555	
	Million PPP US $	62.448		3.990		66.438	
2015	Million ₺	75.622	3,2	6.499	0,3	82.121	3,5
	Million US $	27.870		2.395		30.265	
	Million PPP US $	65.072		5.592		70.664	
2016	Million ₺	88.279	3,4	5.733	0,2	94.012	3,6
	Million US $	29.197		1.896		31.093	
	Million PPP US $	70.642		4.588		75.229	
2017	Million ₺	101.786	3,3	7.958	0,3	109.744	3,5
	Million US $	27.899		2.181		30.080	
	Million PPP US $	74.082		5.792		79.874	
2018	Million ₺	119.941	3,2	8.080	0,2	128.021	3,4
	Million US $	25.411		1.712		27.122	
	Million PPP US $	74.412		5.013		79.425	

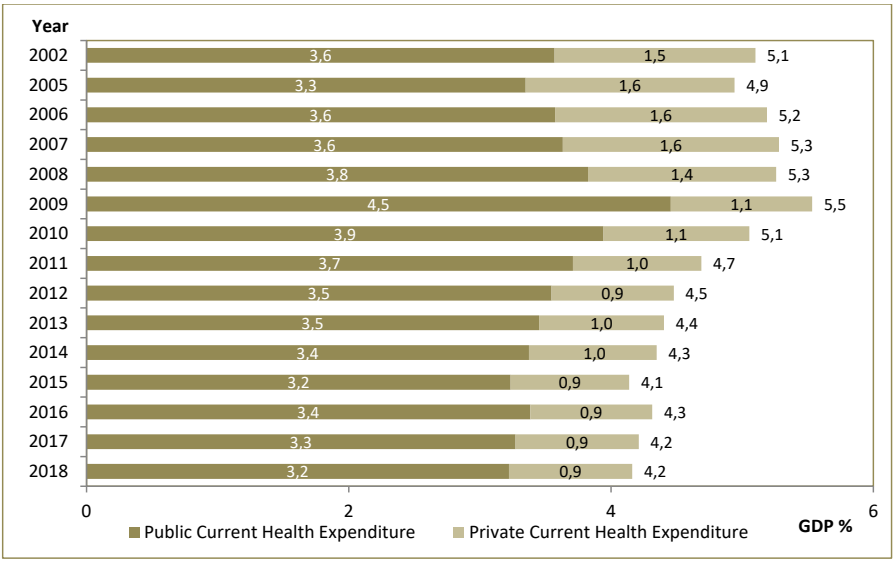
Source: TURKSTAT

Figure 11.1. Public and Private Health Expenditure as a Share of GDP by Years, (%)



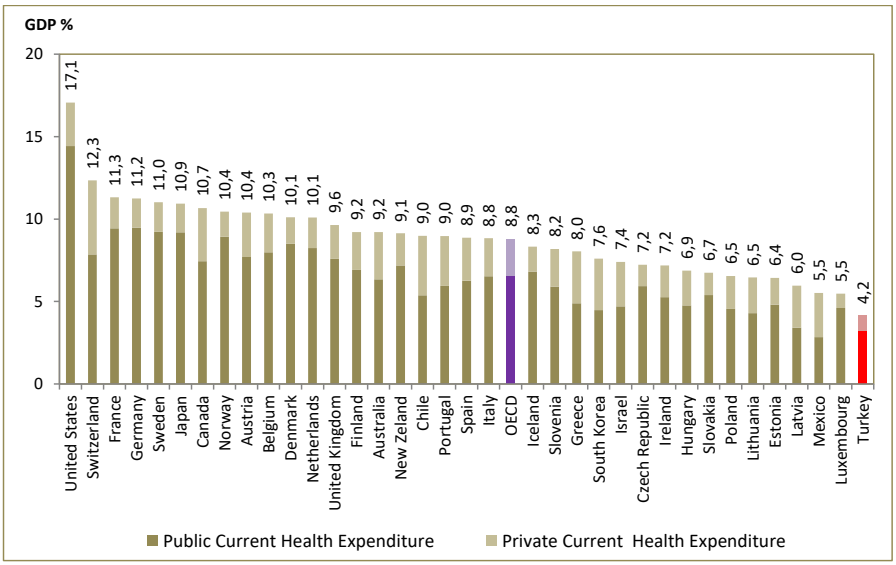
Source: TURKSTAT

Figure 11.2. Public and Private Current Health Expenditure as a Share of GDP by Years, (%)



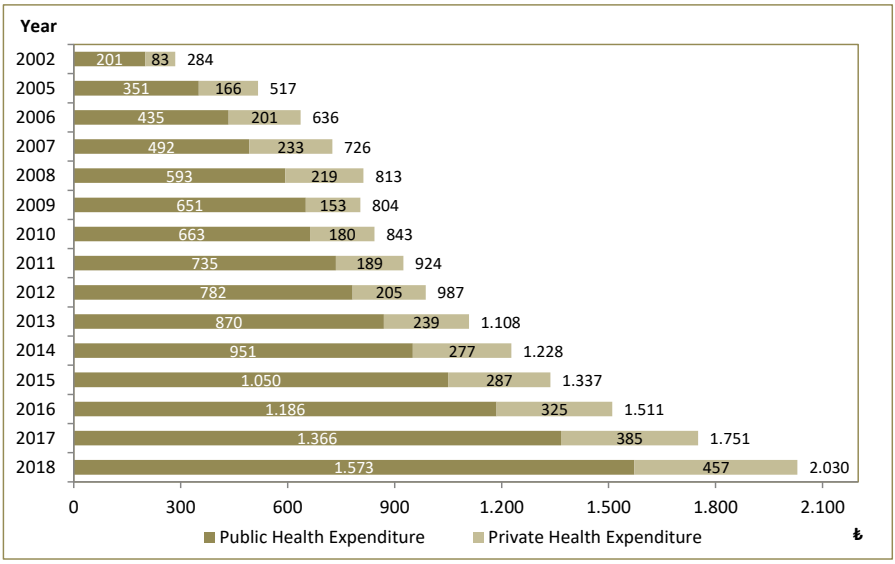
Source: TURKSTAT

Figure 11.3. International Comparison of Current Health Expenditure as a Share of GDP, (%), 2017



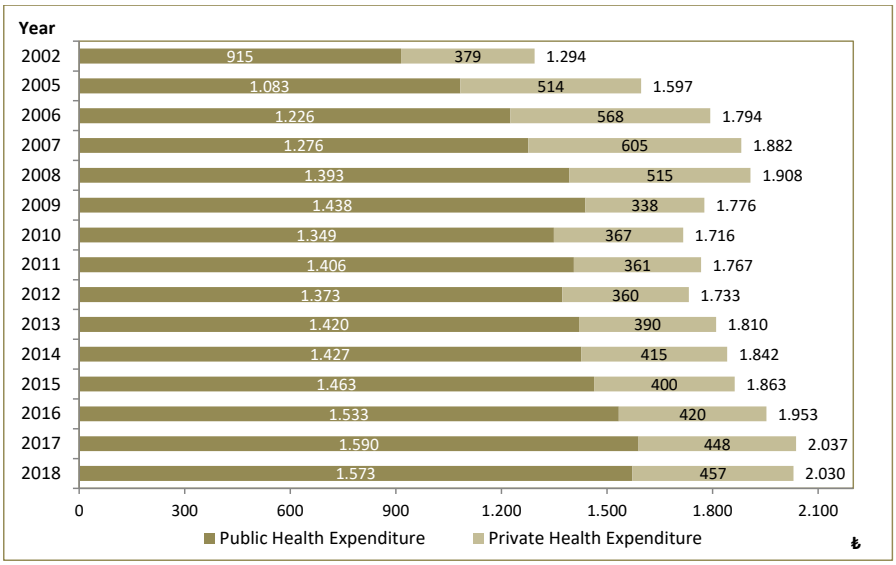
Source: TURKSTAT, OECD Health Data 2019
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year 2017 or nearest.

Figure 11.4. Public and Private Health Expenditure per Capita by Years, Nominal, in ₺



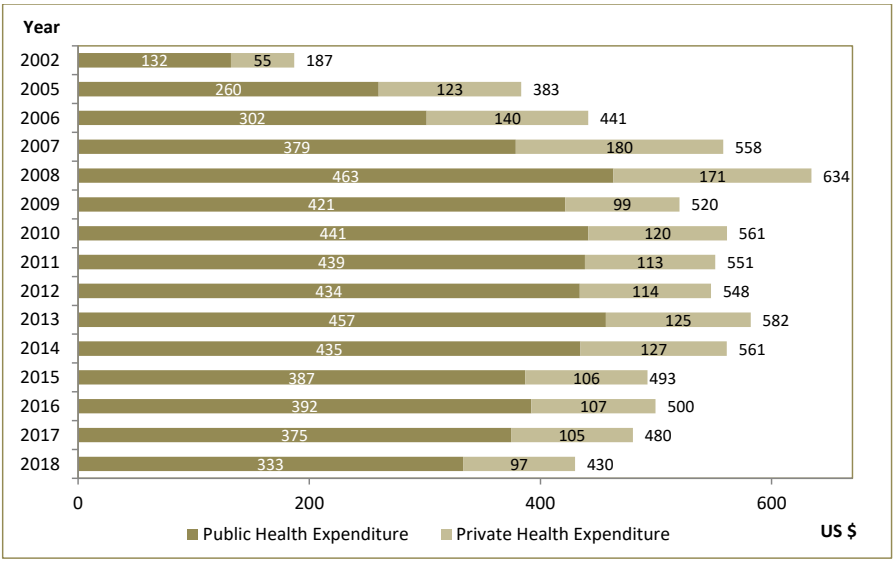
Source: TURKSTAT

Figure 11.5. Public and Private Health Expenditure per Capita at 2018 Price Level by Years, Real, in ₺



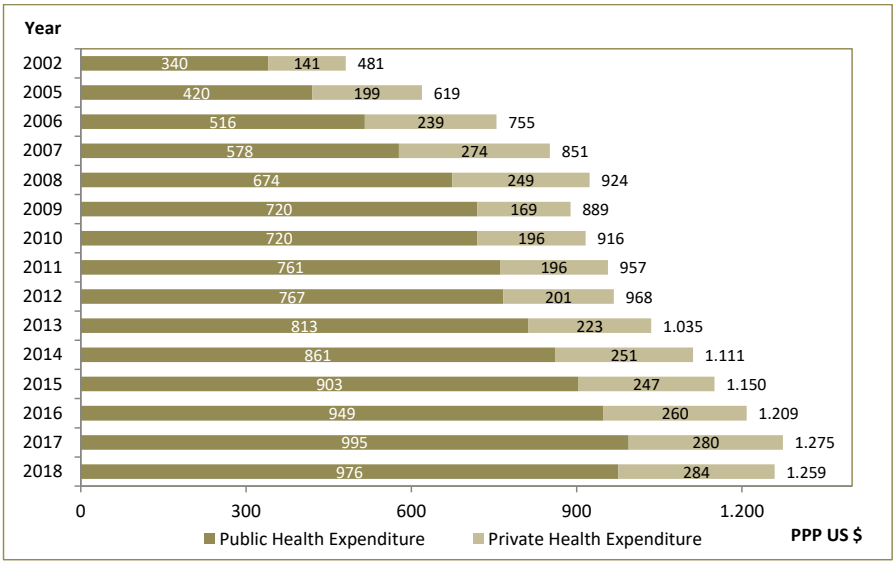
Source: TURKSTAT

Figure 11.6. Public and Private Health Expenditure per Capita by Years, in US $



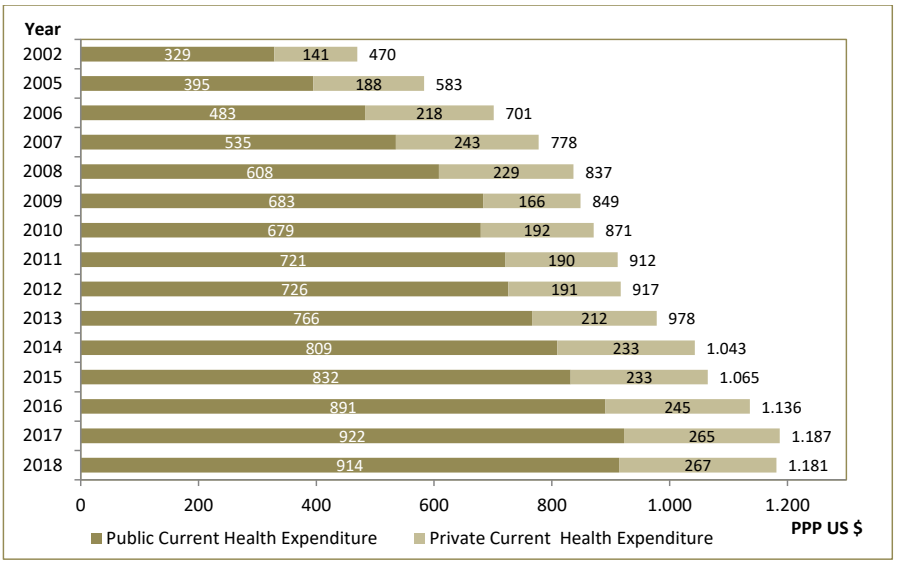
Source: TURKSTAT

Figure 11.7. Public and Private Health Expenditure per Capita by Years, PPP US $



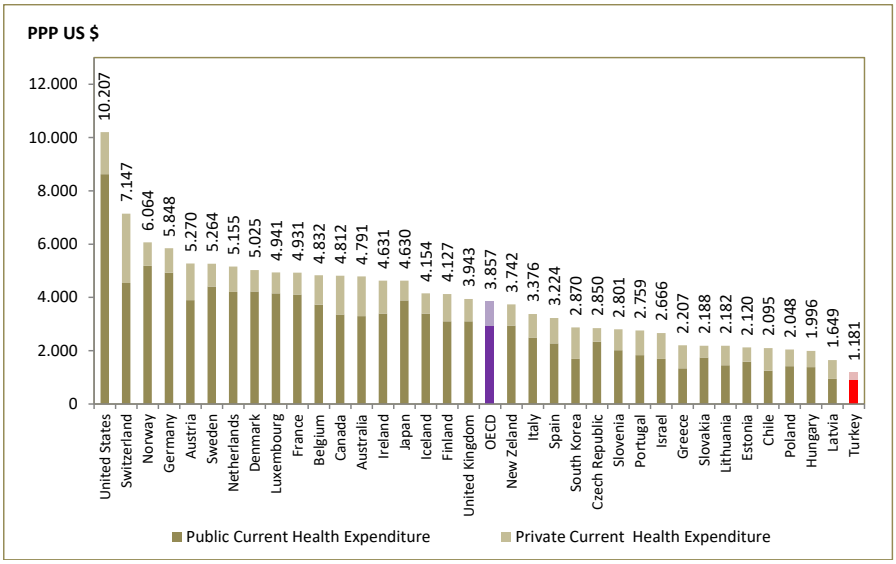
Source: TURKSTAT

Figure 11.8. Public and Private Current Health Expenditure per Capita by Years, PPP US $



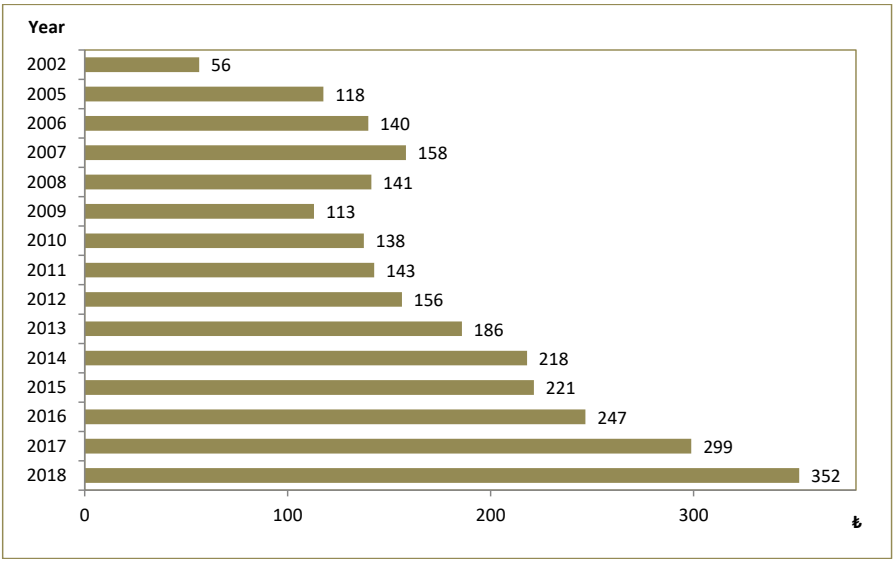
Source: TURKSTAT

Figure 11.9. International Comparison of Current Health Expenditure per Capita, PPP US $, 2017



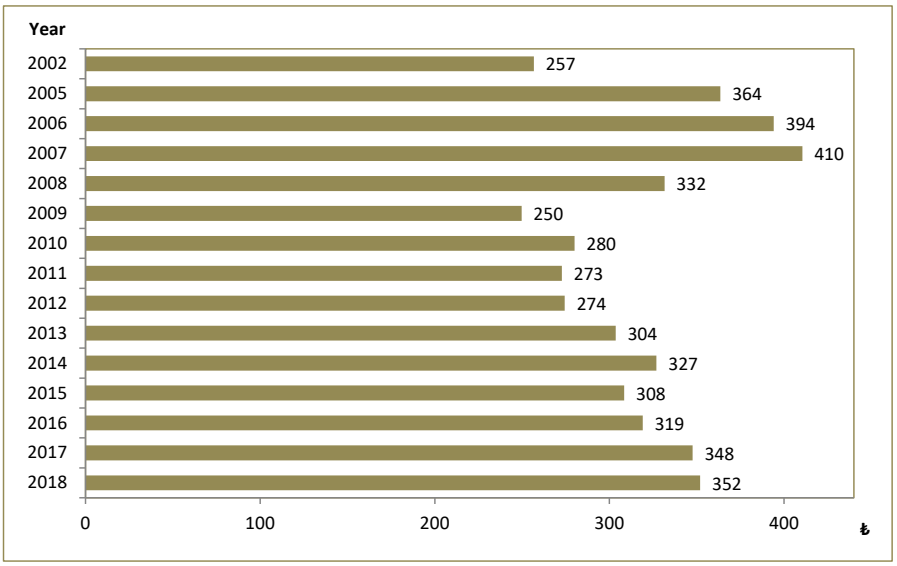
Source: TURKSTAT, OECD Health Data 2019
Note: Turkey's data belong to the year 2018. Countries' data belong to the year 2017 or nearest.

Figure 11.10. Out-of-Pocket Health Expenditure per Capita by Years, Nominal, in ₺



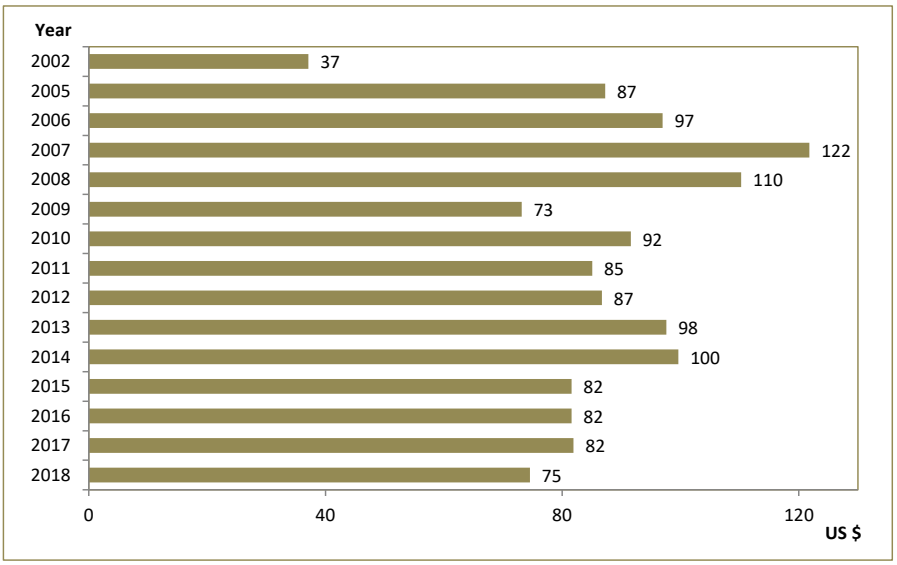
Source: TURKSTAT

Figure 11.11. Out-of-Pocket Health Expenditure per Capita at 2018 Price Level, Real, in ₺



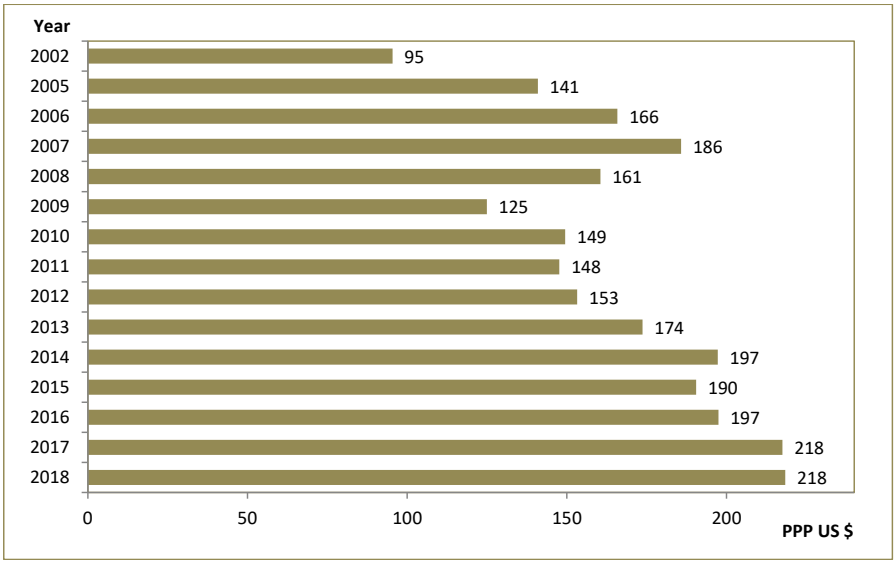
Source: TURKSTAT

Figure 11.12. Out-of-Pocket Health Expenditure per Capita by Years, in US $



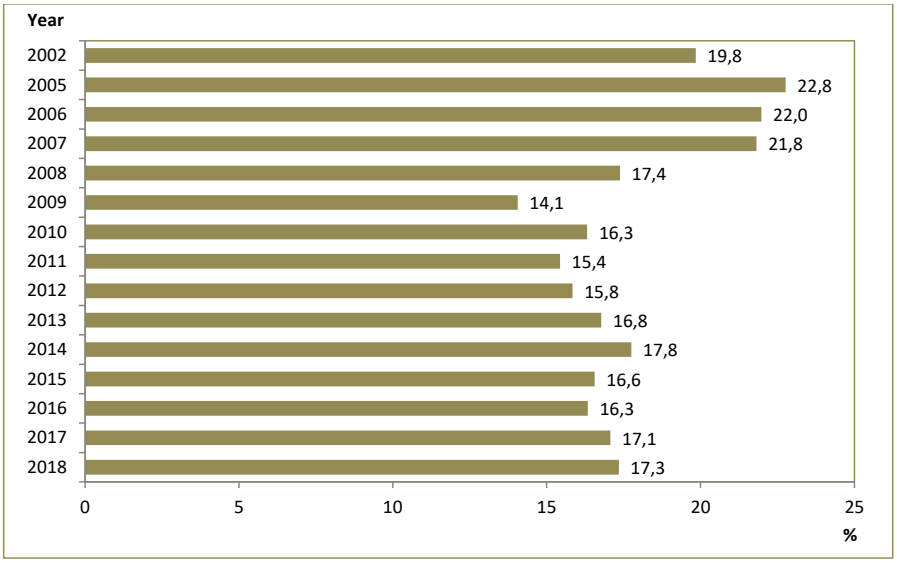
Source: TURKSTAT

Figure 11.13. Out-of-Pocket Health Expenditure per Capita by Years, PPP US $



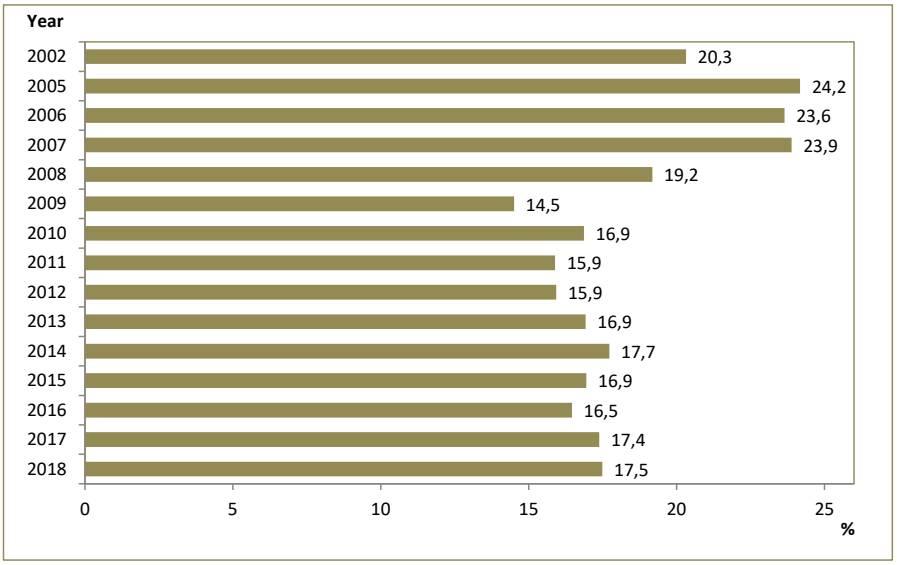
Source: TURKSTAT

Figure 11.14. Out-of-Pocket Health Expenditure as a Share of Total Health Expenditure by Years, (%)



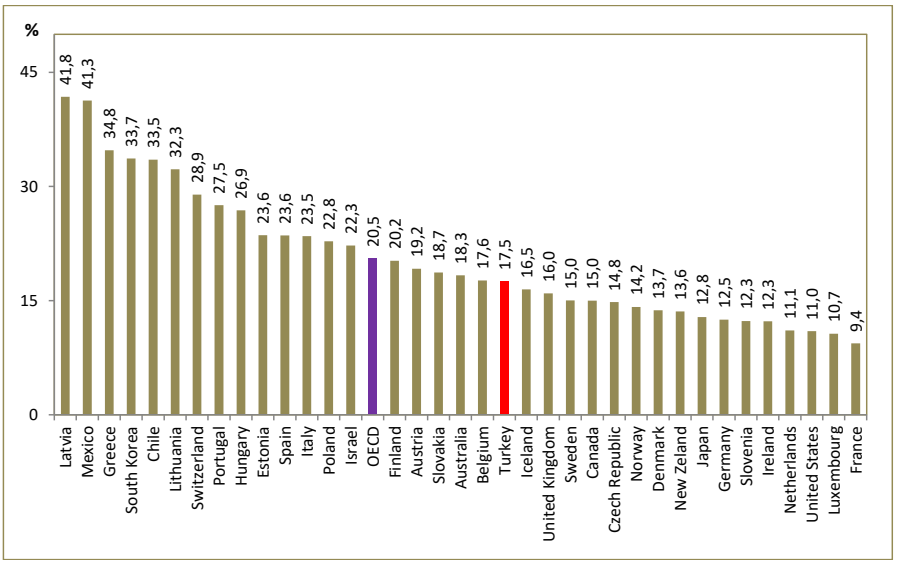
Source: TURKSTAT

Figure 11.15. Out-of-Pocket Current Health Expenditure as a Share of Total Current Health Expenditure by Years, (%)



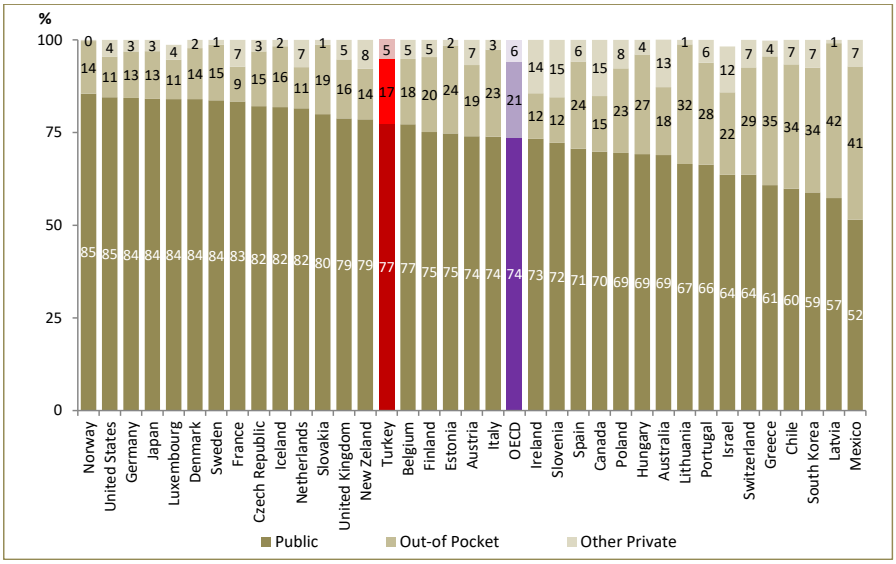
Source: TURKSTAT

Figure 11.16. International Comparison of Out-of-Pocket Current Health Expenditure as a Share of Current Health Expenditure, (%), 2017



Source: TURKSTAT, OECD Health Data 2019
Note: Turkey's data belongs to the year 2018. Countries' data belong to the year 2017 or nearest.

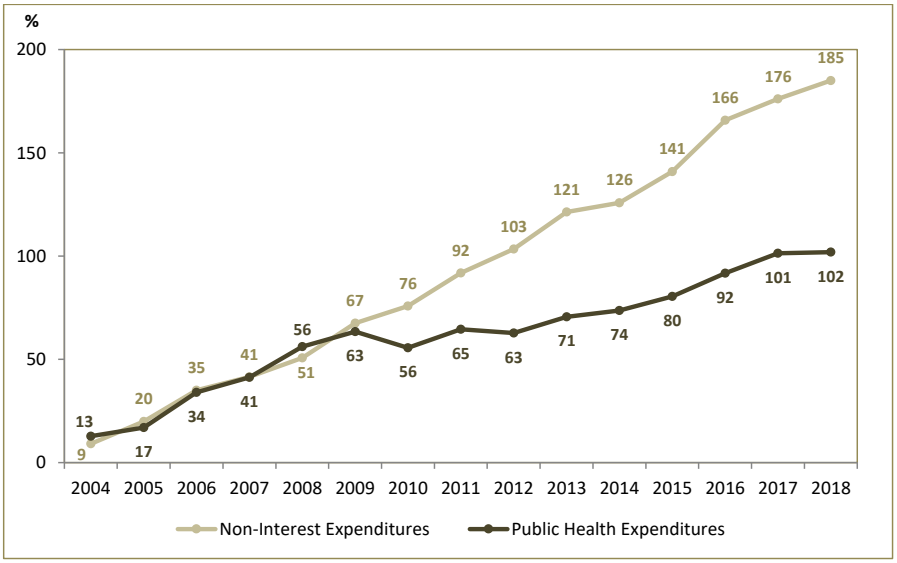
Figure 11.17. International Comparison of Distribution of Current Health Expenditure by Financing Type, 2017



Source: TURKSTAT, OECD Health Data 2019

Note: Turkey's data belong to the year 2018. Countries' data belong to the year 2017 or nearest. Some countries' total does not give 100% due to having some other financing types.

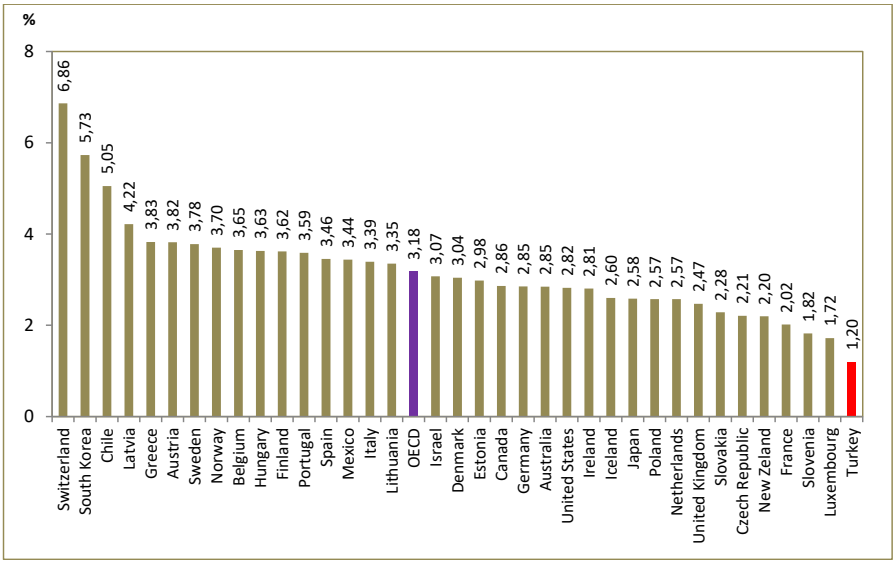
Figure 11.18. Rates of Increase of Non-Interest Expenditures and Public Health Expenditures by Years, (%)



Source: Public Health Expenditure; 2003-2018 TURKSTAT, Non-Interest Expenditures; Presidency of Turkey, Directorate of Strategy and Budgeting

Note: Rates of increase were calculated based on the year 2003.

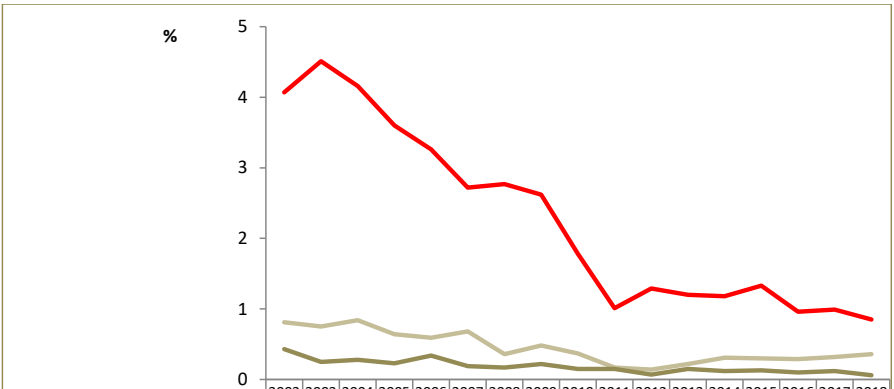
Figure 11.19. International Comparison of Ratio of Out-of-Pocket Current Health Expenditure in Household Final Consumption Expenditure, 2017



Source: TURKSTAT, OECD Health Data 2019

Note: Turkey's data belongs to the year 2018. Countries' data belong to the year 2017 or nearest.

Figure 11.20. Catastrophic Health Expenditure by Years, (%)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ratio of Poor Households	4,07	4,51	4,16	3,60	3,26	2,72	2,77	2,62	1,78	1,01	1,29	1,20	1,18	1,33	0,96	0,99	0,85
Ratio of Households Who Do Catastrophic Health Expenditure	0,81	0,75	0,84	0,64	0,59	0,68	0,36	0,48	0,37	0,17	0,14	0,22	0,31	0,30	0,29	0,32	0,36
Ratio of Impoverished Households Due to Health Expenditure	0,43	0,25	0,28	0,23	0,34	0,19	0,17	0,22	0,15	0,15	0,07	0,15	0,12	0,13	0,10	0,12	0,06

Source: TURKSTAT, Household Budget Survey

Explanations for Chapter 11

☑ Tables and graphs on health expenditures were calculated by TURKSTAT according to the OECD System of Health Accounts.

☑ While the expenditure figures were being converted into real figures, CPI 12-month average change rate released by the TURKSTAT was used.

☑ **Total Health Expenditure:** All expenditures made for prevention, improvement, care, nutrition and emergency programs designed to promote and prevent health status are defined as "Health Expenditures". Total Health Expenditure is the sum of Current Health Expenditure and Investment Expenditure.

☑ **Current Health Expenditure:** It is calculated by subtracting Investment Expenditure from Total Health Expenditure.

☑ **Catastrophic Health Expenditure:** Households with rate of health expenditure to payment capacity is greater than 40% are described as "households with catastrophic health expenditures".

☑ Totals in distribution tables and figures in the Chapter may not add up to 100% due to rounding.

☑ Values in the tables and figures in the Chapter may not give the sum due to rounding.

Year	Mid-year Population (in thousand)	US $	PPP US $	CPI
2002	66.003	1,521	0,591	4,550
2003	66.795	1,492	0,737	3,631
2004	67.599	1,432	0,793	3,344
2005	68.435	1,348	0,835	3,091
2006	69.295	1,441	0,843	2,820
2007	70.158	1,300	0,852	2,593
2008	71.052	1,281	0,880	2,348
2009	72.039	1,545	0,904	2,210
2010	73.142	1,502	0,920	2,035
2011	74.224	1,677	0,966	1,912
2012	75.176	1,802	1,020	1,756
2013	76.148	1,904	1,070	1,633
2014	77.182	2,187	1,105	1,500
2015	78.218	2,713	1,162	1,393
2016	79.278	3,024	1,250	1,293
2017	80.313	3,648	1,374	1,163
2018	81.407	4,720	1,612	1

Source: TURKSTAT