



# HEALTH STATISTICS YEARBOOK 2021

♥ 90 bpm	Heart Rate
💧 120-80 mmHg	Blood Pressure
📊 22 kg/m <sup>2</sup>	Body Mass Index
🍏 2300 kcal	Daily Calories
👣 10.000 steps	Daily Steps

♥ 90 bpm	Heart Rate
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🍏 2000 kcal	Daily Calories
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**THE MINISTRY of HEALTH of TÜRKİYE**  
**HEALTH STATISTICS YEARBOOK**  
**2021**

**In Health Statistics Yearbook 2021, statistics were calculated according to international standard definition.**

**Ankara 2023**

**THE MINISTRY of HEALTH of TÜRKİYE**  
**HEALTH STATISTICS YEARBOOK**  
**2021**

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## Nomenclature of Territorial Units for Statistics (Nuts)

NUTS-1	NUTS-2	NUTS-3	
Mediterranean	Antalya Subregion	Antalya	
		Isparta Burdur	
	Adana Subregion	Adana Mersin	
Hatay Subregion	Hatay Subregion	Hatay Kahramanmaraş Osmaniye	
		Ankara Subregion	Ankara
		Konya Subregion	Konya Karaman
Western Blacksea	Zonguldak Subregion	Zonguldak Karabük Bartın	
	Kastamonu Subregion	Kastamonu Çankırı Sinop	
	Samsun Subregion	Samsun Tokat Çorum Amasya	
Western Marmara	Tekirdağ Subregion	Tekirdağ Edirne Kırklareli	
	Balıkesir Subregion	Balıkesir Çanakkale	
Eastern Blacksea	Trabzon Subregion	Trabzon Ordu Giresun Rize Artvin Gümüşhane	
Eastern Marmara	Bursa Subregion	Bursa Eskişehir Bilecik	
	Kocaeli Subregion	Kocaeli Sakarya Düzce Bolu Yalova	

NUTS-1	NUTS-2	NUTS-3
Aegean	İzmir Subregion	İzmir
	Aydın Subregion	Aydın Denizli Muğla
	Manisa Subregion	Manisa Afyonkarahisar Kütahya Uşak
Southeastern Anatolia	Gaziantep Subregion	Gaziantep Adıyaman Kilis
	Şanlıurfa Subregion	Şanlıurfa Diyarbakır
	Mardin Subregion	Mardin Batman Şırnak Siirt
Istanbul	İstanbul Subregion	İstanbul
Northeastern Anatolia	Erzurum Subregion	Erzurum Erzincan Bayburt
	Ağrı Subregion	Ağrı Kars Iğdır Ardahan
Mideastern Anatolia	Malatya Subregion	Malatya Elazığ Bingöl Tunceli
	Van Subregion	Van Muş Bitlis Hakkari
Central Anatolia	Kırıkkale Subregion	Kırıkkale Aksaray Niğde Nevşehir Kırşehir
	Kayseri Subregion	Kayseri Sivas Yozgat

## Abbreviations

<b>ABPRS</b>	: Address Based Population Registration System
<b>ATC</b>	: Anatomical Therapeutic Chemical
<b>BCG</b>	: Bacillus Calmette-Guerin Vaccination
<b>BMI</b>	: Body Mass Index
<b>CHC</b>	: Community Health Center
<b>CEKUS</b>	: Child, Adolescent, Women and Reproductive Health Unit
<b>CKYS</b>	: Core Resource Management System
<b>cm</b>	: Centimeter
<b>COPD</b>	: Chronic Obstructive Pulmonary Disease
<b>CPI</b>	: Consumer Price Index
<b>CPV</b>	: Conjugated Pneumococcal Vaccination
<b>CT</b>	: Computerized Tomography
<b>DALY</b>	: Disability Adjusted Life Years
<b>DaPT</b>	: Diphtheria aceluler Pertussis Tetanus Vaccination
<b>DDD</b>	: Daily Defined Dose
<b>dl</b>	: Deciliter
<b>ECHO</b>	: Echocardiography
<b>EKIP</b>	: Integrated Corporate Transaction Platform
<b>EU</b>	: European Union
<b>EUROSTAT</b>	: Office of European Statistics
<b>FAO</b>	: Food and Agriculture Organization
<b>FMIS</b>	: Family Medicine Information System
<b>GBD</b>	: Global Burden of Disease
<b>GDP</b>	: Gross Domestic Product
<b>GLOBOCAN</b>	: Global Cancer Observatory
<b>GNI</b>	: Gross National Income
<b>gr</b>	: Gram
<b>HALE</b>	: Health Adjusted Life Expectancy
<b>HBV</b>	: Hepatitis B Vaccination
<b>HbA1c</b>	: Hemoglobin A1c (Glycolized Hemoglobin)
<b>HDL</b>	: High Density Lipoproteins
<b>Hib</b>	: Haemophilus Influenza Type B Vaccination
<b>HLC</b>	: Healthy Life Center
<b>HSYS</b>	: Public Health Management System
<b>IARC</b>	: International Agency for Research on Cancer
<b>ICD-10</b>	: International Classification of Diseases
<b>IDF</b>	: International Diabetes Federation
<b>IHME</b>	: Institute for Health Metrics and Evaluation
<b>IPV</b>	: Inactive Polio Vaccine
<b>ITS</b>	: Pharmaceutical Track and Trace System
<b>KETEM</b>	: Cancer Early Diagnosis, Screening and Training Centers
<b>Kg</b>	: Kilogram
<b>MCHFP</b>	: Mother-Child Health and Family Planning
<b>MERNIS</b>	: Central Population Management System
<b>MET</b>	: Metabolic Equivalent
<b>mg</b>	: Milligram
<b>MIZ</b>	: Spatial Business Intelligence
<b>mL</b>	: Milliliter

<b>MMR</b>	: Measles Mumps Rubella Vaccination
<b>MoND</b>	: Ministry of National Defense
<b>MoH</b>	: Ministry of Health
<b>MRI</b>	: Magnetic Resonance Imaging
<b>NUTS</b>	: Nomenclature of Territorial Units for Statistics
<b>OECD</b>	: Organization for Economic Cooperation and Development
<b>PAL</b>	: Physical Activity Level
<b>PET</b>	: Positron Emission Tomography
<b>PIS</b>	: Prescription Information System
<b>PPP</b>	: Purchasing Power Parity
<b>SINA</b>	: Health Statistics and Causal Analysis
<b>SPTS</b>	: Health Personnel Tracking System
<b>SSI</b>	: Social Security Institution
<b>TDHS</b>	: Türkiye Demographic and Health Survey
<b>₺</b>	: Turkish Lira
<b>TURKSTAT</b>	: Turkish Statistical Institute
<b>UNICEF</b>	: United Nations Children’s Fund
<b>UN IGME</b>	: United Nations Inter-Agency Group for Child Mortality Estimation
<b>UNPD</b>	: United Nations Population Division
<b>UNU</b>	: United Nations University
<b>WHO</b>	: World Health Organization
<b>YLD</b>	: Years Lived with Disability
<b>YLL</b>	: Years of Life Lost



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## General Explanations on Health Statistics Yearbook 2021

While the values of the indicators in the Health Statistics Yearbook 2021 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 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.
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 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.
4. 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.
5. Most of the values in the databases belong to two years ago.
6. For making international comparison, it was used population estimates of UN.
7. Numbers written alongside of EU, OECD and WHO indicate the number of countries included in the calculation.
8. ECDC (European Center for Disease Prevention and Control) reports used for annually international comparisons of communicable diseases. The reports, which include data of European countries, are based on the values which are reported from the countries

**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, 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, Russia, San Marino, Serbia, Slovakia, Slovenia, South Cyprus, Spain, Sweden, Switzerland, Tajikistan, Turkmenistan, Türkiye, Ukraine, United Kingdom, Uzbekistan.
- 2. Upper Middle Income Countries (Countries with GNI per capita between \$4.256 and \$13.205):** Albania, American Samoa, Argentina, Armenia, 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, Iraq, Jamaica, Jordan, Kazakhstan, Kosovo, Libya, Macedonia, Malaysia, Maldives, Marshall Islands, Mauritius, Mexico, Moldova, Montenegro, Namibia, Palau, Paraguay, Peru, Russia, Serbia, South Africa, St. Lucia, St. Vincent and the Grenadines, Suriname, Thailand, Tonga, Turkmenistan, Tuvalu, Türkiye.
- 3. High-Income Countries (Countries with GNI per capita of bigger than \$13.205):** Andorra, Antigua and Barbuda, Aruba, Australia, Austria, Bahamas, Bahrain, Barbados, Belgium, Bermuda, British Virgin Islands, Brunei Darussalam, Canada, Cayman Islands, Channel Islands, Chile, Croatia, Curaçao, Czech Republic, Denmark, Estonia, Faeroe Islands, Finland, France, French Polynesia, Germany, Gibraltar, Greece, Greenland, Guam, Hong Kong SAR - China, Hungary, Iceland, Ireland, Isle of Man, Israel, Italy, Japan, Kuwait, Latvia, Liechtenstein, Lithuania, Luxembourg, Macao SAR - China, Malta, Monaco, Nauru, Netherlands, New Caledonia, New Zealand, Northern Mariana Islands, Norway, Oman, Panama, Poland, Portugal, Puerto Rico, Qatar, Romania, San Marino, Saudi Arabia, Seychelles, Singapore, Sint Maarten (Dutch part), Slovakia, Slovenia, South Cyprus, South Korea, Spain, St. Kitts and Nevis, St. Martin (French part), Sweden, Switzerland, Taiwan - China, 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, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, South Cyprus, Spain, Sweden.
- 5. OECD Countries:** Australia, Austria, Belgium, Canada, Chile, Colombia, Costa Rica, 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, Türkiye, 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 2022 fiscal year and 2021 calendar year, the countries are defined below.

<b>Income Groups</b>	<b>Low</b>	<b>Lower-Middle</b>	<b>Middle-Upper</b>	<b>High</b>
<b>GNI (per capita) (US \$)</b>	≤ 1.085	1.086 – 4.255	4.256 – 13.205	> 13.205

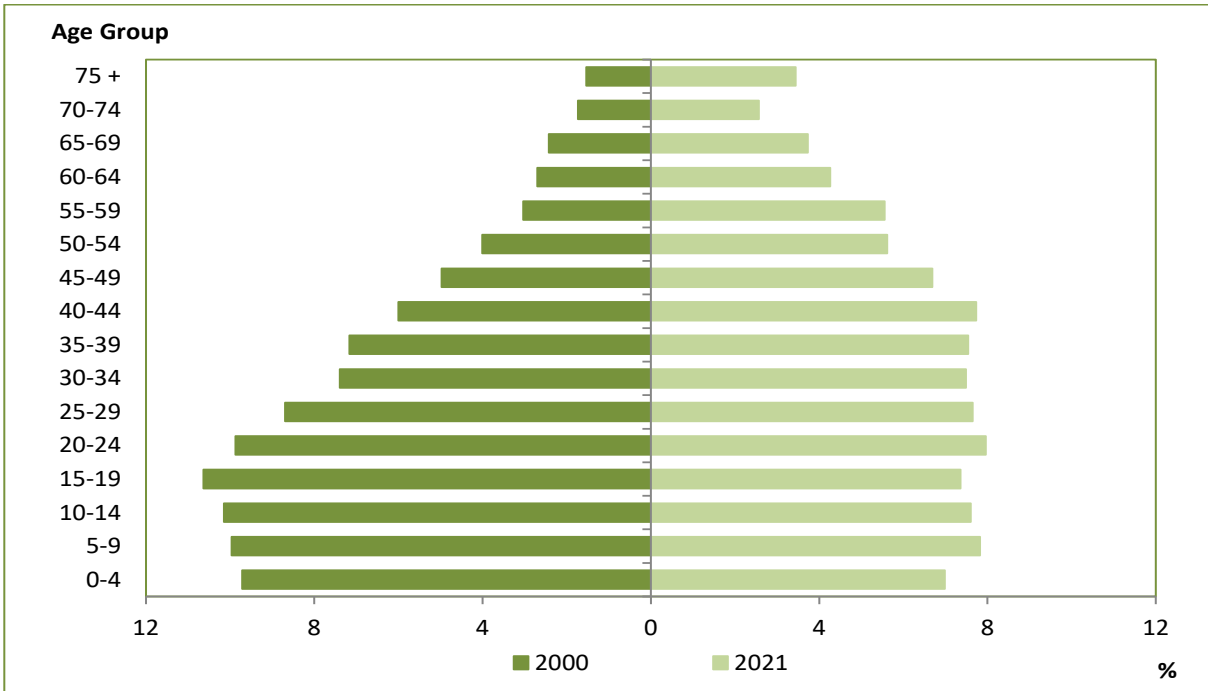
An abstract graphic on the left side of the page, consisting of a complex network of thin green lines connecting various nodes. The nodes are represented by small, semi-transparent green circles of varying sizes and shades, some appearing as dark green dots and others as lighter, more ethereal spheres. The network is dense and interconnected, creating a web-like structure that fills the left half of the page. The background is a light, neutral color, possibly white or a very light beige, which makes the green network stand out.

# CHAPTER 1

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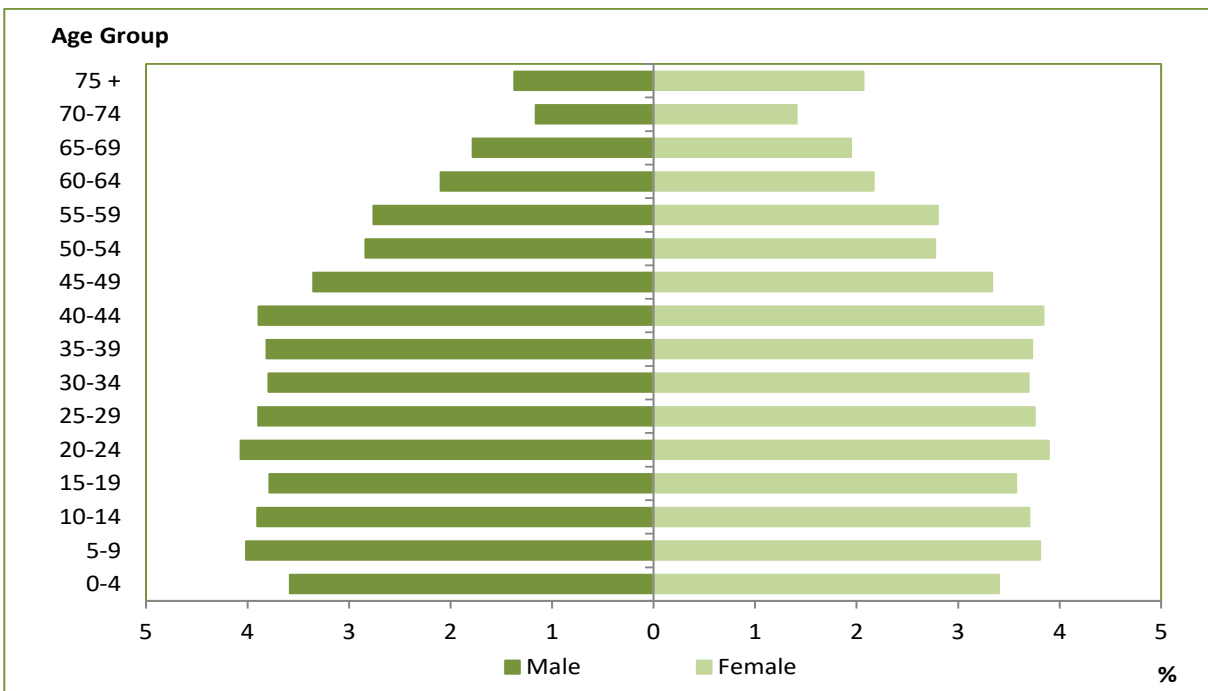
## General Demographic Indicators

Figure 1.1. Population Pyramid, (%), 2000, 2021



Source: TURKSTAT

Figure 1.2. Population Pyramid by Sex, (%), 2021



Source: TURKSTAT

Note: It represents the population by age group and sex divided by the total population.

Table 1.1. General Demographic Indicators by Years

	1990	2000	2018	2019	2020	2021
Total Population	56.473.035	67.803.927	82.003.882	83.154.997	83.614.362	84.680.273
Rural Population Ratio (%)	48,7	40,8	12,1	11,5	11,2	10,9
Urban Population Ratio (%)	51,3	59,2	87,9	88,5	88,8	89,1
0-14 Aged Population Ratio (%)	35,0	29,8	23,4	23,1	22,8	22,4
65 and Over Aged Population Ratio (%)	4,3	5,7	8,8	9,1	9,5	9,7
Child Dependency Ratio (Aged 0-14) (%)	57,6	46,3	34,5	34,1	33,7	33,0
Elderly Dependency Ratio (Aged 65 and Over) (%)	7,1	8,8	12,9	13,4	14,1	14,3
Total Age Dependency Ratio (%)	64,7	55,1	47,4	47,5	47,7	47,4
Annual Population Growth Rate (‰)	21,7	18,3	14,7	13,9	5,5	12,7
Crude Birth Rate (‰)	24,1	21,6	15,4	14,4	13,4	12,8
Crude Death Rate (‰)	7,1	7,3	5,2	5,3	6,1	6,7
Total Fertility Rate	2,9	2,5	2,0	1,9	1,8	1,7

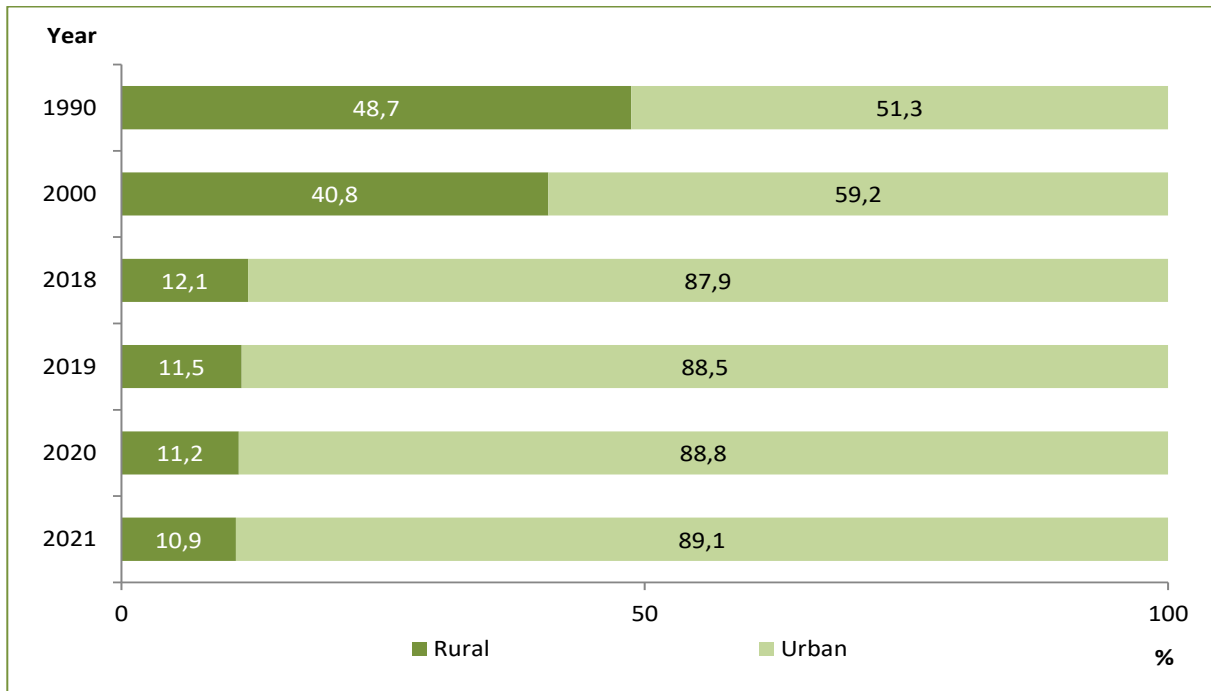
Source: TURKSTAT

Table 1.2. Population by Age Groups, 2000, 2021

Age Group	2000	2021
0-4	6.584.822	5.913.609
5-9	6.756.617	6.624.202
10-14	6.878.656	6.438.152
15-19	7.209.475	6.229.709
20-24	6.690.146	6.741.580
25-29	5.895.255	6.476.899
30-34	5.009.655	6.341.787
35-39	4.854.387	6.386.208
40-44	4.068.756	6.547.162
45-49	3.368.769	5.662.261
50-54	2.717.349	4.754.484
55-59	2.058.422	4.707.180
60-64	1.829.288	3.611.916
65-69	1.645.517	3.156.448
70-74	1.172.643	2.175.024
75 +	1.040.789	2.913.652
Unknown	23.381	-
Türkiye	67.803.927	84.680.273

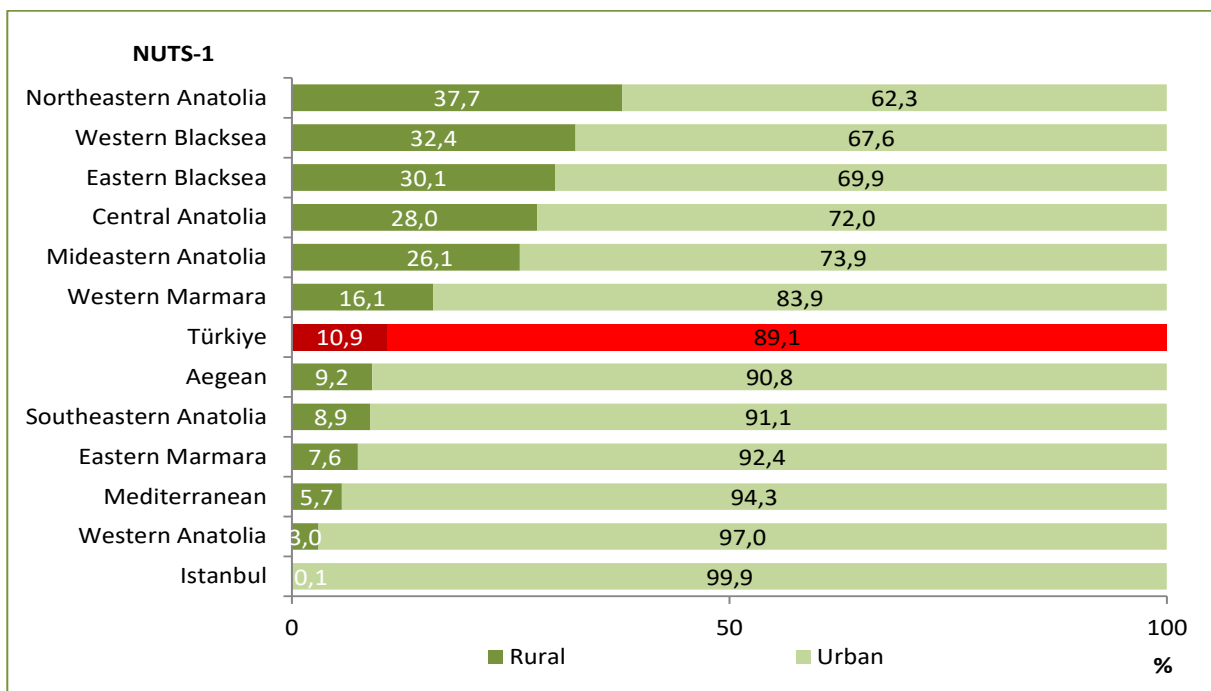
Source: TURKSTAT

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



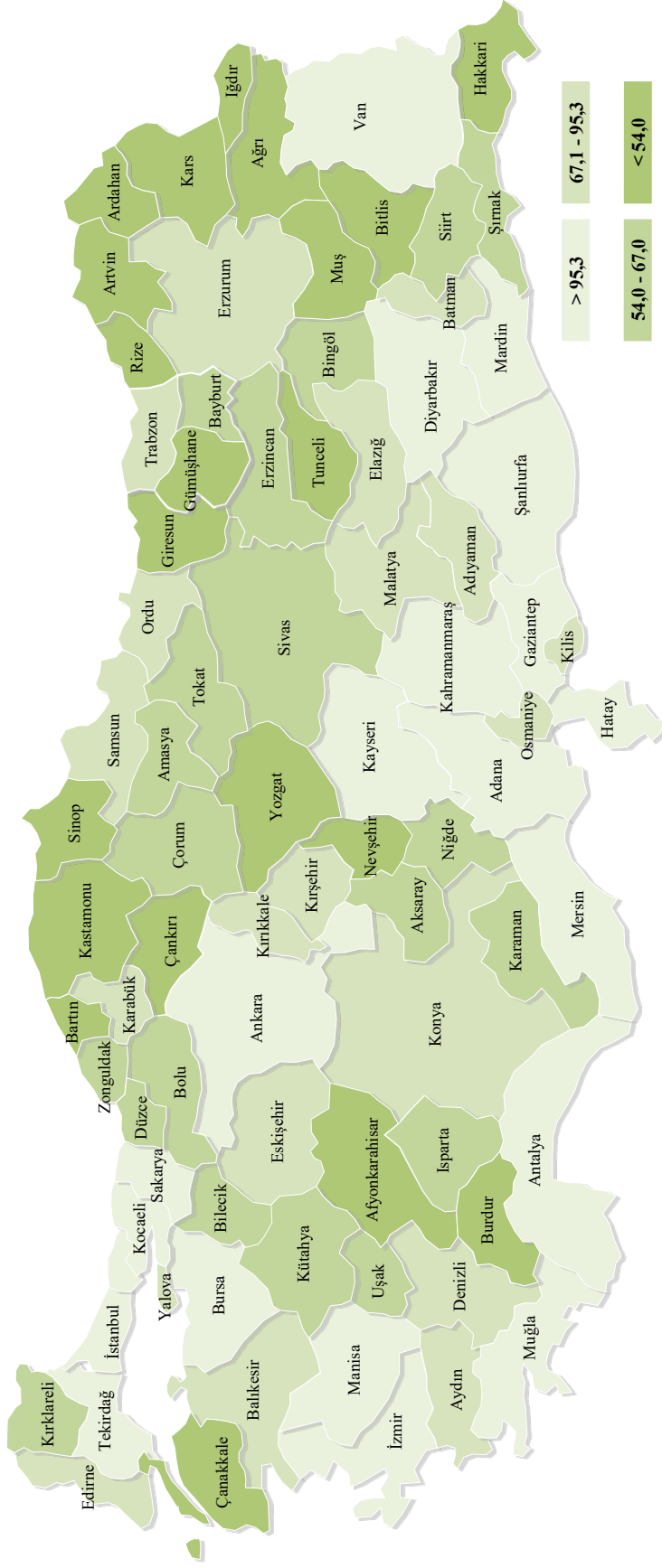
Source: TURKSTAT

Figure 1.4. Rural and Urban Population Ratio by NUTS-1, (%), 2021



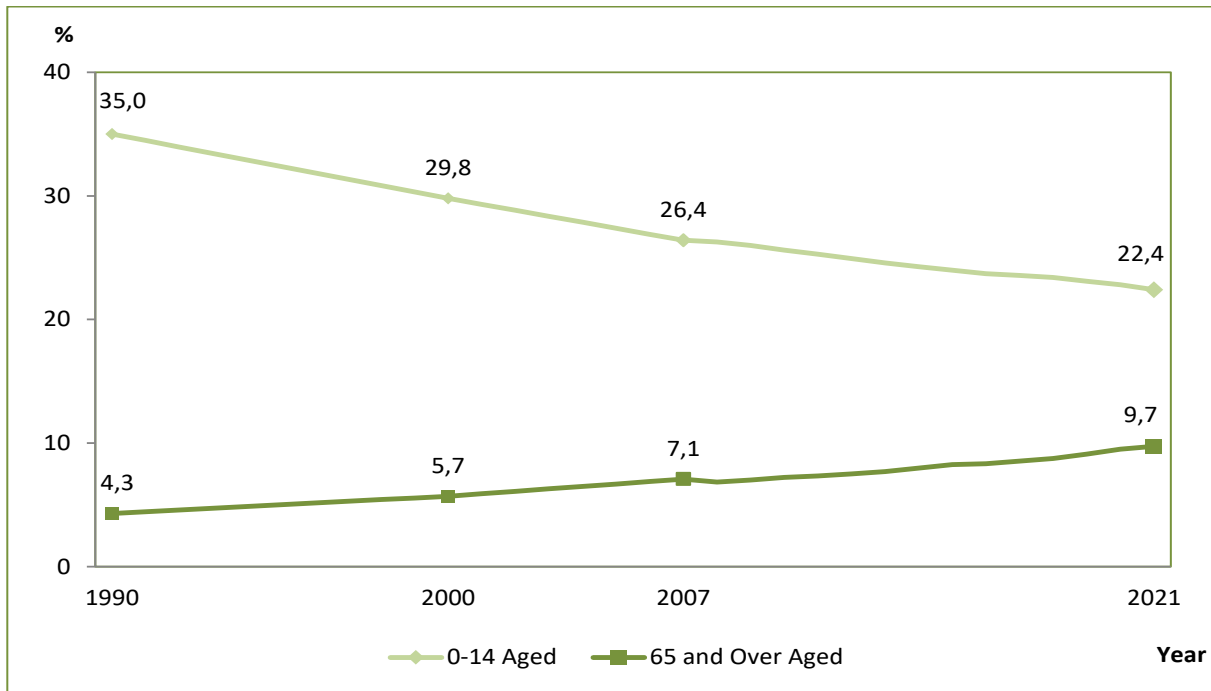
Source: TURKSTAT

Map 1.1.1.Urban Population Ratio by Provinces, (%), 2021



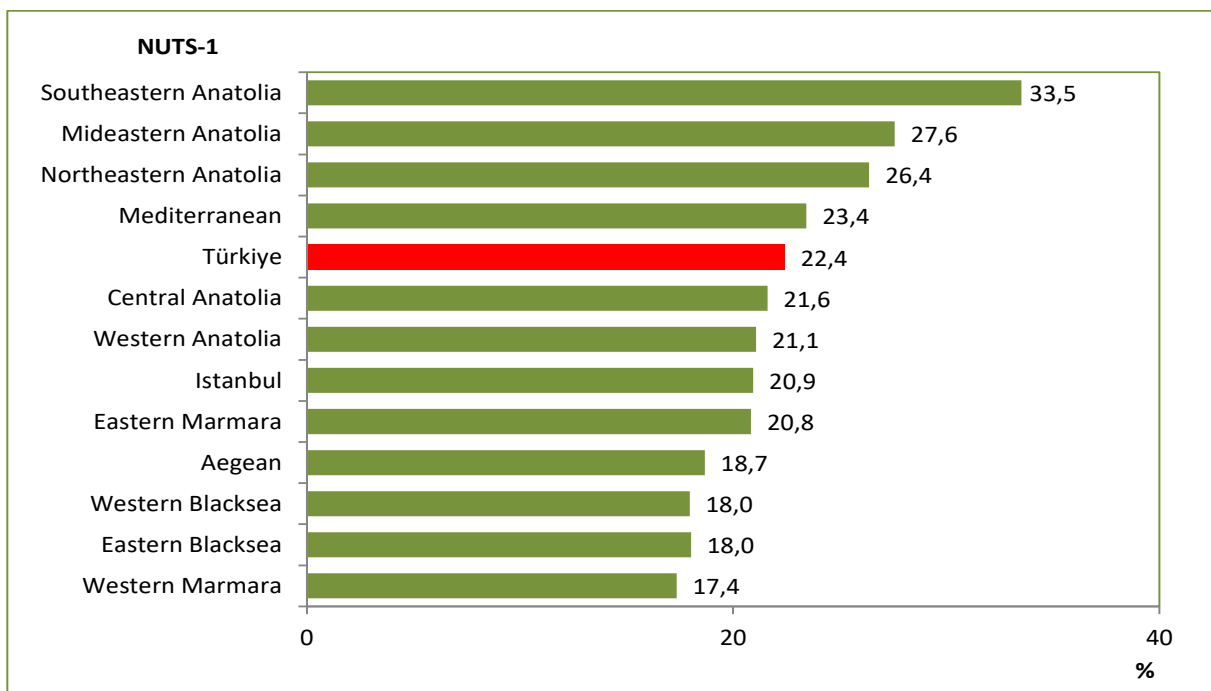
Source: TURKSTAT

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



Source: TURKSTAT

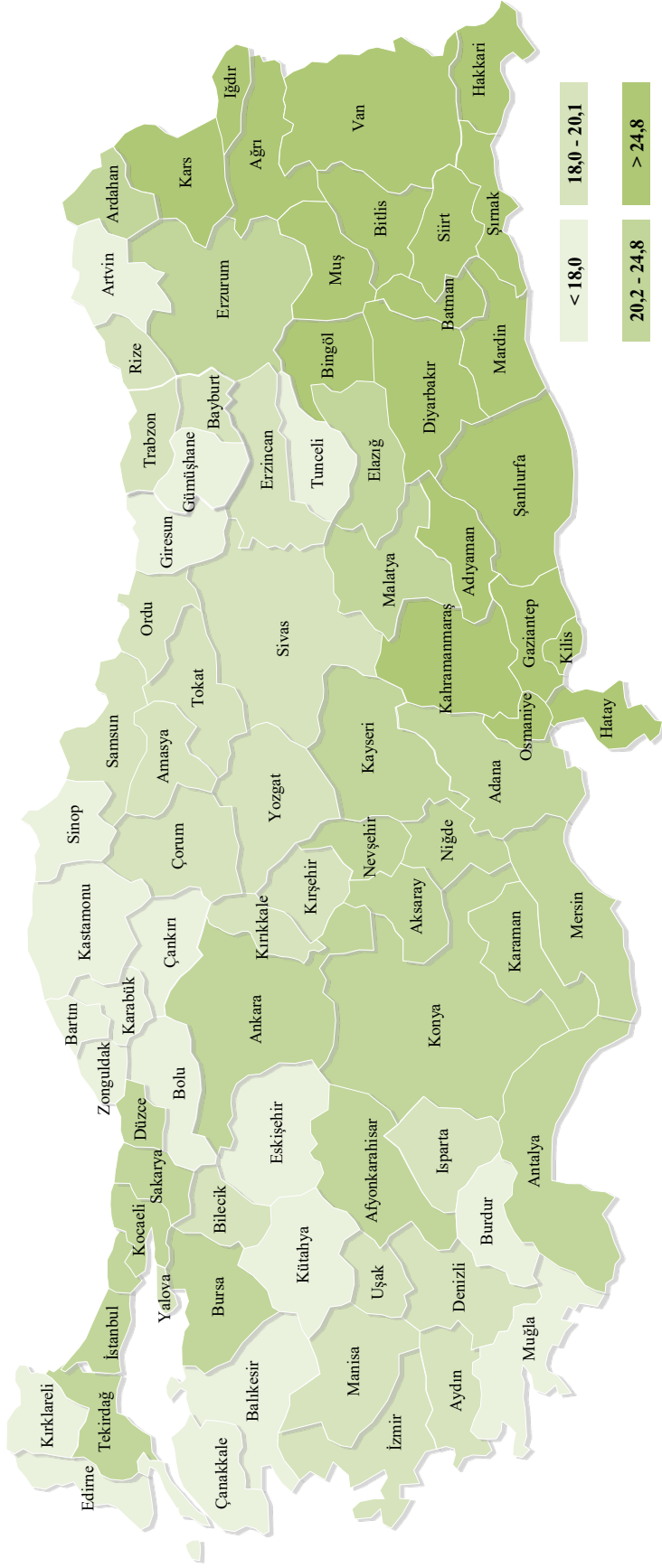
Figure 1.6. 0-14 Aged Population Ratio by NUTS-1, (%), 2021



Source: TURKSTAT

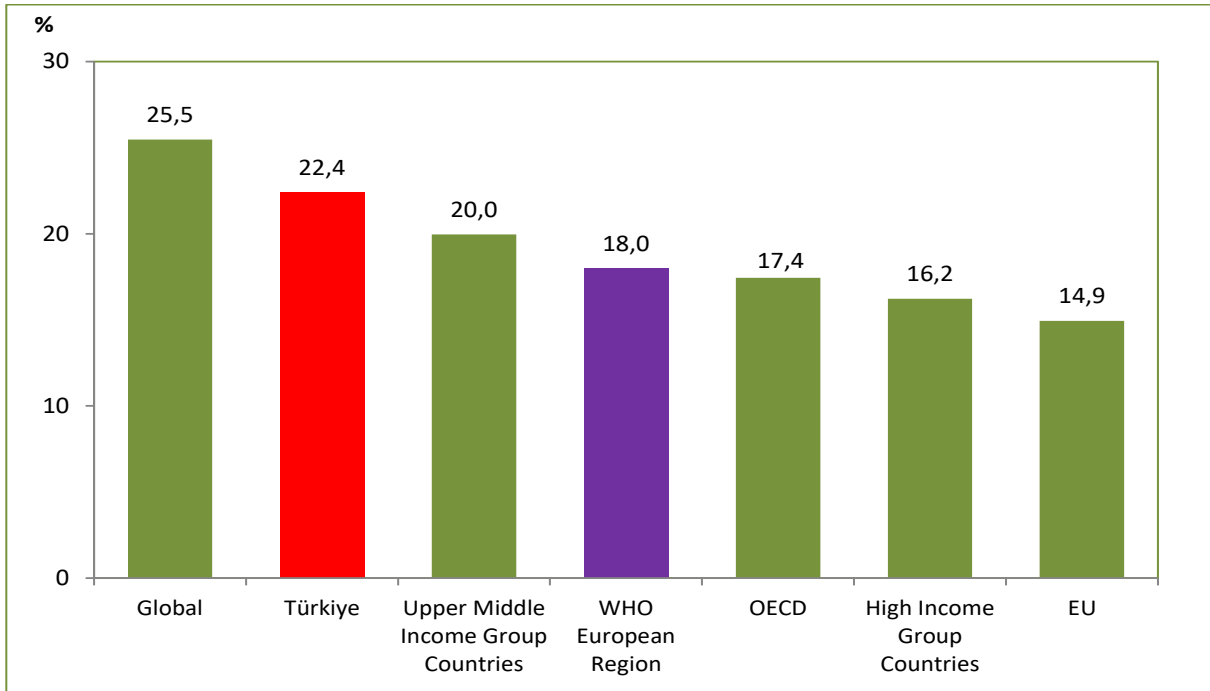


Map 1.2. 0-14 Aged Population Ratio by Provinces, (%), 2021



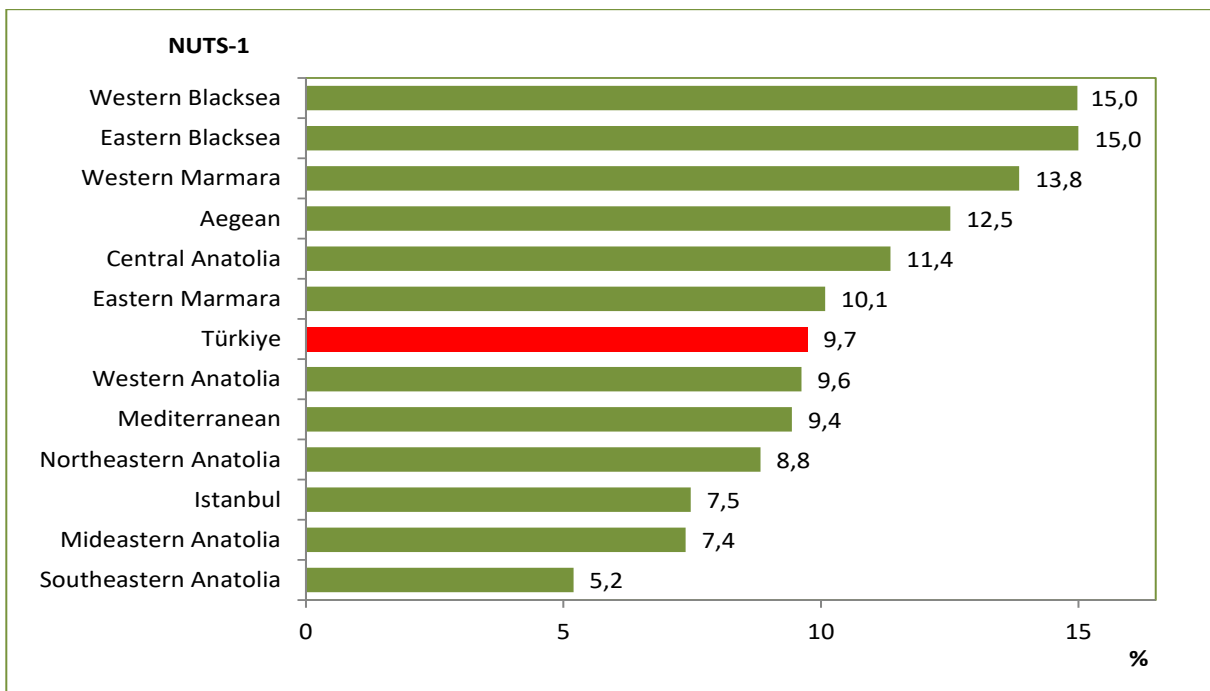
Source: TURKSTAT

Figure 1.7. International Comparison of 0-14 Aged Population Ratio, (%), 2021



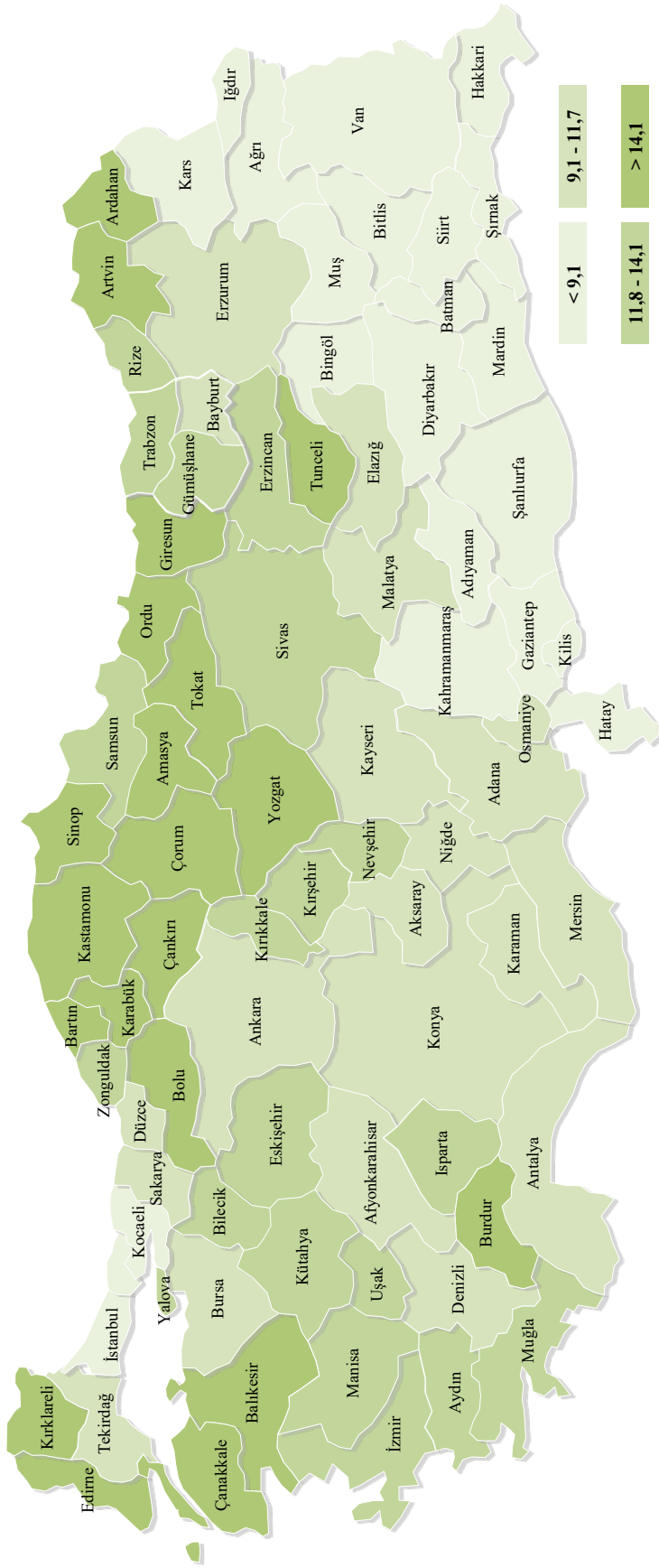
Source: TURKSTAT, UNPD

Figure 1.8. 65 and Over Aged Population Ratio by NUTS-1, (%), 2021



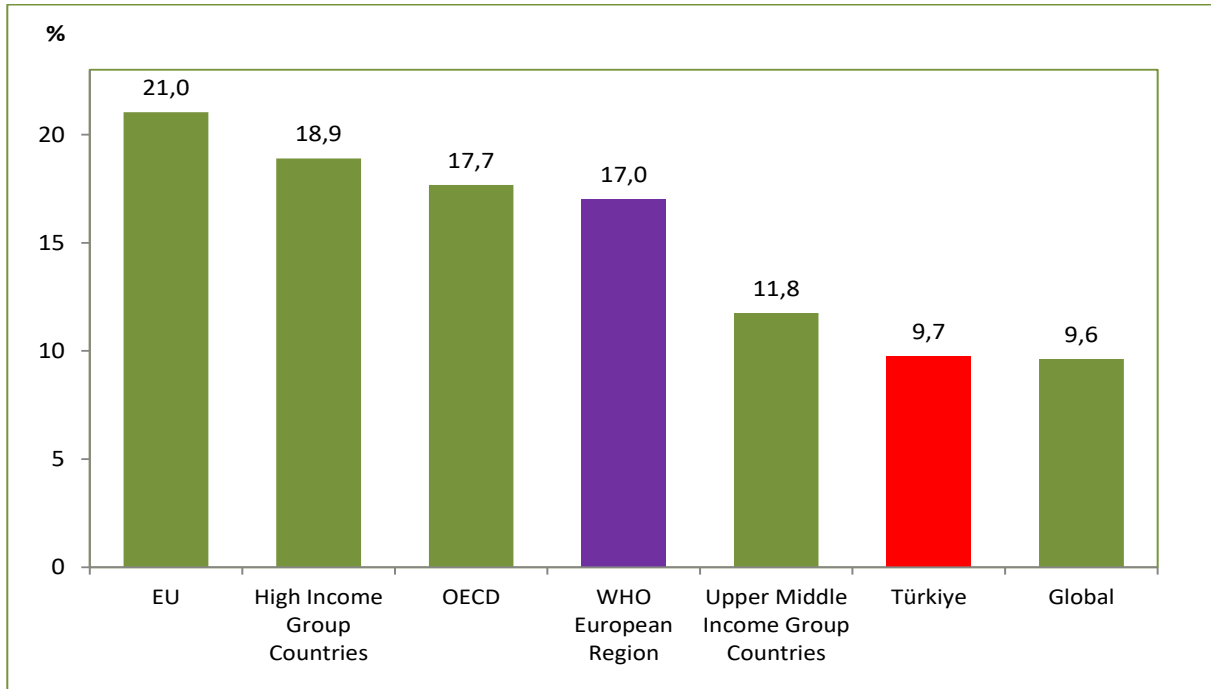
Source: TURKSTAT

Map 1.3. 65 and Over Aged Population Ratio by Provinces, (%), 2021



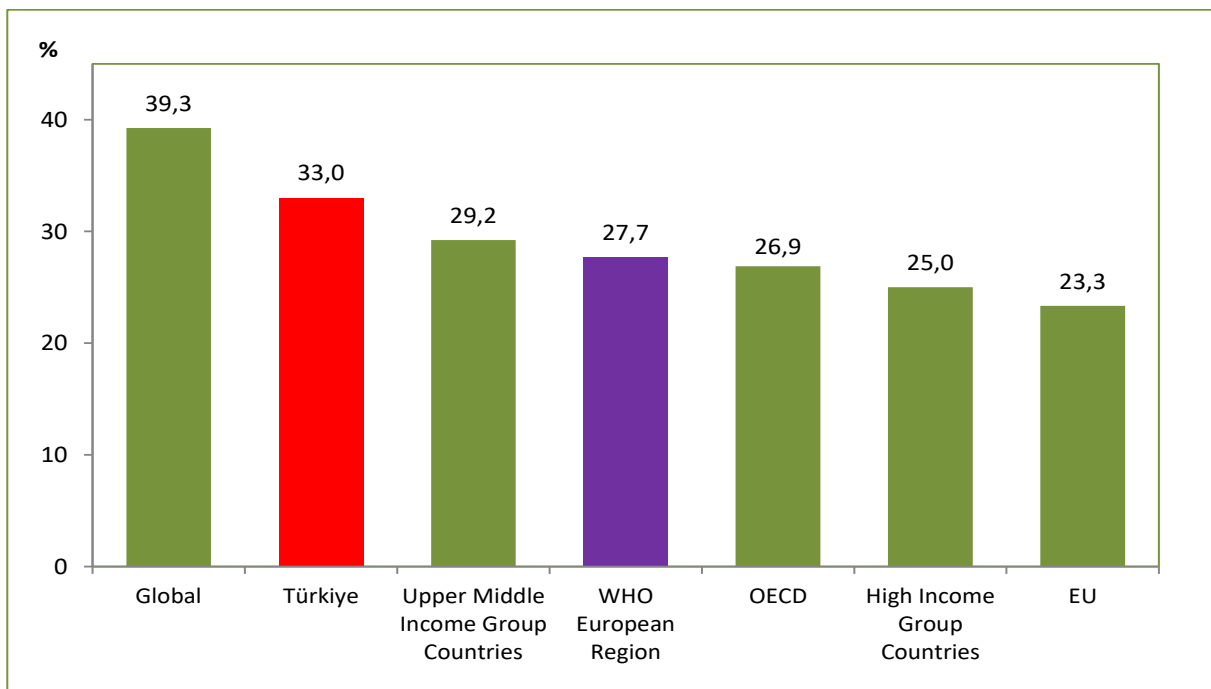
Source: TURKSTAT

Figure 1.9. International Comparison of 65 and Over Aged Population Ratio, (%), 2021



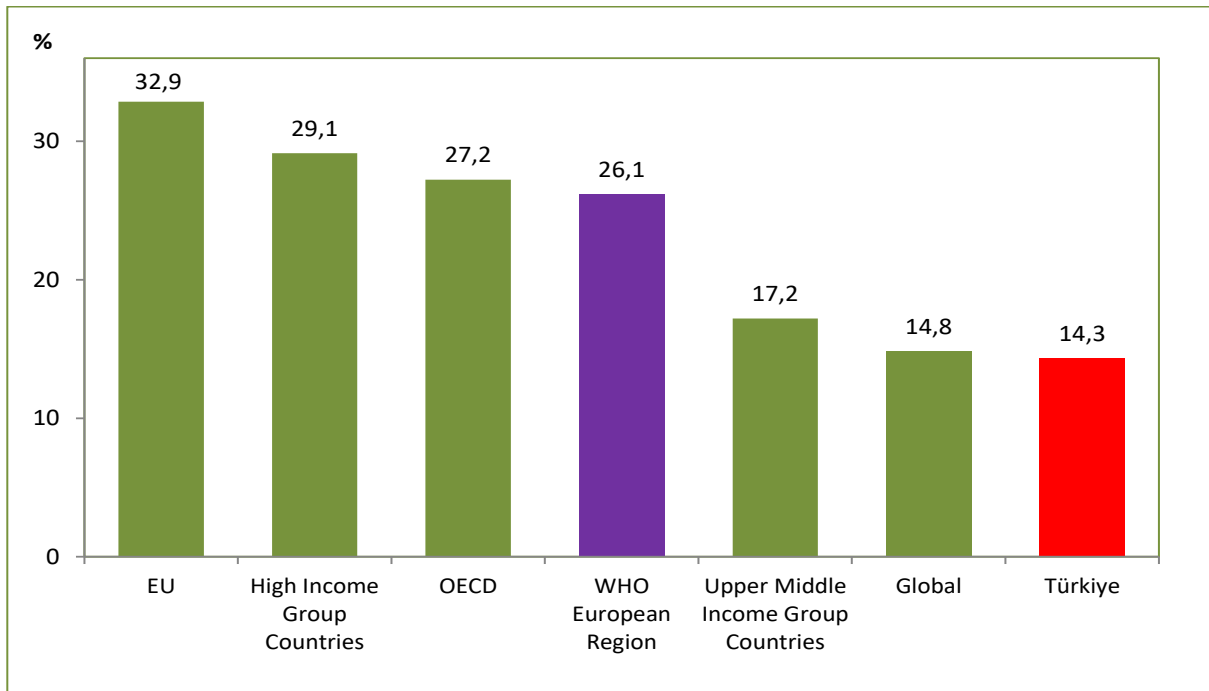
Source: TURKSTAT, UNPD

Figure 1.10. International Comparison of Child Dependency Ratio, (%), 2021



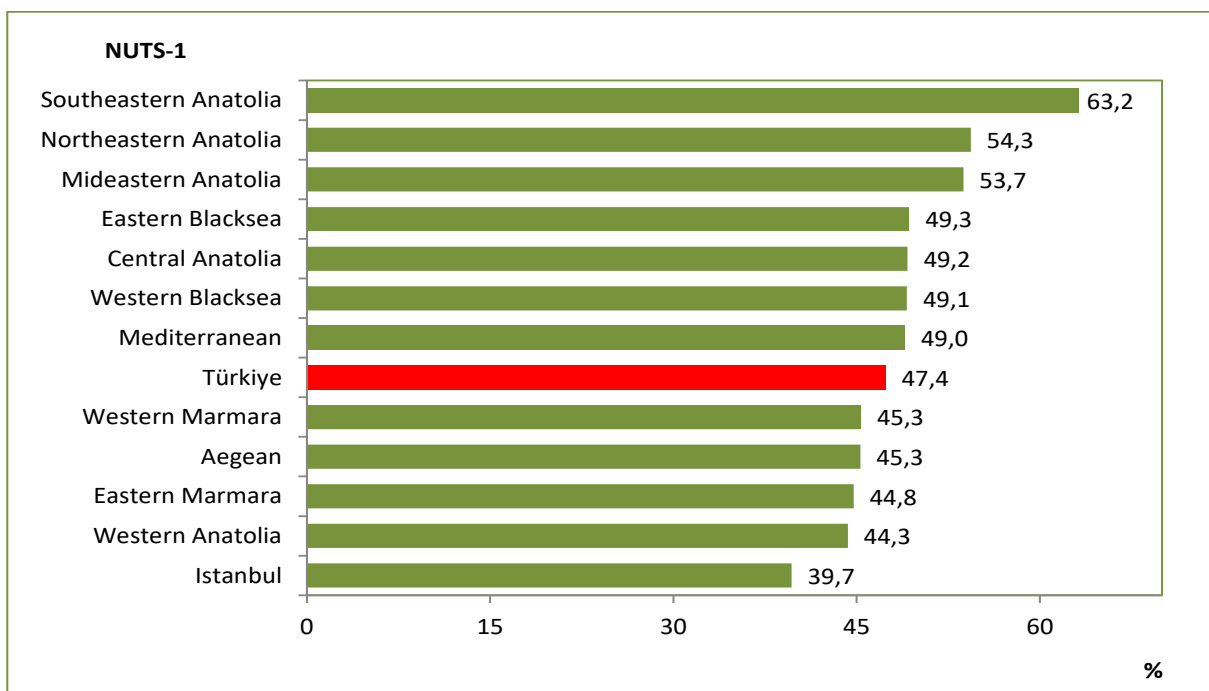
Source: TURKSTAT, UNPD

Figure 1.11. International Comparison of Elderly Dependency Ratio, (%), 2021



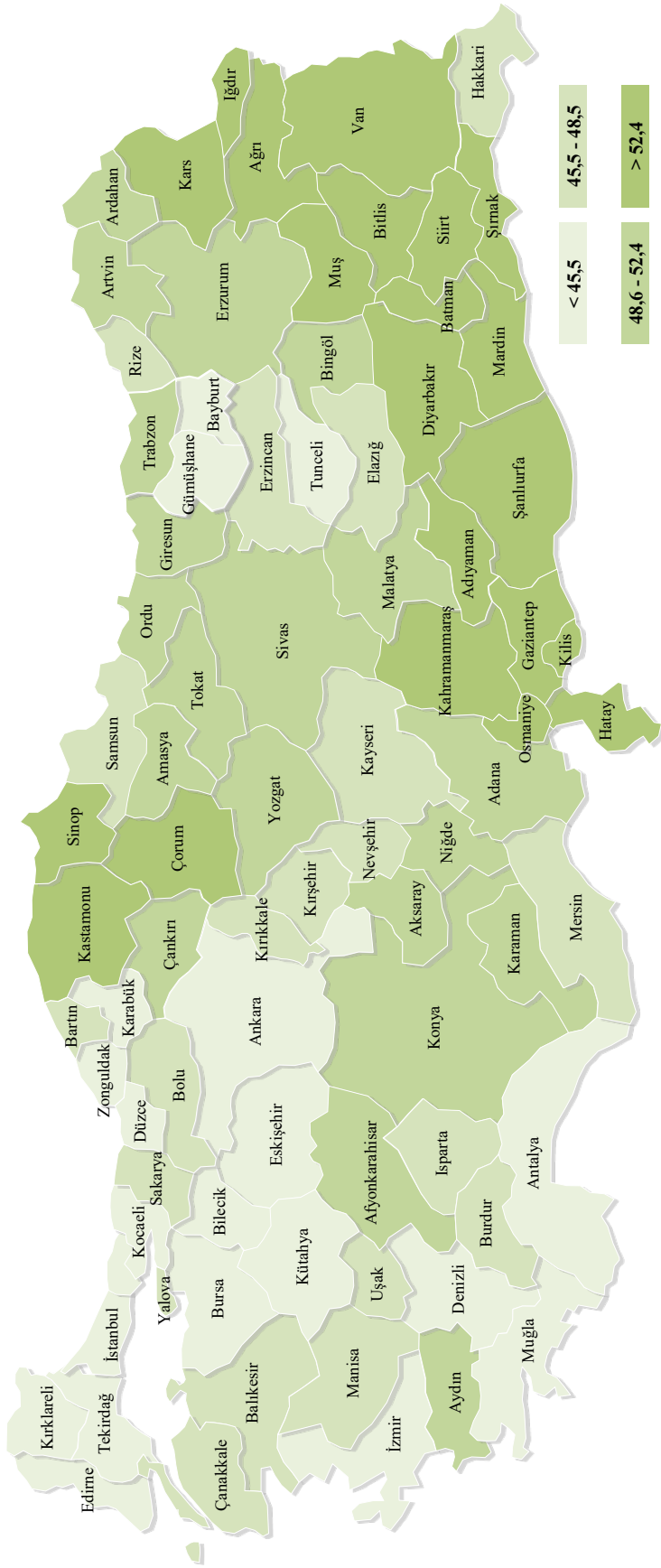
Source: TURKSTAT, UNPD

Figure 1.12. Total Age Dependency Ratio by NUTS-1, (%), 2021



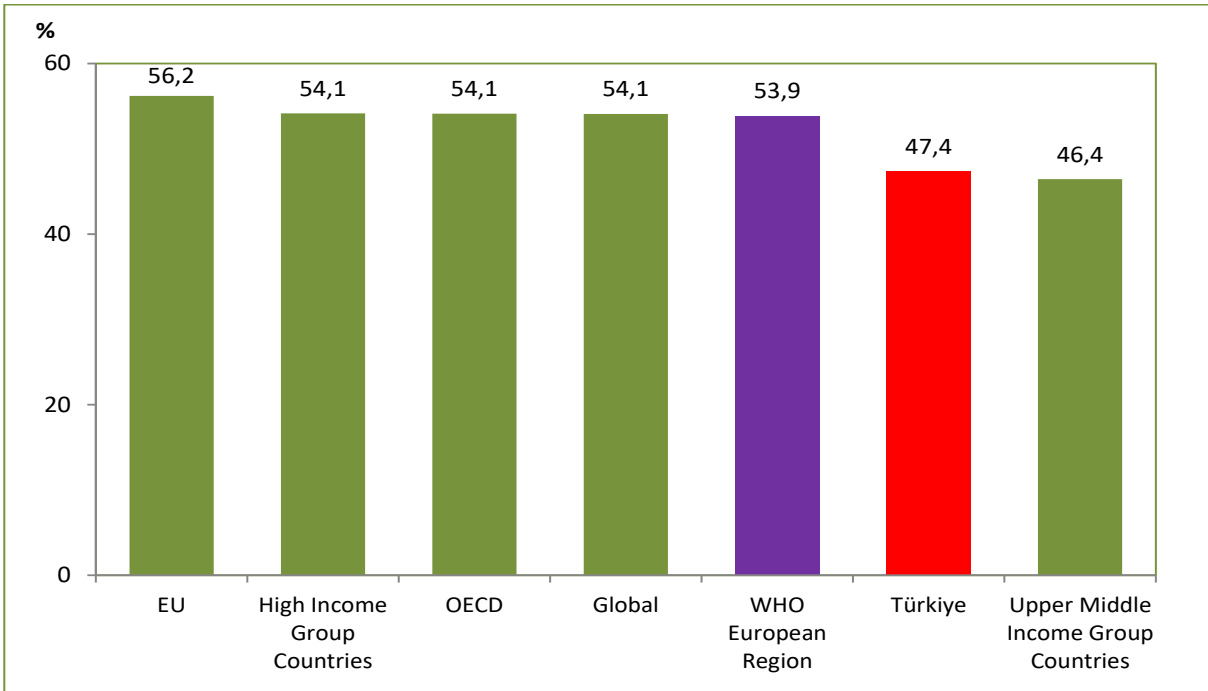
Source: TURKSTAT

Map 1.4. Total Age Dependency Ratio by Provinces, (%), 2021



Source: TURKSTAT

Figure 1.13. International Comparison of Total Age Dependency Ratio, (%), 2021



Source: TURKSTAT, UNPD

Table 1.3. Some General Demographic Indicators by Provinces, 2021

City	Total Population	Rural Population Ratio (%)	Urban Population Ratio (%)	0-14 Aged Population Ratio (%)	65 and Over Aged Population Ratio (%)	Child Dependency Ratio (Aged 0-14) (%)	Elderly Dependency Ratio (Aged 65 and Over) (%)	Total Age Dependency Ratio (%)
Adana	2.263.373	3,6	96,4	24,1	9,1	36,2	13,6	49,8
Adıyaman	632.148	32,9	67,1	28,4	8,2	44,7	13,0	57,7
Afyonkarahisar	744.179	50,6	49,4	21,3	11,7	31,8	17,5	49,3
Ağrı	524.644	46,1	53,9	33,7	5,2	55,1	8,5	63,7
Amasya	335.331	35,7	64,3	18,1	15,6	27,3	23,6	50,9
Ankara	5.747.325	0,8	99,2	20,2	9,4	28,7	13,3	42,0
Antalya	2.619.832	0,8	99,2	20,8	9,2	29,8	13,2	43,0
Artvin	169.543	70,7	29,3	16,2	17,8	24,5	26,9	51,4
Aydın	1.134.031	4,7	95,3	18,6	14,1	27,6	21,0	48,6
Balıkesir	1.250.610	5,9	94,1	16,3	16,1	24,2	23,8	48,0
Bilecik	228.334	35,9	64,1	18,2	11,8	26,0	16,9	42,8
Bingöl	283.112	40,0	60,0	26,1	7,6	39,3	11,5	50,8
Bitlis	352.277	47,3	52,7	31,6	5,7	50,3	9,1	59,5
Bolu	320.014	34,9	65,1	17,3	14,4	25,3	21,1	46,4
Burdur	273.716	48,4	51,6	16,3	15,7	24,0	23,1	47,1
Bursa	3.147.818	1,4	98,6	21,1	9,9	30,6	14,3	44,9
Çanakkale	557.276	46,6	53,4	15,6	15,8	22,7	23,0	45,7
Çankırı	196.515	53,9	46,1	17,5	16,9	26,6	25,8	52,4
Çorum	526.282	37,6	62,4	18,6	16,1	28,5	24,6	53,1
Denizli	1.051.056	11,8	88,2	19,4	11,7	28,1	17,0	45,1
Diyarbakır	1.791.373	2,4	97,6	32,2	5,1	51,3	8,1	59,4
Edirne	412.115	32,3	67,7	14,8	15,8	21,3	22,7	44,0
Elazığ	588.088	30,9	69,1	21,5	10,7	31,8	15,7	47,5
Erzincan	237.351	37,1	62,9	19,0	13,1	28,0	19,3	47,2
Erzurum	756.893	14,7	85,3	24,8	9,4	37,7	14,3	51,9
Eskişehir	898.369	9,0	91,0	17,6	12,2	25,1	17,4	42,5
Gaziantep	2.130.432	0,5	99,5	31,4	5,7	49,9	9,1	58,9
Giresun	450.154	51,5	48,5	16,0	17,6	24,1	26,4	50,5
Gümüşhane	150.119	57,8	42,2	17,4	13,6	25,3	19,7	44,9
Hakkari	278.218	52,7	47,3	28,2	3,9	41,4	5,7	47,1
Hatay	1.670.712	0,8	99,2	26,9	8,0	41,4	12,3	53,7
Isparta	445.678	39,9	60,1	18,0	13,6	26,4	20,0	46,4
Mersin	1.891.145	1,0	99,0	22,6	10,0	33,6	14,9	48,5
İstanbul	15.840.900	0,1	99,9	20,9	7,5	29,2	10,4	39,7
İzmir	4.425.789	0,5	99,5	18,2	12,1	26,0	17,4	43,5
Kars	281.077	60,4	39,6	25,9	8,8	39,6	13,5	53,1
Kastamonu	375.592	58,8	41,2	15,7	19,2	24,2	29,6	53,8
Kayseri	1.434.357	4,6	95,4	23,2	9,4	34,4	14,0	48,4
Kırklareli	366.363	35,5	64,5	15,3	14,9	21,9	21,4	43,3
Kırşehir	242.944	30,2	69,8	19,3	12,9	28,5	18,9	47,4
Kocaeli	2.033.441	0,0	100,0	22,9	7,9	33,0	11,4	44,4

Source: TURKSTAT



Table 1.3. Some General Demographic Indicators by Provinces, 2021 - Continued

City	Total Population	Rural Population Ratio (%)	Urban Population Ratio (%)	0-14 Aged Population Ratio (%)	65 and Over Aged Population Ratio (%)	Child Dependency Ratio (Aged 0-14) (%)	Elderly Dependency Ratio (Aged 65 and Over) (%)	Total Age Dependency Ratio (%)
Konya	2.277.017	5,3	94,7	23,2	10,0	34,8	15,0	49,8
Kütahya	578.640	33,6	66,4	16,9	13,9	24,4	20,1	44,5
Malatya	808.692	9,3	90,7	22,2	11,0	33,2	16,5	49,7
Manisa	1.456.626	4,4	95,6	20,0	12,1	29,5	17,9	47,3
Kahramanmaraş	1.171.298	2,0	98,0	26,8	8,7	41,6	13,5	55,2
Mardin	862.757	3,3	96,7	32,9	5,7	53,6	9,2	62,8
Muğla	1.021.141	1,1	98,9	17,6	13,2	25,4	19,1	44,5
Muş	405.228	64,4	35,6	33,1	5,6	53,9	9,1	63,1
Nevşehir	308.003	53,1	46,9	20,3	12,3	30,1	18,2	48,3
Niğde	363.725	42,8	57,2	22,6	10,6	33,9	15,9	49,8
Ordu	760.872	15,6	84,4	18,4	15,5	27,8	23,4	51,1
Rize	345.662	49,4	50,6	18,0	13,7	26,3	20,0	46,4
Sakarya	1.060.876	3,2	96,8	21,0	10,4	30,6	15,2	45,7
Samsun	1.371.274	5,8	94,2	19,5	12,6	28,7	18,6	47,3
Siirt	331.980	40,8	59,2	33,0	5,3	53,6	8,6	62,2
Sinop	218.408	61,0	39,0	16,1	20,1	25,2	31,6	56,8
Sivas	636.121	39,4	60,6	20,0	13,6	30,1	20,5	50,6
Tekirdağ	1.113.400	0,0	100,0	21,0	9,3	30,1	13,3	43,4
Tokat	602.567	39,0	61,0	18,8	14,9	28,4	22,5	50,8
Trabzon	816.684	10,1	89,9	19,3	13,4	28,7	19,9	48,6
Tunceli	83.645	58,0	42,0	14,9	15,9	21,6	23,0	44,6
Şanlıurfa	2.143.020	0,0	100,0	38,8	4,0	67,8	7,1	74,9
Uşak	373.183	37,6	62,4	18,3	13,0	26,6	18,9	45,5
Van	1.141.015	2,9	97,1	32,5	4,4	51,5	7,0	58,5
Yozgat	418.500	52,9	47,1	19,7	14,2	29,8	21,5	51,3
Zonguldak	589.684	38,6	61,4	16,8	14,0	24,3	20,3	44,6
Aksaray	429.069	37,6	62,4	24,1	9,7	36,3	14,6	50,9
Bayburt	85.042	43,5	56,5	19,1	11,7	27,5	16,9	44,5
Karaman	258.838	33,3	66,7	21,3	11,4	31,7	16,9	48,6
Kırıkkale	275.968	21,1	78,9	18,3	13,1	26,7	19,0	45,7
Batman	626.319	23,4	76,6	32,6	4,7	52,1	7,6	59,7
Şırnak	546.589	39,3	60,7	35,4	3,5	57,9	5,8	63,7
Bartın	201.711	59,5	40,5	15,9	15,5	23,2	22,7	45,9
Ardahan	94.932	75,8	24,2	20,2	14,2	30,8	21,6	52,3
Iğdır	203.159	51,1	48,9	28,7	7,4	44,9	11,6	56,5
Yalova	291.001	32,4	67,6	19,8	12,5	29,2	18,5	47,8
Karabük	249.287	29,4	70,6	15,8	14,2	22,5	20,3	42,8
Kilis	145.826	25,3	74,7	28,0	8,2	43,9	12,8	56,7
Osmaniye	553.012	27,5	72,5	25,6	9,2	39,3	14,1	53,3
Düzce	400.976	46,0	54,0	20,3	10,9	29,6	15,9	45,4
Türkiye	84.680.273	10,9	89,1	22,4	9,7	33,0	14,3	47,4

Source: TURKSTAT

### Explanations for Chapter 1

☑ Population data for 1990 and 2000 were taken from the “General Census” results, and the 2018-2021 population data from the “Address Based Population Registration System (ABPRS)” Press Release (No. 45500 of 4 February 2022).

<https://data.tuik.gov.tr/Bulten/Index?p=45500>

☑ For 1990 and 2000 years, indicators of age groups were calculated by excluding the unknown age.

☑ 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.

☑ Youth Dependency Ratio changed to the “Child Dependency Ratio” in 2019.

☑ 4-point Likert scale was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the scale intervals. The value of the provinces was rounded up to the closest whole number. These whole numbers were considered while creating 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:

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

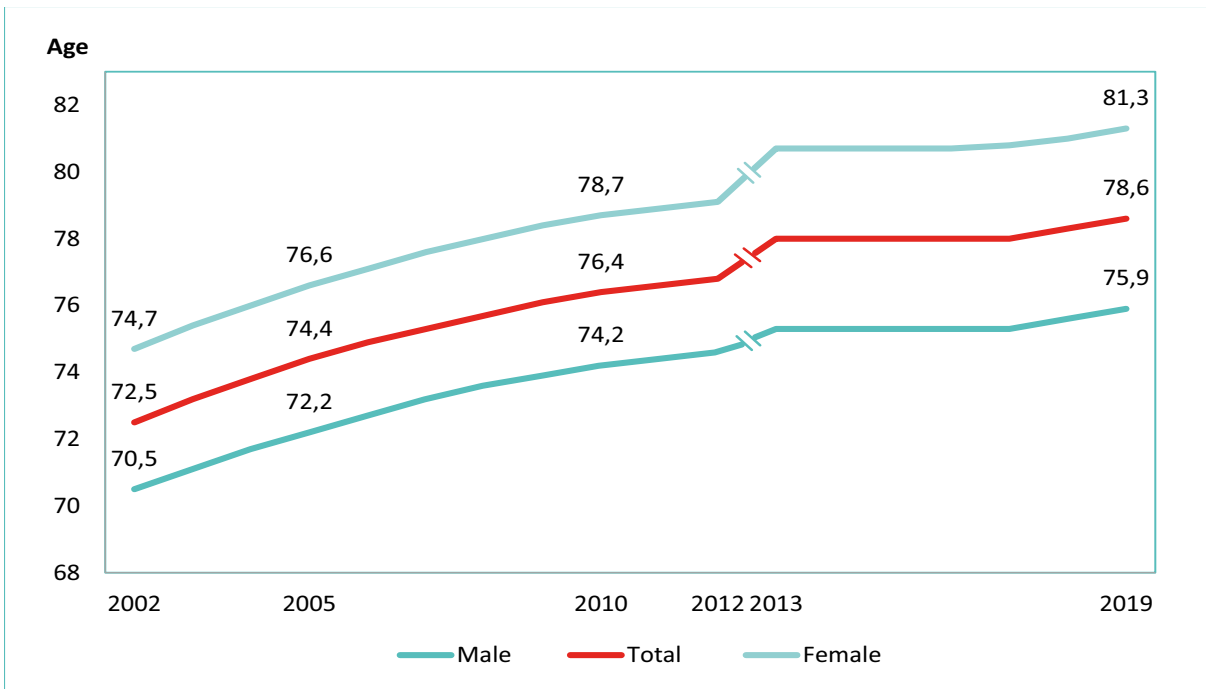
An abstract graphic on the left side of the page, consisting of a complex network of teal-colored lines and nodes. The nodes are small circles of varying shades of teal, connected by thin lines that form a web-like structure. The background is a light teal gradient that fades into white on the right.

# CHAPTER 2

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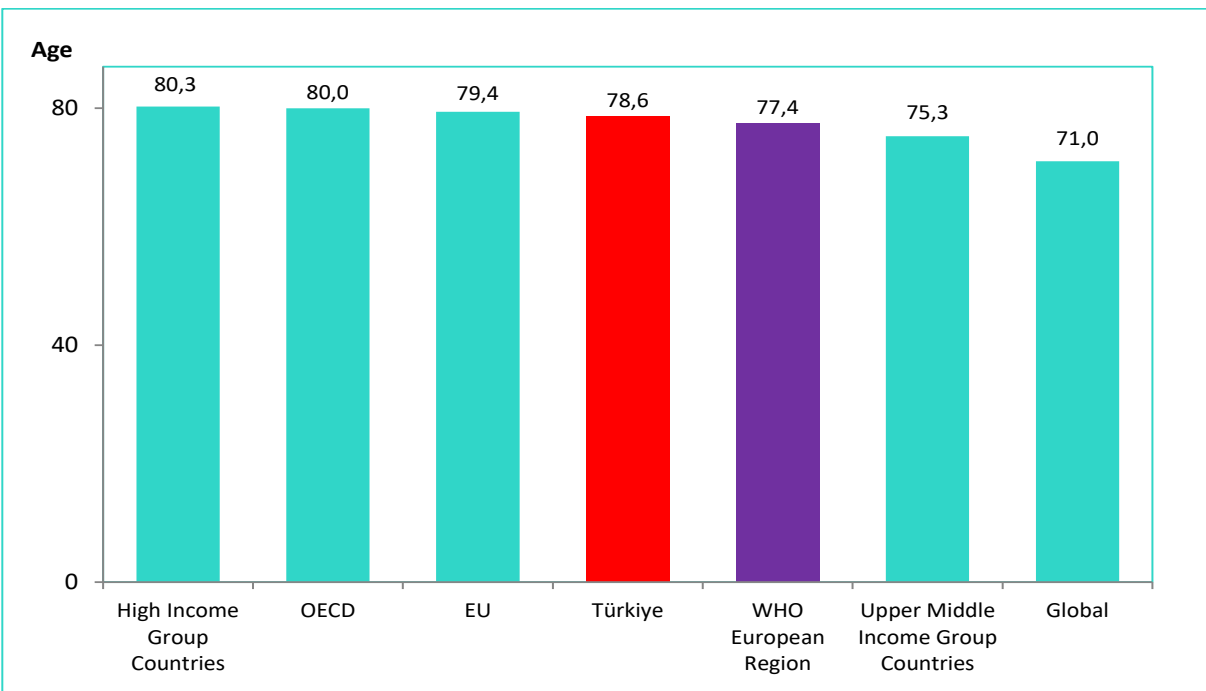
## Mortality

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



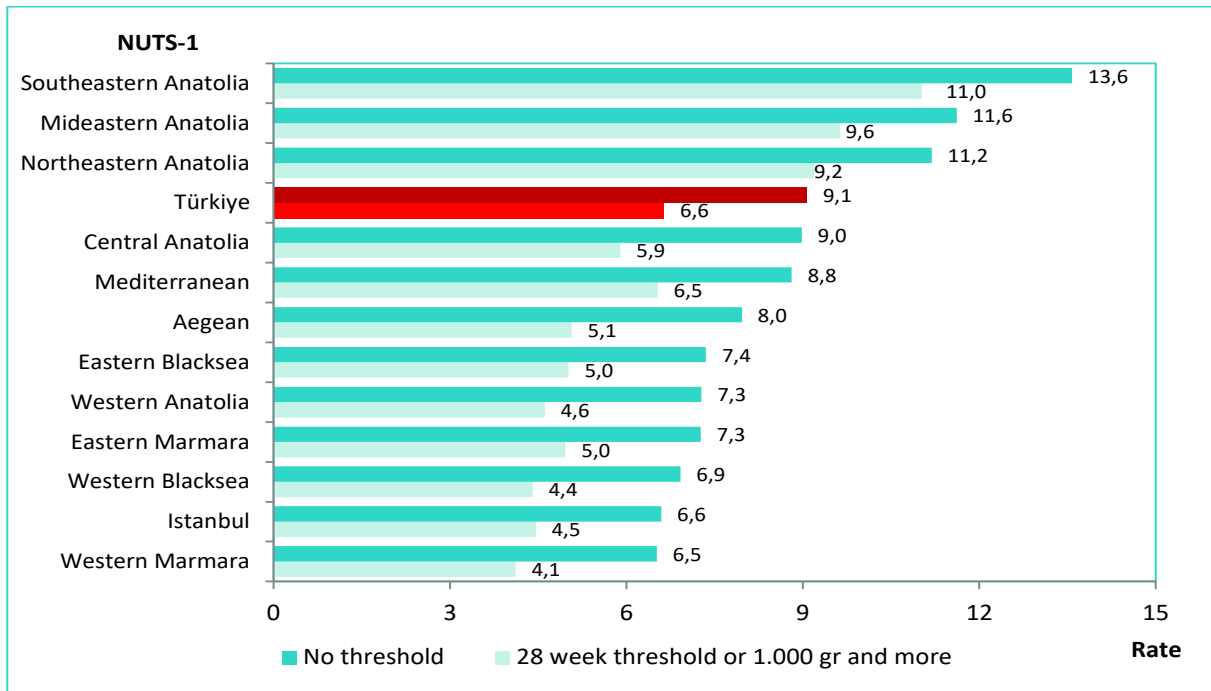
Source: TURKSTAT Population Projections for 2002-2012 years, TURKSTAT Life Tables for 2013-2019 years

Figure 2.2. International Comparison of Life Expectancy at Birth, 2019



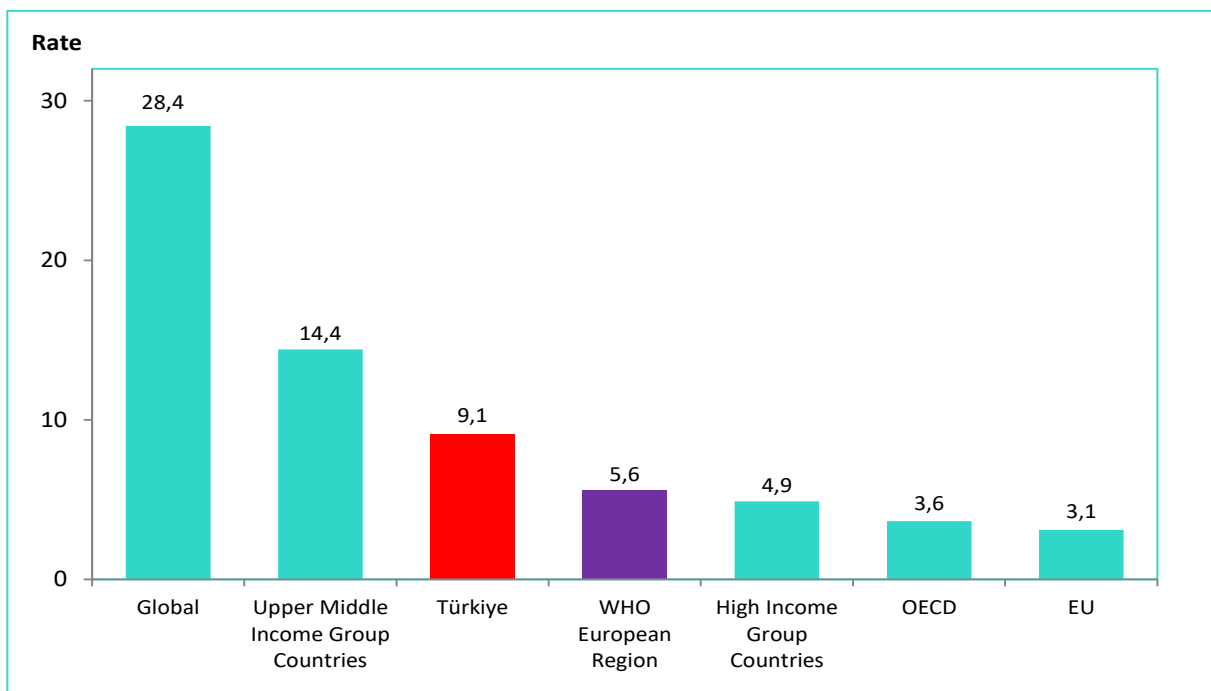
Source: TURKSTAT Life Tables 2017-2019 Press Release (No. 33711 of 17 September 2020), UNPD  
 Note: Türkiye's and the other countries data belong to the year 2019 and 2021 respectively. The values of the groups in the figure were calculated by the Department of Health Statistics based on the expected life expectancy at the birth of the countries.

Figure 2.3. Infant Mortality Rate by NUTS-1, (per 1.000 Live Births), 2021



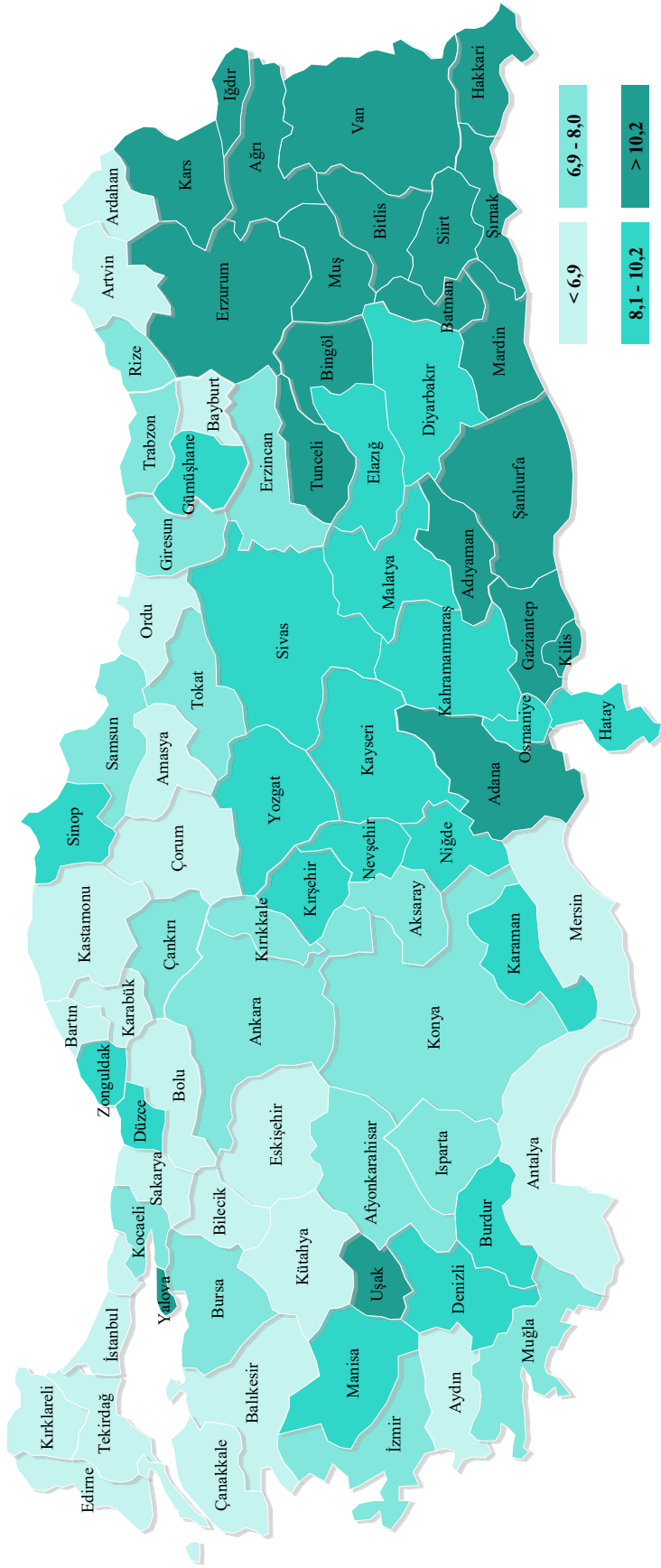
Source: General Directorate of Public Health

Figure 2.4. International Comparison of Infant Mortality Rate, (per 1.000 Live Births), 2021



Source: General Directorate of Public Health, UN IGME 2022

Map 2.1.1. Infant Mortality Rate by Provinces, (per 1.000 Live Births), No Threshold, 2021



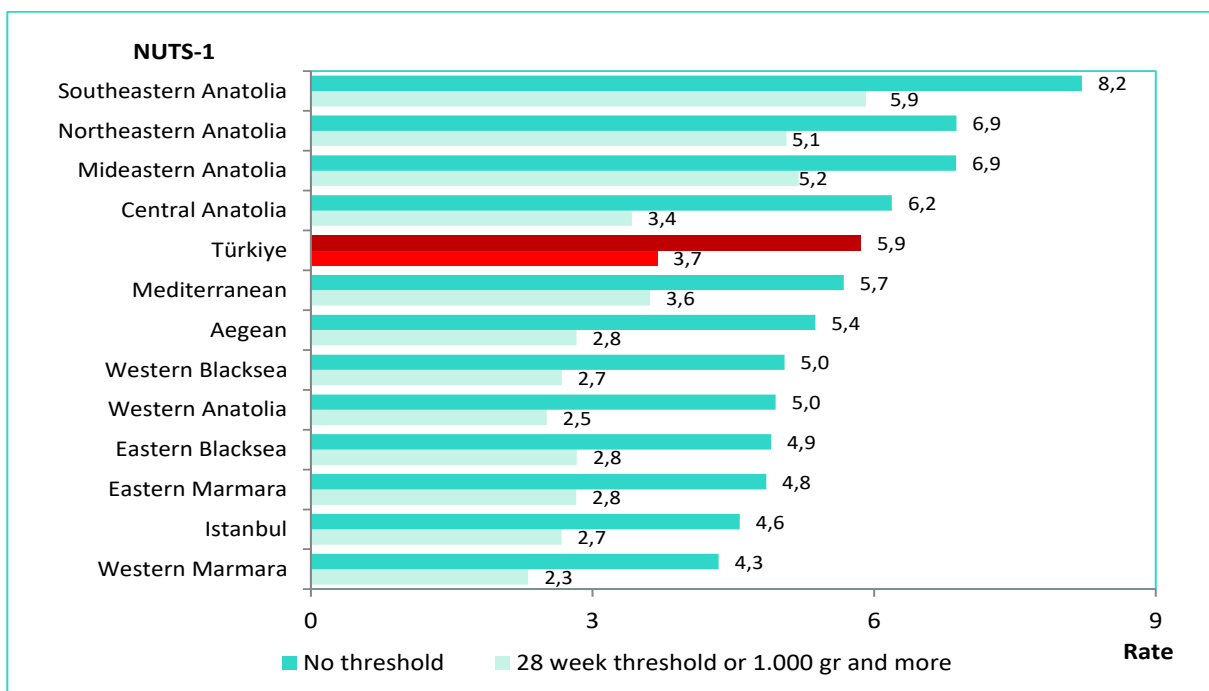
Source: General Directorate of Public Health

Figure 2.5. Perinatal Mortality Rate by NUTS-1, (per 1.000 Births), 2021



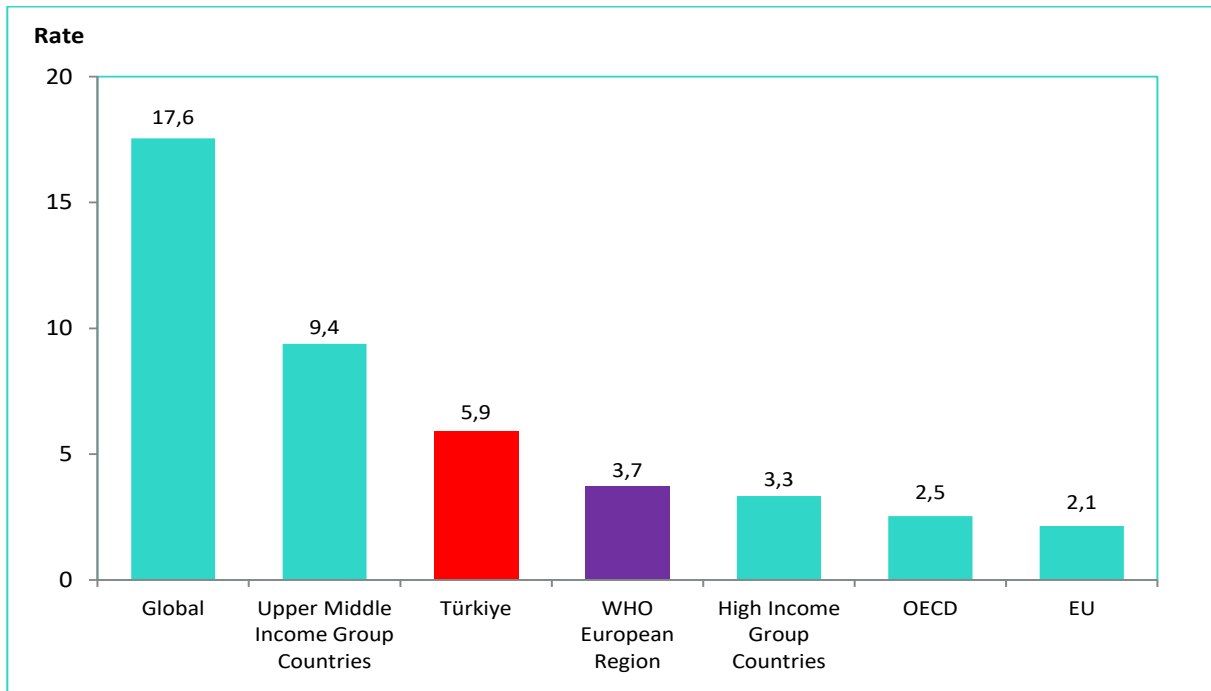
Source: General Directorate of Public Health

Figure 2.6. Neonatal Mortality Rate by NUTS-1, (per 1.000 Live Births), 2021



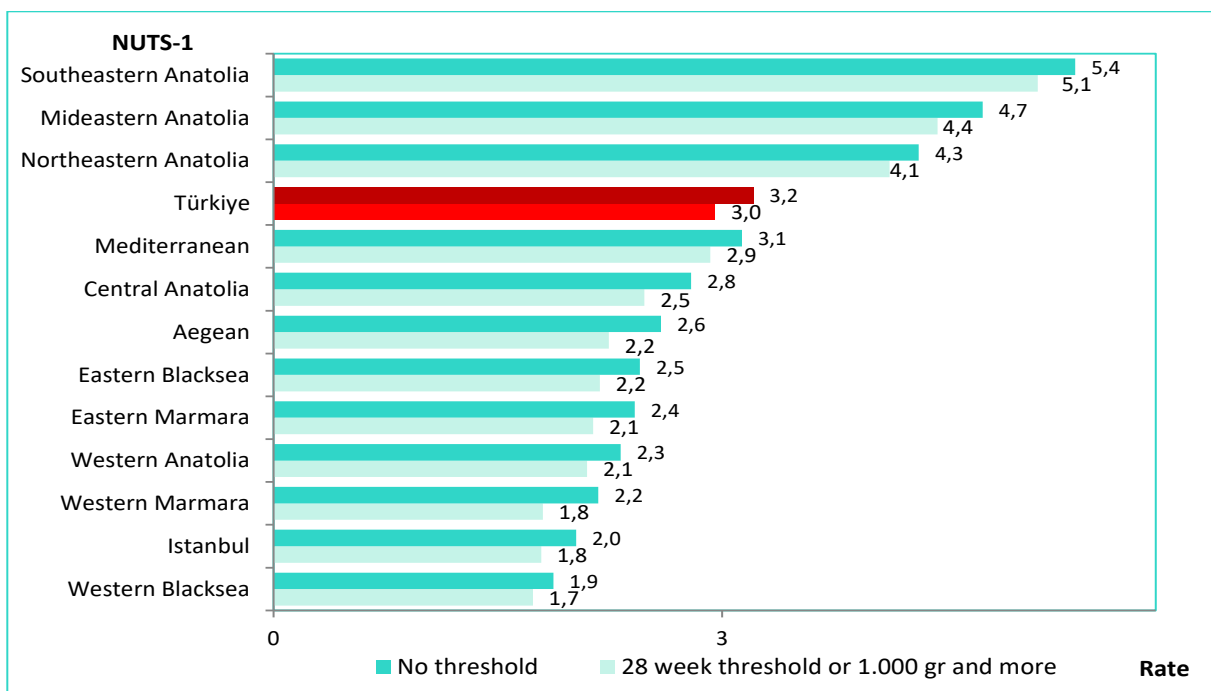
Source: General Directorate of Public Health

Figure 2.7. International Comparison of Neonatal Mortality Rate, (per 1.000 Live Births), 2021



Source: General Directorate of Public Health, UN IGME 2022

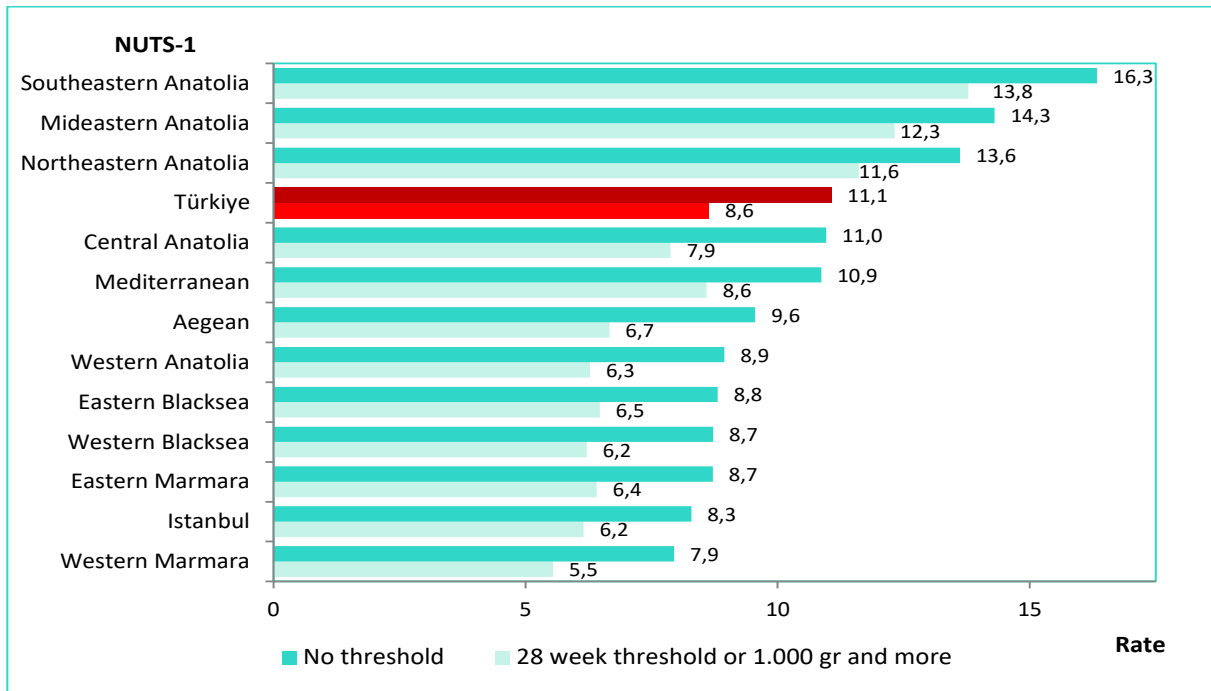
Figure 2.8. Postneonatal Mortality Rate by NUTS-1, (per 1.000 Live Births), 2021



Source: General Directorate of Public Health

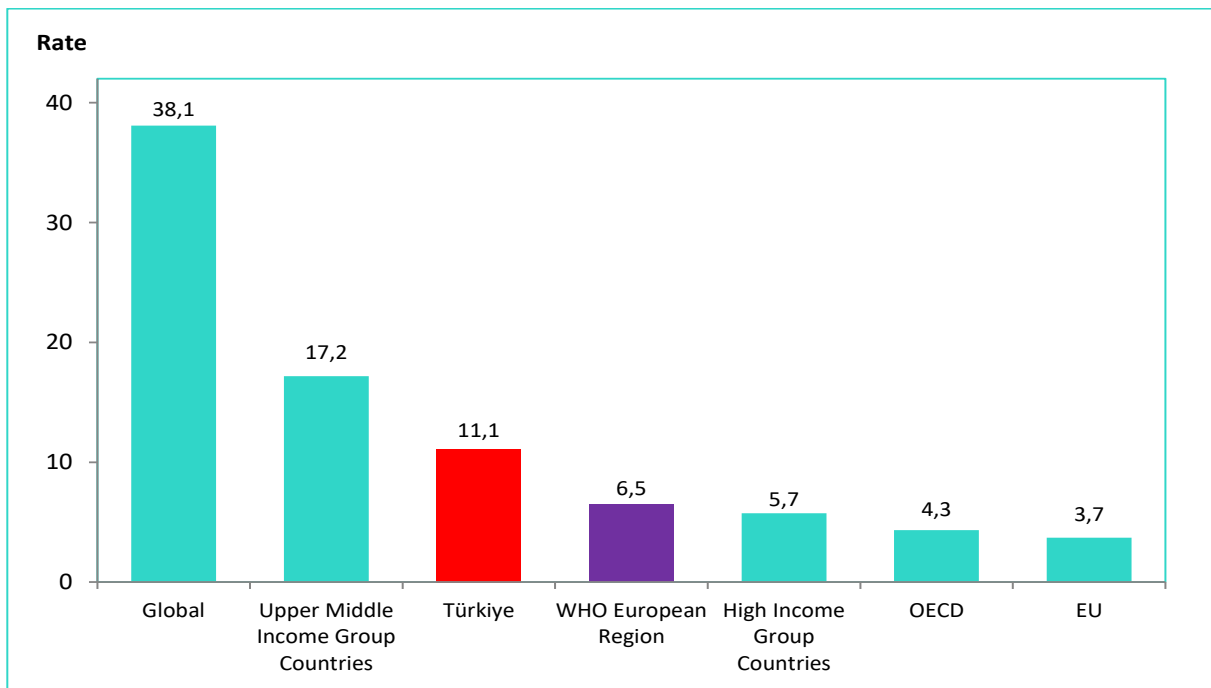


Figure 2.9. Under-5 Mortality Rate by NUTS-1, (per 1.000 Live Births), 2021



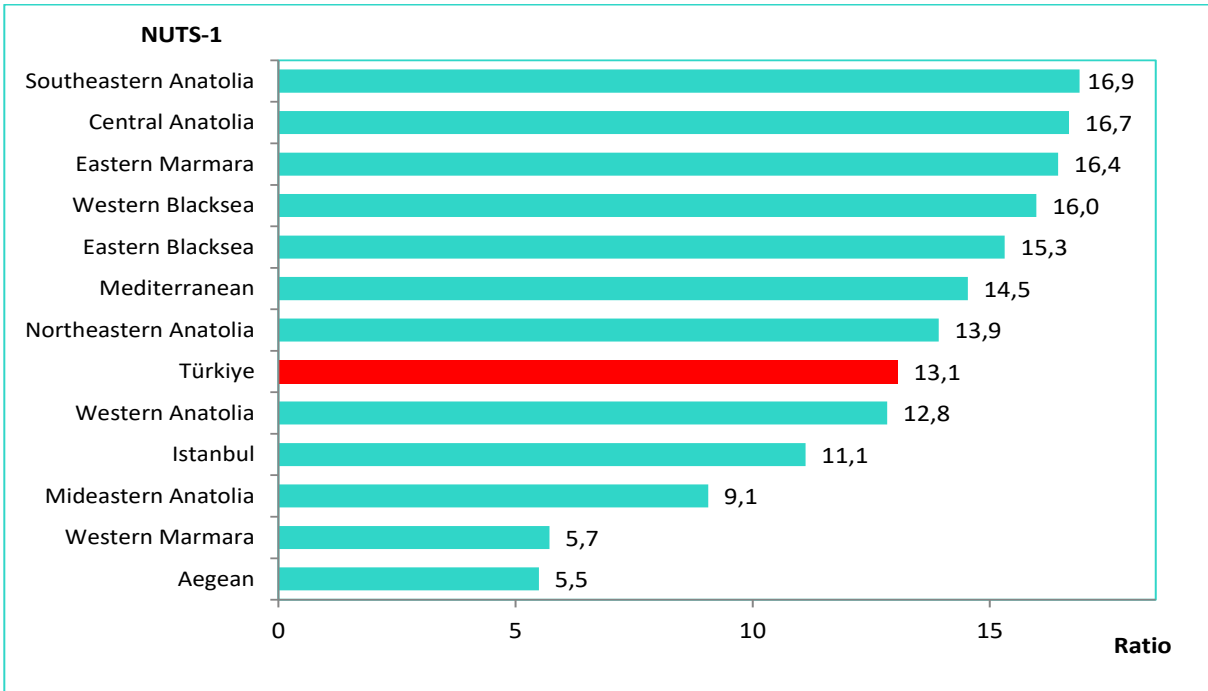
Source: General Directorate of Public Health

Figure 2.10. International Comparison of Under-5 Mortality Rate, (per 1.000 Live Births), 2021



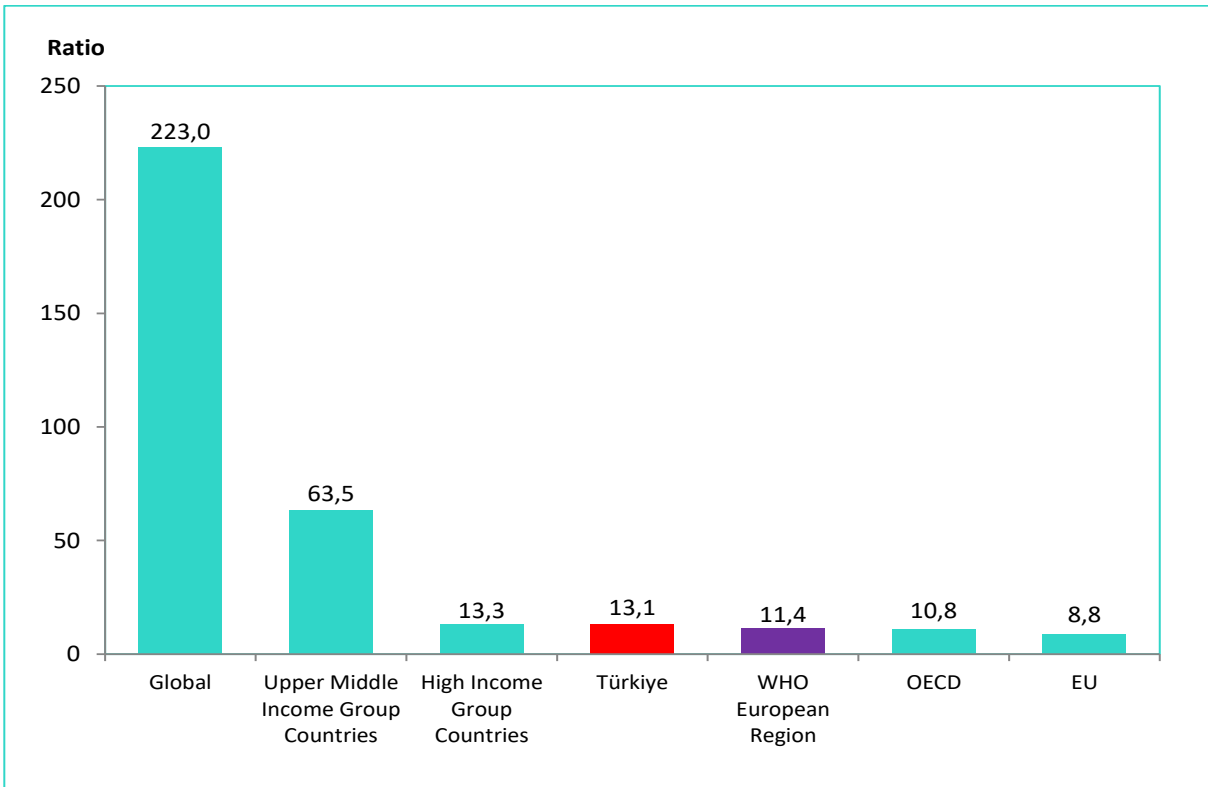
Source: General Directorate of Public Health, UN IGME 2022

Figure 2.11. Maternal Mortality Ratio by NUTS-1, (per 100.000 Live Births), 2021



Source: General Directorate of Public Health

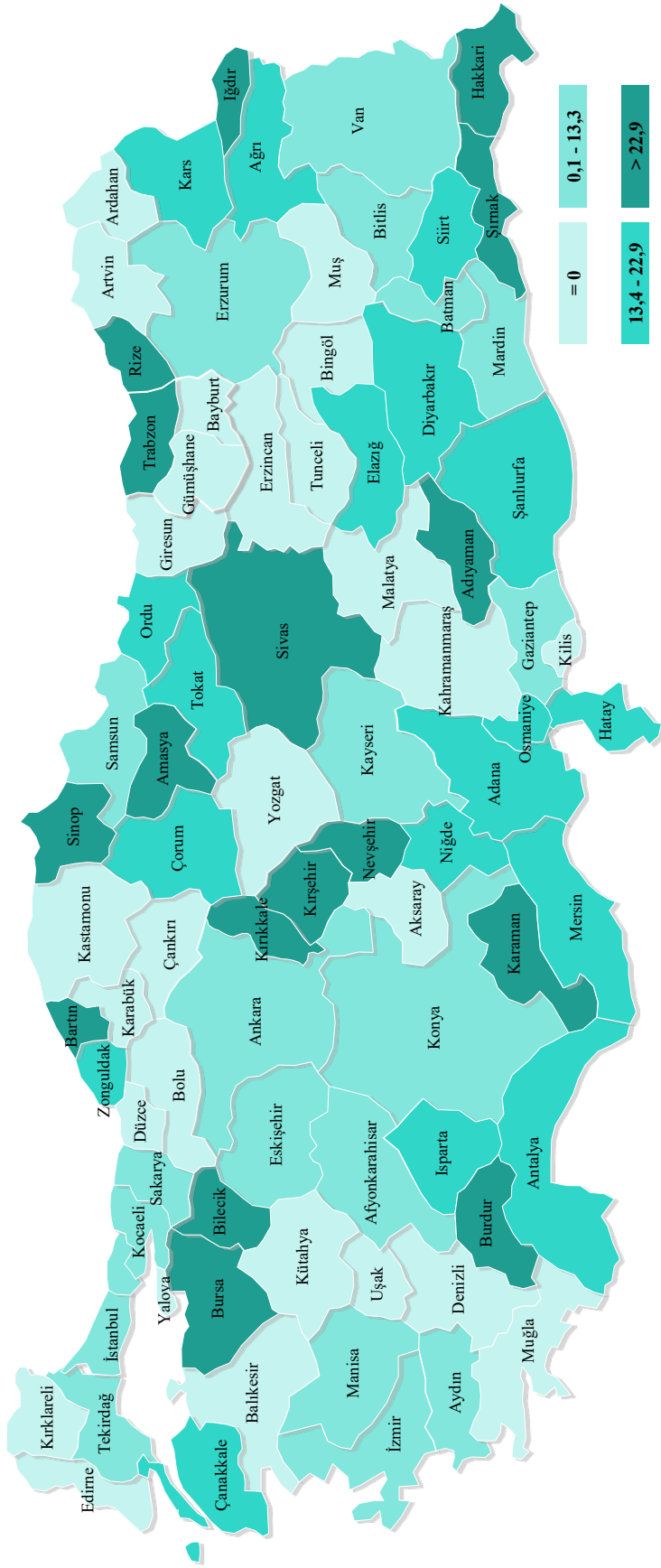
Figure 2.12. International Comparison of Maternal Mortality Ratio, (per 100.000 Live Births), 2020



Source: General Directorate of Public Health, WHO, UNICEF, UNFPA, World Bank Group and UNPD (MMEIG) Trends in Maternal Mortality: 2000 to 2020

Note: Türkiye's data belongs to the year 2021.

Map 2.2. Maternal Mortality Ratio by Provinces, (per 100.000 Live Births), 2021



Source: General Directorate of Public Health

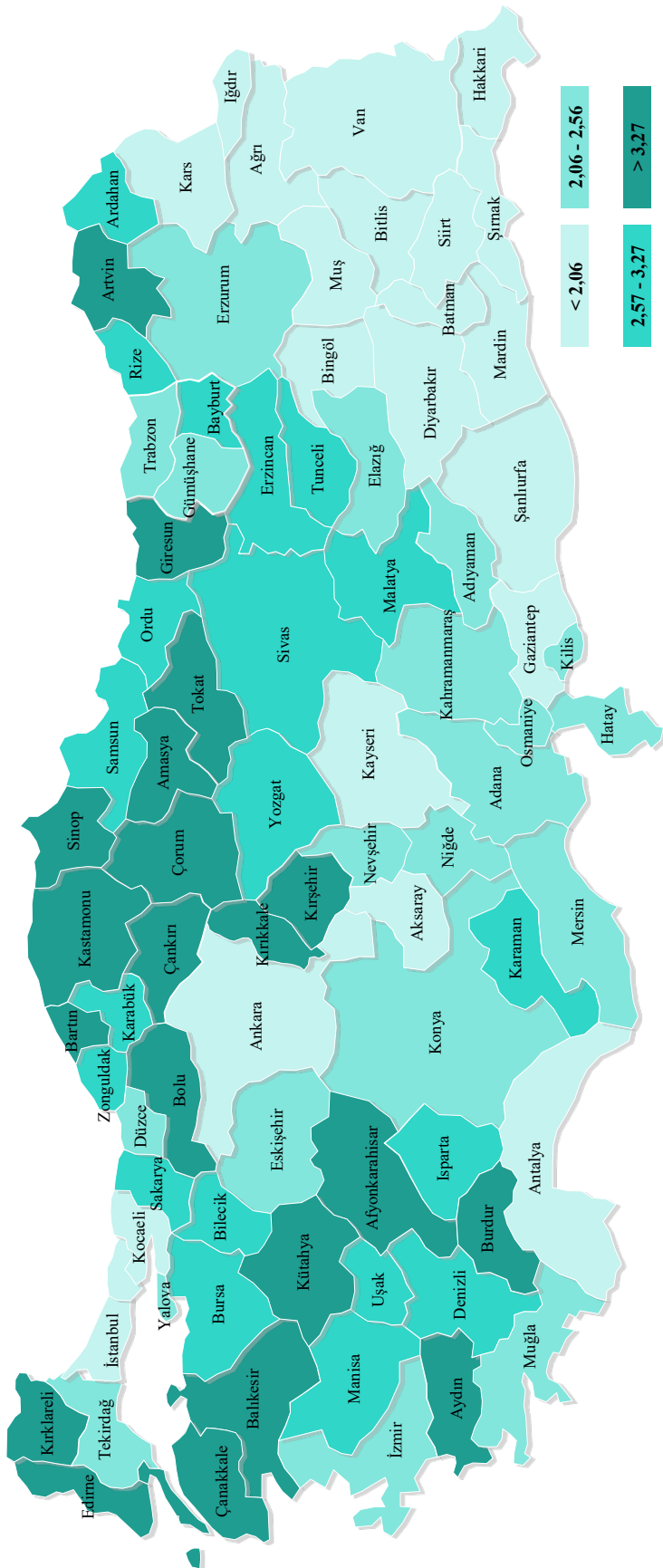
Table 2.1. Distribution of Causes of Death by the ICD-10 Main Diagnosis Codes and Sex, (%), 2019, 2020, 2021

ICD-10 Main Diagnosis Group	Code	2019			2020			2021		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Certain Infectious and Parasitic Diseases	A00-B99	2,52	3,08	2,77	2,41	2,65	2,52	2,84	3,14	2,97
Neoplasms	C00-D48	21,71	14,40	18,39	18,10	12,67	15,71	16,33	11,18	13,99
Diseases of the Blood and Bloodforming Organs and Certain Disorders Involving the Immune Mechanism	D50-D89	0,23	0,28	0,25	0,19	0,25	0,22	0,17	0,21	0,19
Endocrine, Nutritional and Metabolic Diseases	E00-E90	3,48	5,44	4,37	3,75	5,68	4,60	3,40	5,09	4,17
Mental and Behavioural Disorders	F00-F99	0,07	0,10	0,08	0,06	0,08	0,07	0,07	0,10	0,08
Diseases of the Nervous System and Sense Organs	G00-H95	3,63	5,73	4,59	3,15	5,09	4,00	2,62	4,06	3,28
Diseases of the Circulatory System	I00-I99	33,81	40,32	36,76	33,19	39,69	36,05	30,80	36,58	33,42
Diseases of the Respiratory System	J00-J99	13,39	12,39	12,94	16,39	15,00	15,78	13,80	12,95	13,41
Diseases of the Digestive System	K00-K93	2,14	2,45	2,28	1,89	2,11	1,98	1,87	2,02	1,94
Diseases of the Skin and Subcutaneous Tissue	L00-L99	0,06	0,11	0,08	0,05	0,08	0,06	0,03	0,09	0,06
Diseases of the Musculoskeletal System and Connective Tissue	M00-M99	0,20	0,33	0,26	0,16	0,31	0,23	0,13	0,29	0,20
Diseases of the Genitourinary System	N00-N99	3,55	4,52	3,99	3,58	4,20	3,85	3,27	3,88	3,55
Pregnancy, Childbirth and the Puerperium	O00-O99	-	0,08	0,04	-	0,06	0,03	-	0,06	0,03
Certain Conditions Originating in the Perinatal Period	P00-P96	1,32	1,22	1,28	0,97	0,97	0,97	0,95	0,91	0,93
Congenital Malformations, Deformations and Chromosomal Abnormalities	Q00-Q99	0,87	0,88	0,88	0,68	0,76	0,72	0,52	0,56	0,54
Symptoms, Signs and Abnormal Clinical and Laboratory Findings, Not Elsewhere Classified	R00-R99	1,48	1,57	1,52	1,48	1,45	1,47	1,23	1,21	1,22
COVID-19	U07	-	-	-	4,81	3,78	4,36	11,56	11,49	11,53
External Causes of Morbidity and Mortality	V01-Y89	4,83	2,28	3,67	4,61	2,00	3,46	4,13	1,78	3,07
Unknown	-	6,71	4,83	5,86	4,51	3,16	3,92	6,26	4,40	5,42

Source: TURKSTAT, Death and Causes of Death Statistics 2021

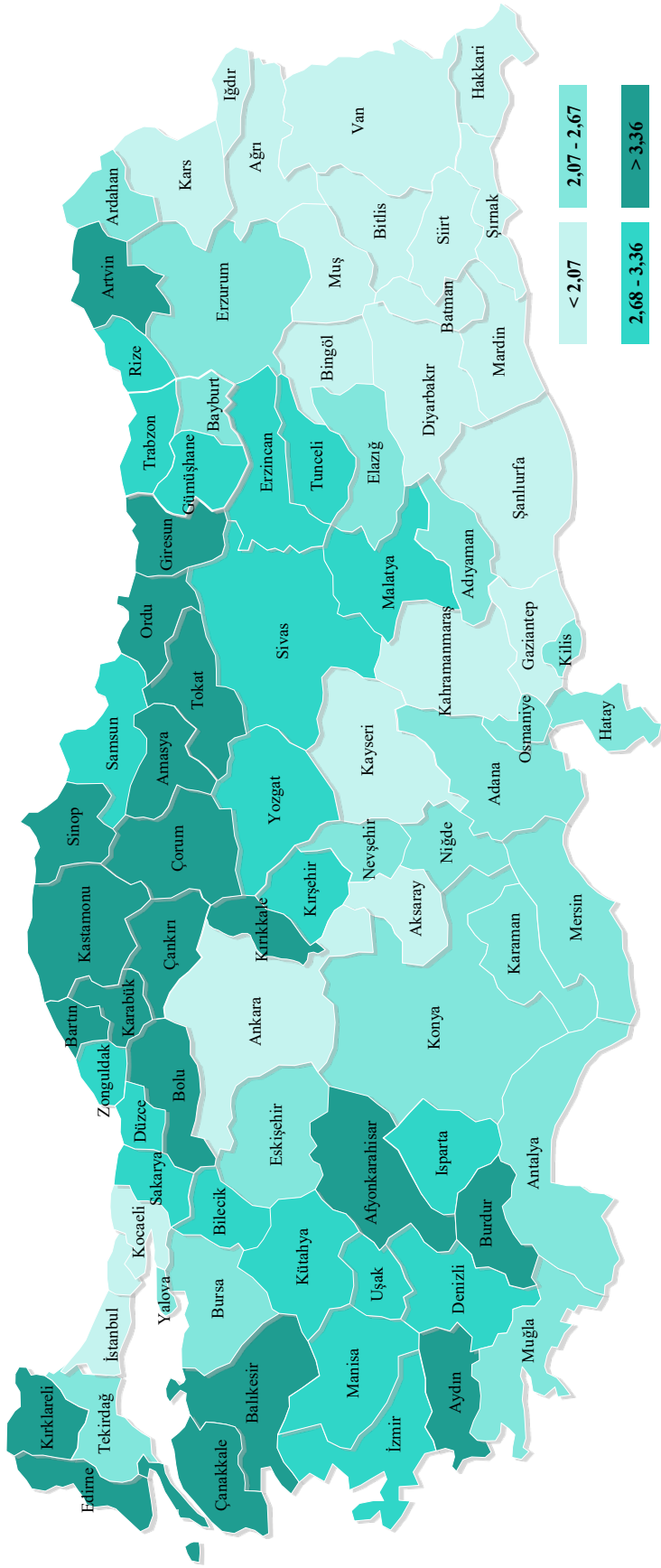
Note: The distribution of causes of death was calculated over the total number of relevant column.

Map 2.3. Diseases of the Circulatory System (ICD 10: I00-I99) Crude Death Rate by Usual Residence and Provinces, (%), 2020



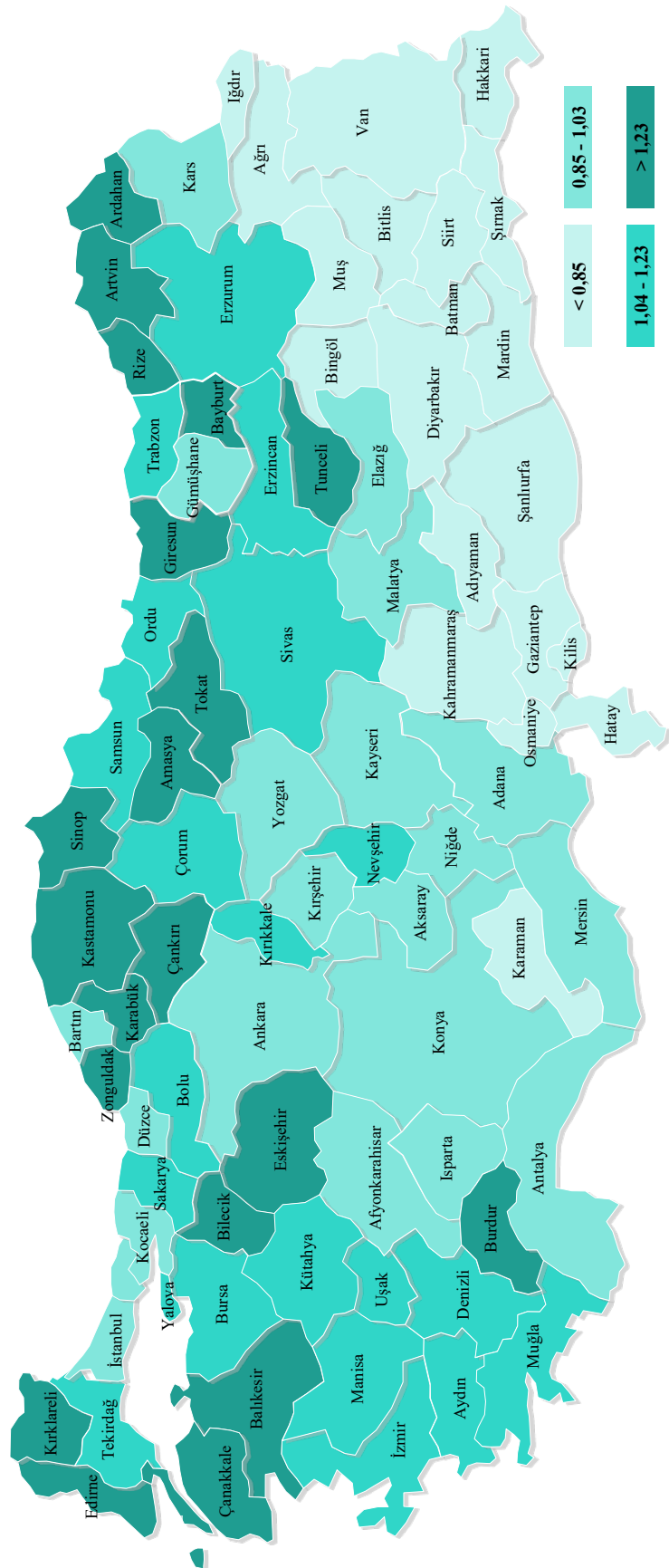
Source: TURKSTAT, Death and Causes of Death Statistics 2020

Map 2.4. Diseases of the Circulatory System (ICD 10: I00-I99) Crude Death Rate by Usual Residence and Provinces, (%), 2021



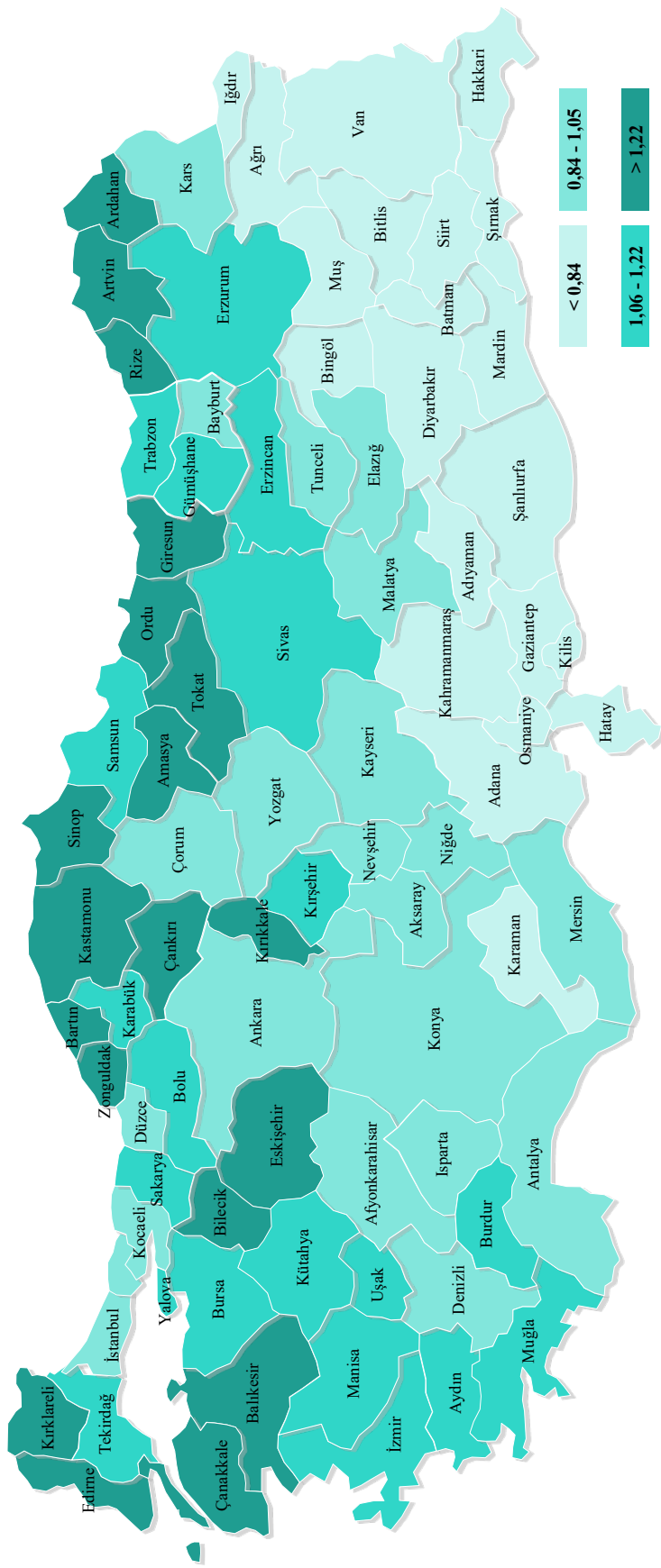
Source: TURKSTAT, Death and Causes of Death Statistics 2021

Map 2.5. Neoplasm (ICD 10: C00-D48) Crude Death Rate by Usual Residence and Provinces, (‰), 2020



Source: TURKSTAT, Death and Causes of Death Statistics 2020

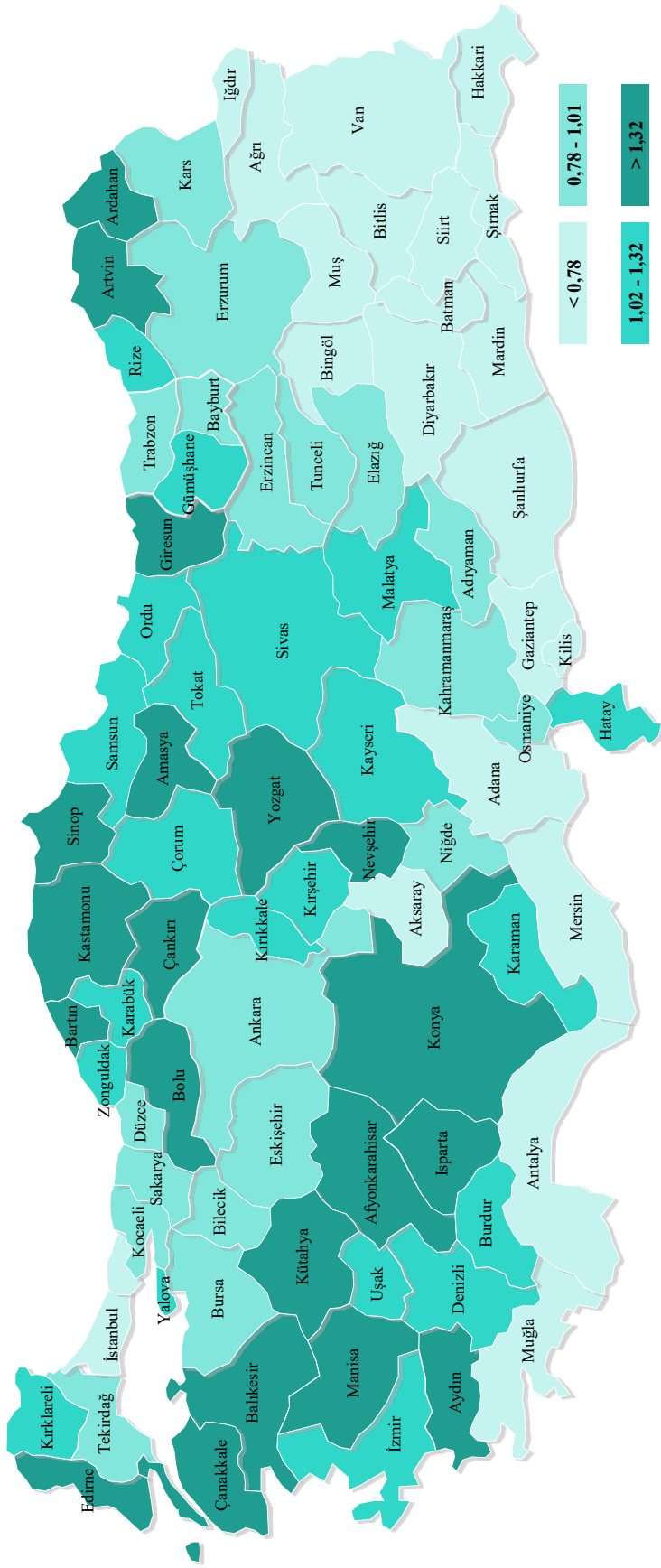
Map 2.6. Neoplasm (ICD 10: C00-D48) Crude Death Rate by Usual Residence and Provinces, (‰), 2021



Source: TURKSTAT, Death and Causes of Death Statistics 2021



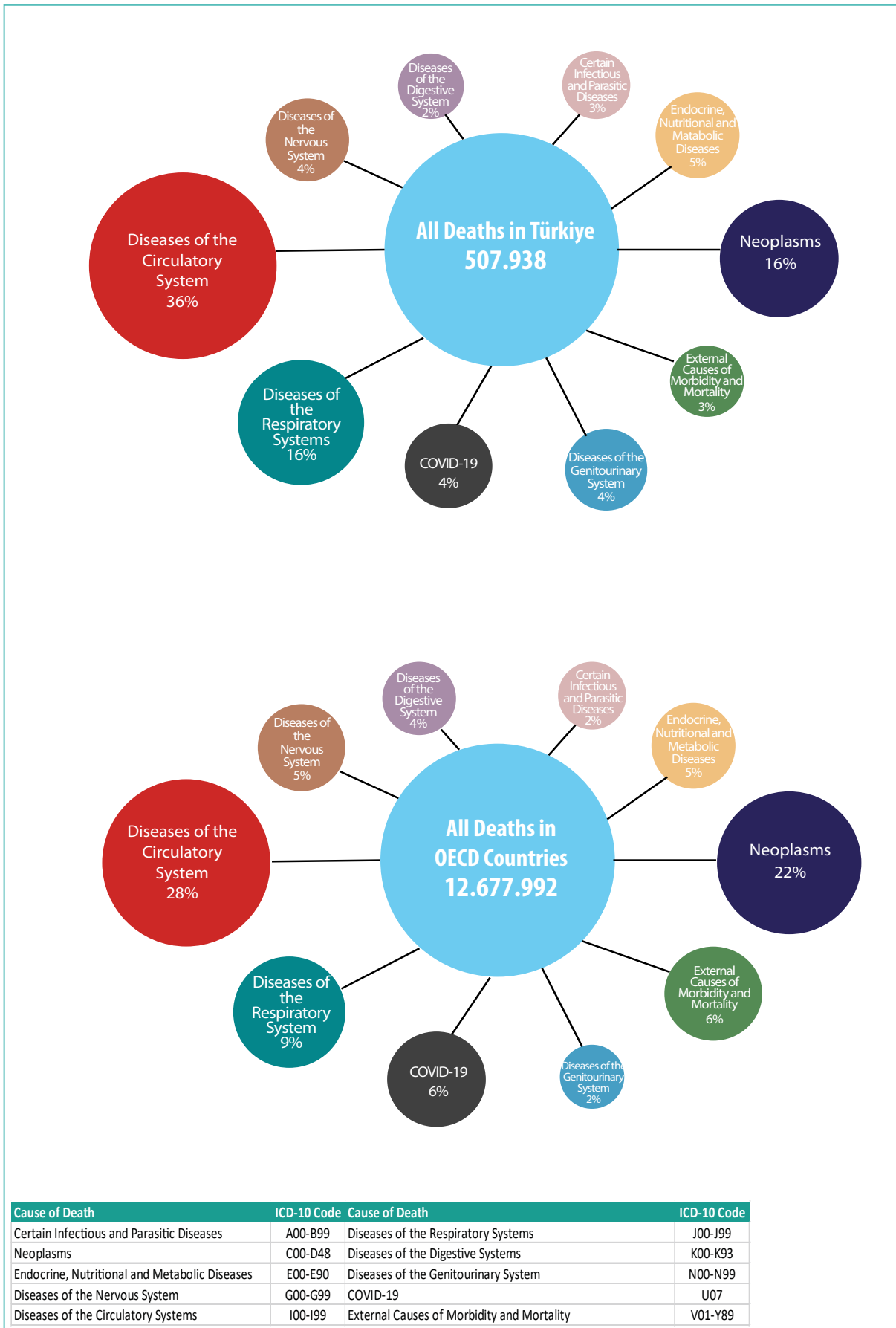
Map 2.7. Diseases of the Respiratory System (ICD 10: J00-J99) Crude Death Rate by Usual Residence and Provinces, (‰), 2020



Source: TURKSTAT, Death and Causes of Death Statistics 2020

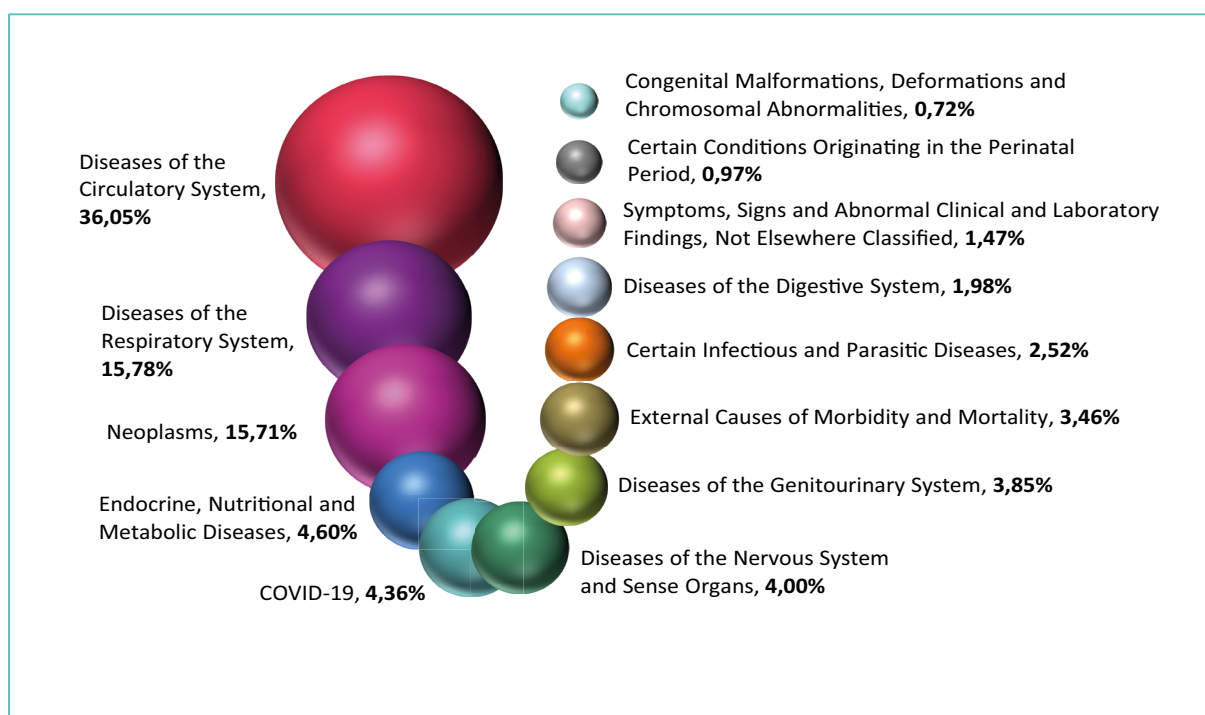


Figure 2.13. International Comparison of Distribution of Causes of Death, (%), 2020



Source: TURKSTAT, Death and Causes of Death Statistics 2020, OECD Health Data 2022  
 Note: Türkiye's data belongs to the year 2020 to be comparable internationally. Countries' data belong to the year 2020 or nearest .

Figure 2.14. Distribution of Causes of Death by the ICD-10 Main Diagnosis Codes, (%), 2020



Source: TURKSTAT, Death and Causes of Death Statistics 2020

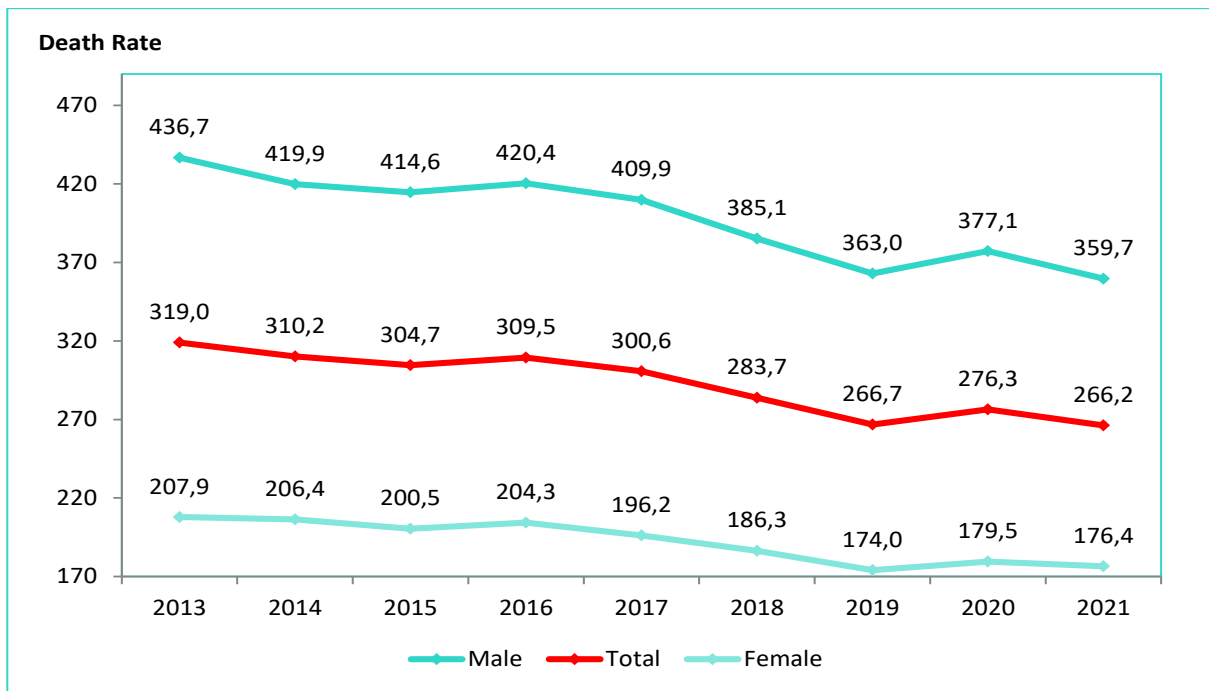
Table 2.2. Age-Standardized Premature Mortality Rate of Selected Causes by ICD-10 Diagnosis Codes and Sex, (per 100.000 Population, World Standard Population), 2020, 2021

Selected Causes	Code	2020			2021		
		Male	Female	Total	Male	Female	Total
<b>Malignant Neoplasms</b>	C00-C97	127,14	66,69	96,18	121,19	65,79	92,78
<b>Diabetes Mellitus</b>	E10-E14	15,73	11,15	13,40	14,07	9,82	11,91
<b>Diseases of the Circulatory System</b>	I00-I99	162,15	71,62	116,21	159,42	72,87	115,49
Ischemic Heart Disease	I20-I25	86,89	27,73	56,90	85,36	28,22	56,37
Acute Myocardial Infarction	I21-I22	59,18	19,69	39,16	60,14	20,10	39,83
Cerebrovascular Diseases	I60-I69	25,45	16,13	20,71	24,82	15,99	20,34
<b>Chronic Respiratory Diseases</b>	J40-J47	23,13	8,47	15,60	18,42	6,84	12,48
COPD	J40-J44	22,09	6,76	14,22	17,61	5,64	11,46
Asthma	J45-J46	0,95	1,55	1,26	0,73	1,10	0,92
<b>Diseases of the Digestive System</b>	K00-K93	11,74	5,68	8,68	11,96	6,36	9,13

Source: TURKSTAT, Death and Causes of Death Statistics 2021

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

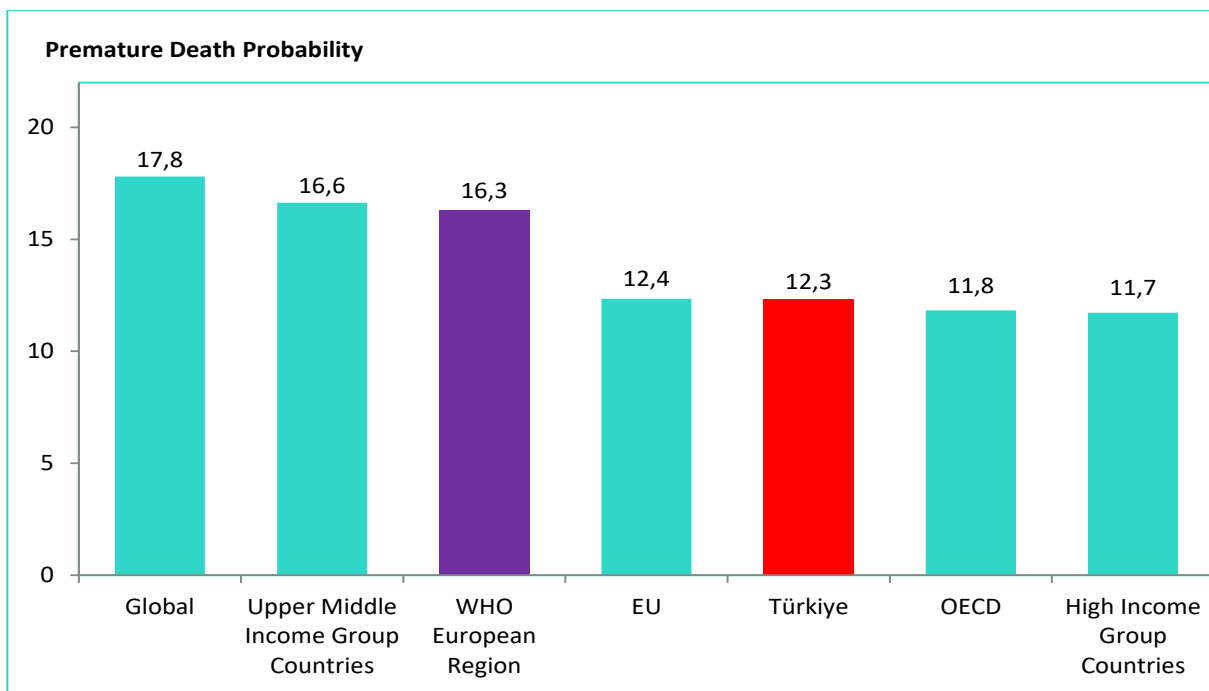
Figure 2.15. Age-Standardized Premature Mortality Rate of Four Main Non-Communicable Disease Groups by Years and Sex, (per 100.000 Population, European Standard Population)



Source: TURKSTAT, Death and 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-C97), Diabetes Mellitus (E10-E14), Diseases of the Circulatory System (I00-I99), Chronic Respiratory Diseases (J40-J47).

Figure 2.16. International Comparison of Probability of Premature Death from Four Major Noncommunicable Diseases, (%), 2021



Source: TURKSTAT, Death and Causes of Death Statistics 2021, WHO Global Health Observatory Database

Note: Four Main Non-communicable Disease Group: Malignant Neoplasms (C00-C97), Diabetes Mellitus (E10-E14), Diseases of the Circulatory System (I00-I99), Chronic Respiratory Diseases (J40-J47). Türkiye's data belongs to the year 2021 and countries' data belong to the year 2019.

## 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 births 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 births 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 or pregnancy related cause in a year in a society, multiplying by 100.000 to the ratio of the number of live births 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://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/>

☑ **Probability of Premature Mortality:** It is the probability that a 30-year-old individual will die before reaching the age of 70.

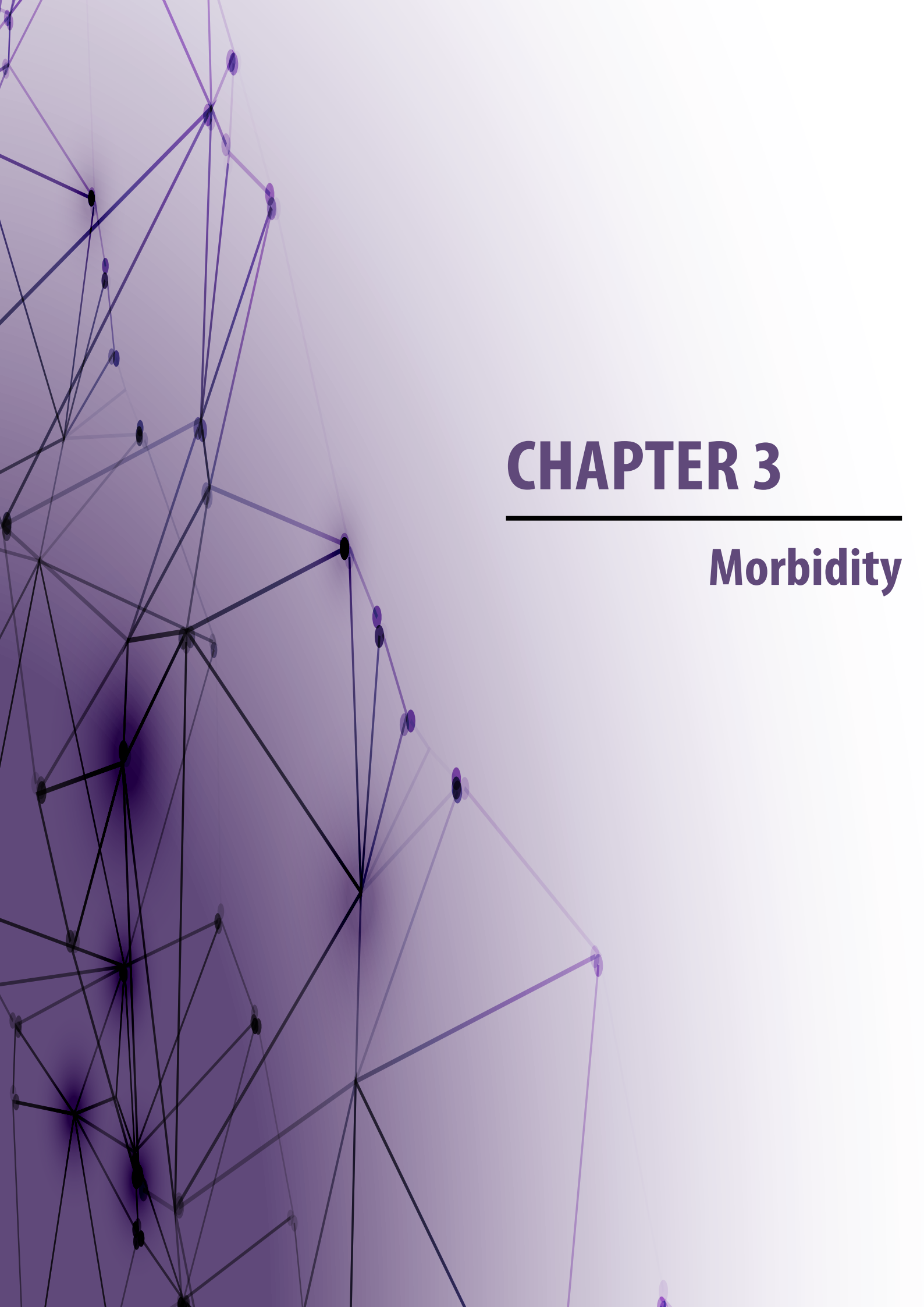
☑ 4-point Likert was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the scale intervals.

☑ 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, Map 2.5, Map 2.6, Map 2.7 and Map 2.8 in the chapter. These whole numbers were considered while creating the Likert scales.

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

### TURKSTAT, Death and Causes of Death Statistics

- Definition** : Causes of death statistics are based on underlying causes of death. Death statistics are based on the number of death.
- Classification of Causes of Death** : 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 Turkish citizens residing in Türkiye, and foreigners residing in Türkiye, who died within the borders of Türkiye, and Turkish citizens residing in Türkiye, who died abroad.
- Time coverage** : Death and Causes of Death Statistics are available from 2009 onwards for all Türkiye.
- Sources of Data** : Sources of data for Causes of Death Statistics are hospitals, family health centers, institutions of municipal medicine, institutions of forensic medicine and other health institutions. Sources of data for Death Statistics are General Directorate of Population and Citizenship Affairs, Central Population Management System (MERNIS), TURKSTAT causes of death and suicide data from relevant institutions.
- Data Compilation System** : Information on death events obtained from the MERNIS database is based on the "MERNIS Death Notification Form". Deaths occurring in health institutions are recorded in the "Death Notification System" and reported to the directorate of district population within 10 days. Death events occurring outside the health institution are reported to the directorate of district population by the person authorized to issue a burial license (family doctor, municipality doctor, village headman, etc.). These deaths, which are notified to the directorates of district population, are recorded in the MERNIS database.
- Data Processing** : Coding the diseases at the sections for the determination of causes of death are done according to ICD-10 and underlying causes of death are determined in TURKSTAT Regional Offices. Death statistics are produced by combining data from MERNIS, TURKSTAT cause of death and suicide data from relevant institutions.



# CHAPTER 3

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## Morbidity



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

		2002	2017	2018	2019	2020	2021
AIDS	Local Case	37	107	108	105	57	70
	Imported Case	6	19	22	29	15	10
	Total Case	43	126	130	134	72	80
Measles	Local Case	7.810	48	412	1.958	316	48
	Imported Case		36	304	947	301	2
	Total Case	7.810	84	716	2.905	617	50
Tuberculosis	Local Case	18.043	10.748	10.334	9.820	7.423	7.635
	Imported Case		1.073	1.242	1.427	1.407	1.412
	Total Case	18.043	11.821	11.576	11.247	8.830	9.047
Malaria	Local Case	10.184	0	0	0	0	0
	Imported Case	40	214	238	280	135	210
	Total Case	10.224	214	238	280	135	210

Source: General Directorate of Public Health

Note: AIDS total case number is calculated by using the notified cases with having positive confirmation test result as of 31 January 2022. The number of tuberculosis cases indicates the sum of new and relapse cases.

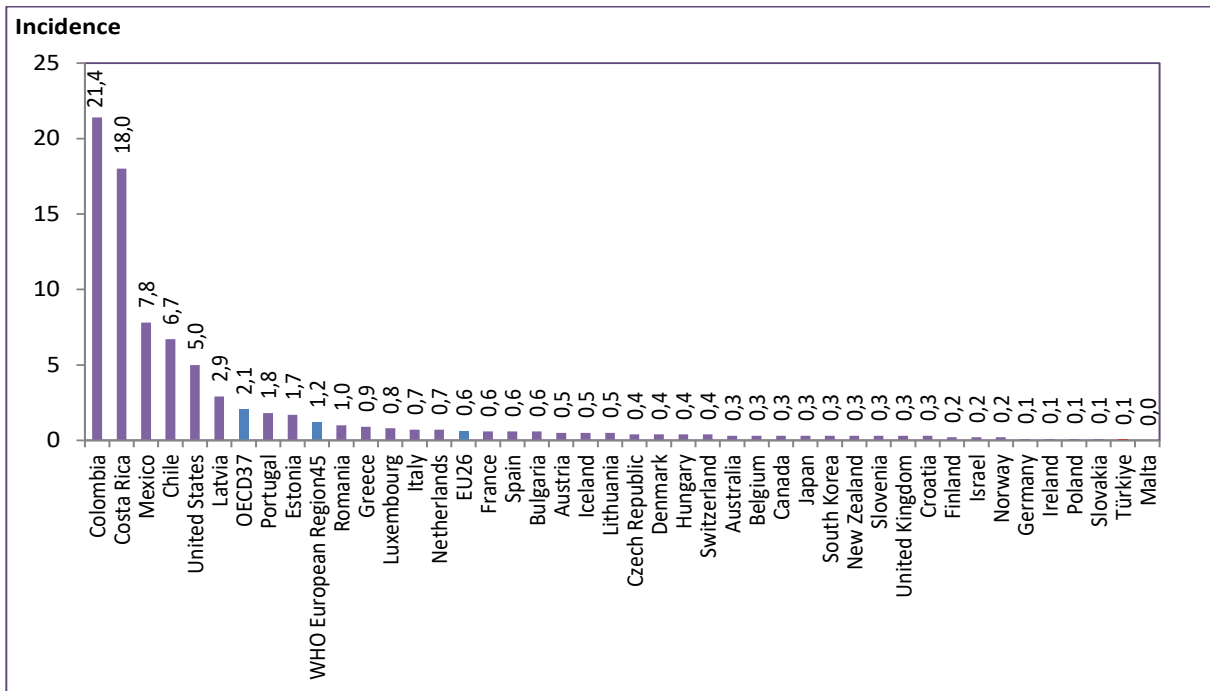
Table 3.2. Infectious Diseases Incidence by Years, (per 100.000 Population)

	2002	2017	2018	2019	2020	2021
AIDS	0,07	0,16	0,16	0,16	0,09	0,09
Measles	11,8	0,09	0,87	3,49	0,74	0,06
Tuberculosis	32,0	14,6	14,1	13,5	10,6	10,7
Malaria	15,4	0,26	0,29	0,34	0,16	0,25

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.

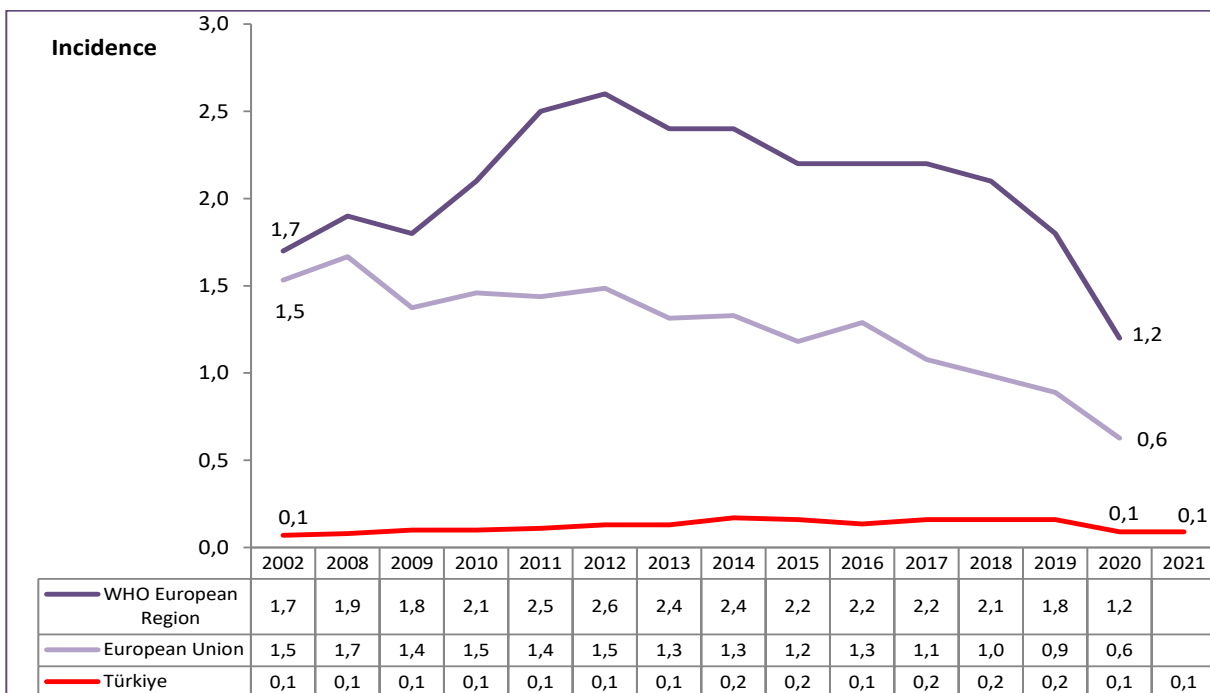
Figure 3.1. International Comparison of AIDS Incidence, (per 100.000 Population), 2020



Source: General Directorate of Public Health, ECDC Joint Report with the WHO Regional Office for Europe on HIV/AIDS Surveillance - 2021 Data, OECD Health Data 2022

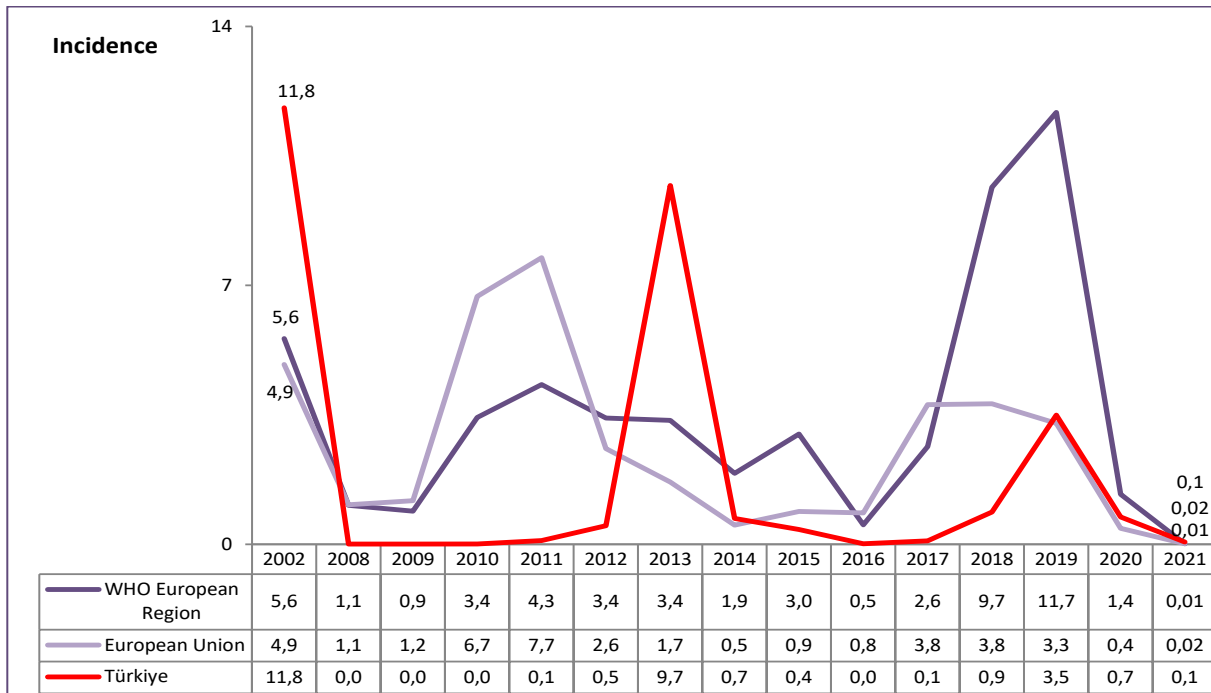
Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest.

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



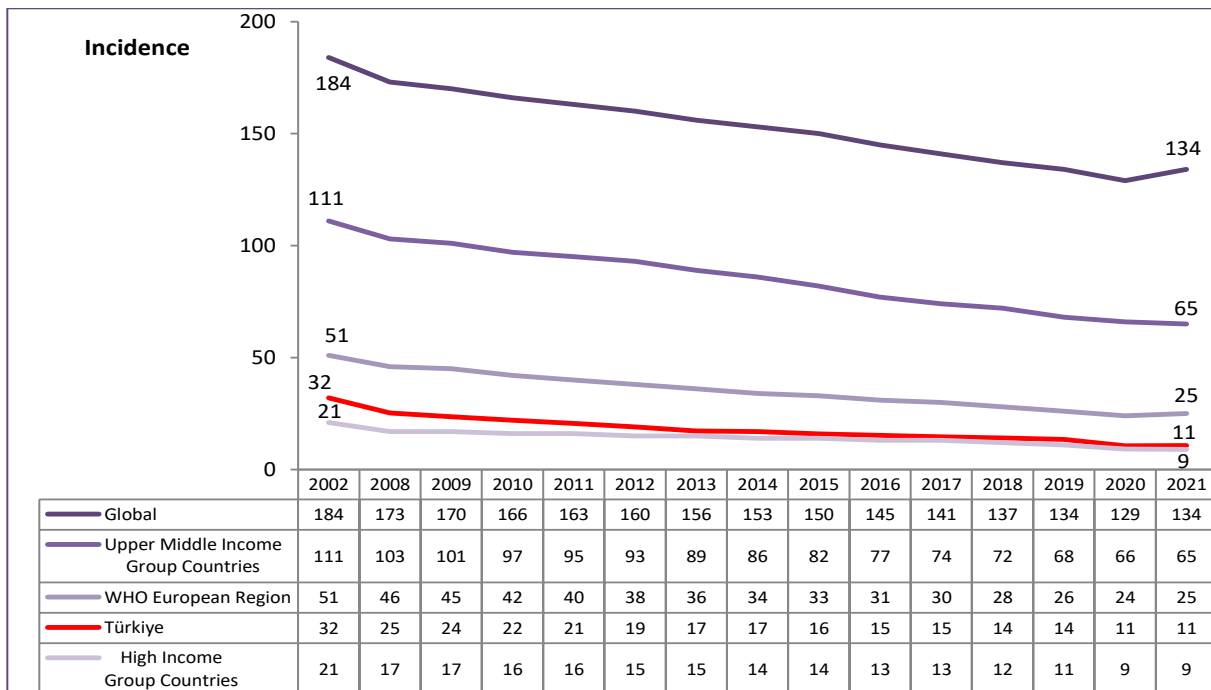
Source: General Directorate of Public Health, ECDC HIV/AIDS Surveillance Reports, OECD Health Data 2022

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



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

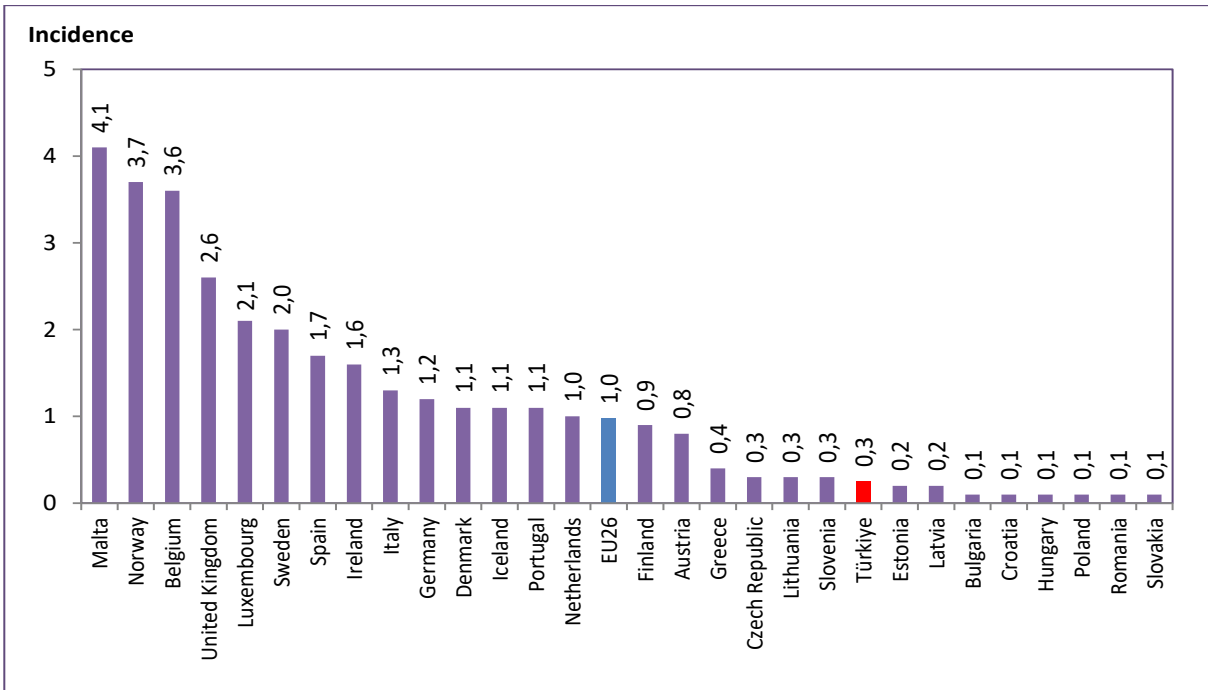
Figure 3.4. International Comparison of Tuberculosis Incidence by Years, (per 100.000 Population)



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), 2019



Source: General Directorate of Public Health, ECDC-Annual Epidemiological Report for 2019  
 Note: Türkiye's number of local cases for the year 2021 is "0" (zero). Countries' data belong to the year 2019 or nearest.

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

	2002	2014	2015	2016	2017	2018
Male	154,2	246,8	247,6	259,9	259,2	262,4
Female	113,0	173,6	177,5	183,2	187,0	188,0
Total	133,5	210,2	212,6	221,6	223,1	225,2

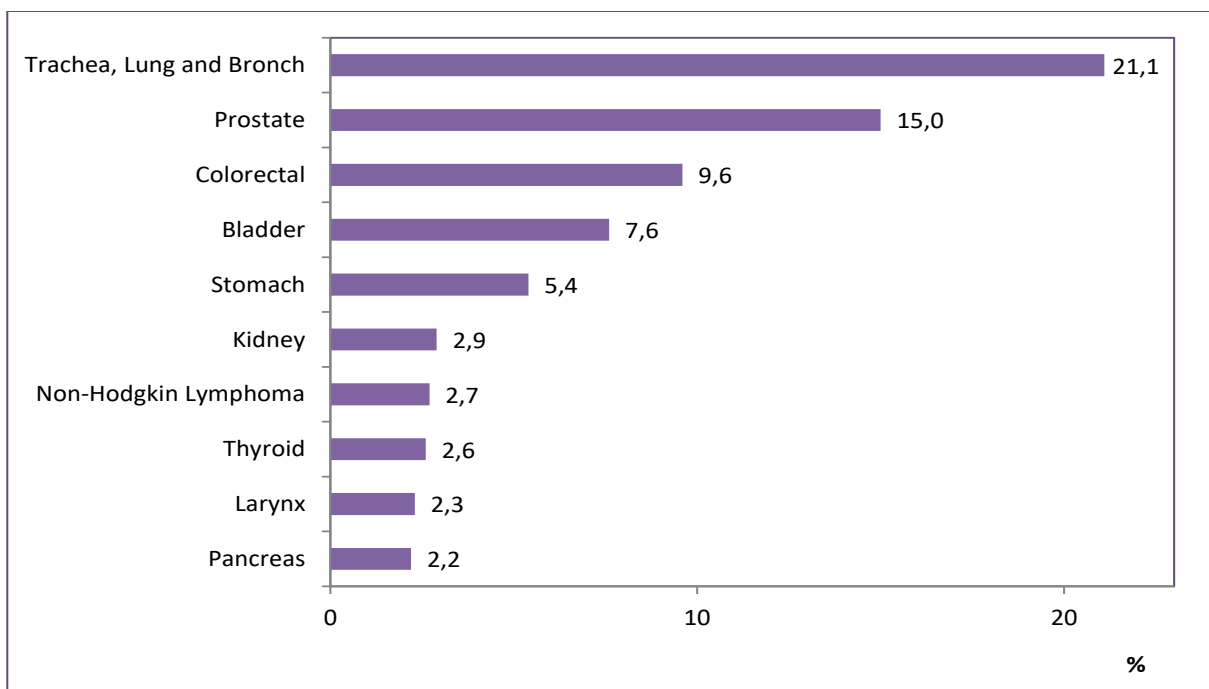
Source: General Directorate of Public Health

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

	2002	2014	2015	2016	2017	2018
Trachea, Lung and Bronch	42,2	52,5	52,5	57,7	56,7	55,5
Prostate	11,5	32,9	33,1	35	35,7	40,3
Colorectal	11,8	22,8	23,1	25,3	25,1	24,8
Bladder	12,4	19,3	20,2	21,1	20,1	20,0
Stomach	11,6	14,3	14,2	14,2	14,3	14,1
Kidney	3	6,4	6,8	7,4	7,2	7,5
Non-Hodgkin Lymphoma	1,4	7,2	6,9	7,2	7,1	6,9
Thyroid	0,5	5,5	6	6,2	6,4	6,3
Larynx	6,9	6,2	6,6	6,2	5,7	6,0
Pancreas	3,1	5,1	5,6	5,7	5,9	5,6

Source: General Directorate of Public Health

Figure 3.6. Distribution of the Most Common 10 Cancer Types Among Men in the Total Cancer, (%), 2018



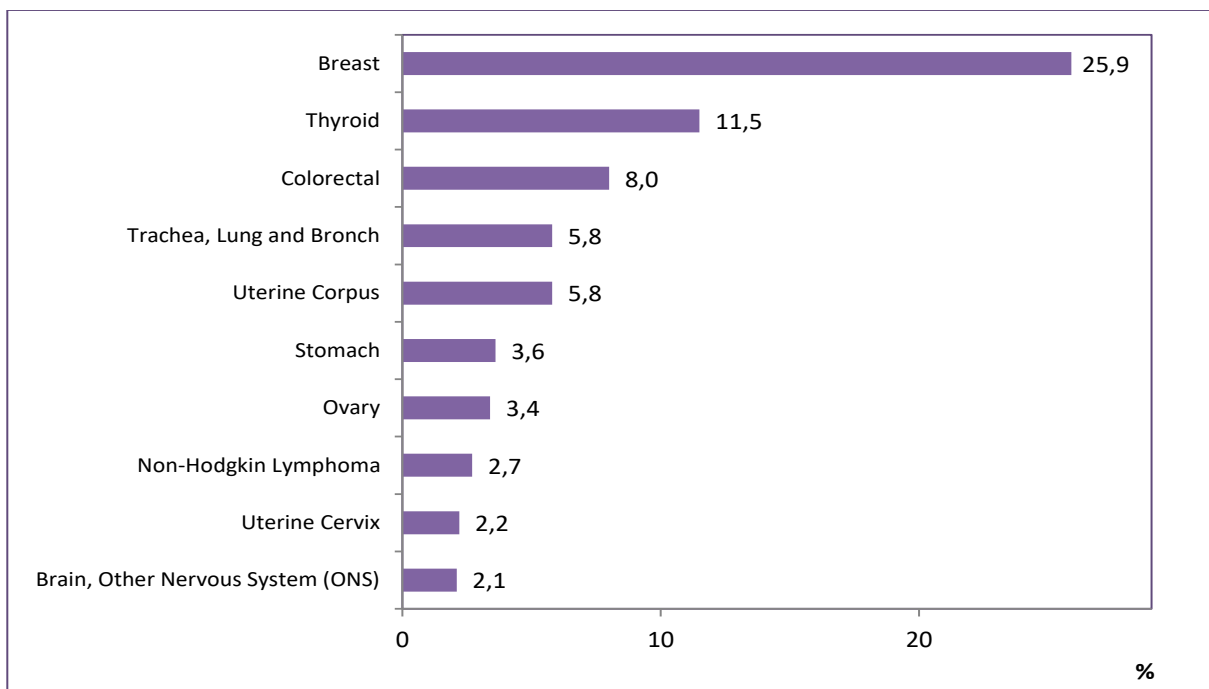
Source: General Directorate of Public Health

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

	2002	2014	2015	2016	2017	2018
Breast	31,9	43,0	43,8	45,6	47,7	48,6
Thyroid	3,5	20,7	21,7	22,9	22,6	22,1
Colorectal	9,3	13,8	14,4	14,2	14,7	14,7
Uterine Corpus	4,3	9,8	10,0	10,5	10,7	11,1
Trachea Lung and Bronch	5,2	8,7	9,0	9,8	11,1	10,9
Stomach	6,0	6,5	6,3	6,6	6,4	6,5
Ovary	5,9	6,1	6,4	6,4	6,3	6,5
Non-Hodgkin Lymphoma	1,2	5,0	4,9	5,1	4,8	5,2
Uterine Cervix	3,9	4,0	4,5	4,3	4,3	4,2
Brain, Other Nervous System(ONS)	3,8	4,1	4,1	4,0	4,2	4,2

Source: General Directorate of Public Health

Figure 3.7. Distribution of the Most Common 10 Cancer Types Among Females in the Total Cancer, (%), 2018



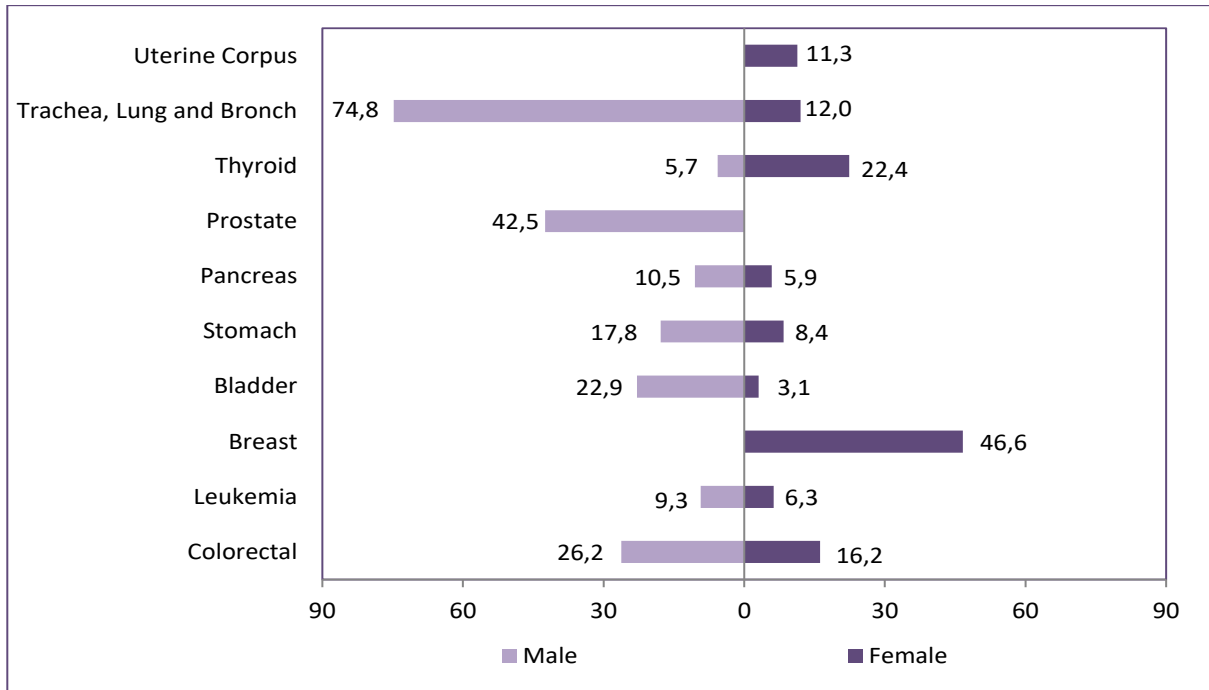
Source: General Directorate of Public Health

Table 3.6. Cancer Incidence by Sex, (per 100.000 Population, World Standard Population), 2018

ICD-10		Male	Female
<b>C00-96</b>	<b>All Cancers</b>	<b>262,4</b>	<b>188,0</b>
<b>C00-14</b>	<b>Mouth, Pharynx</b>	<b>4,9</b>	<b>2,2</b>
C00	Lip	0,9	0,2
C01-C02	Tongue	0,8	0,4
C03-C06	Mouth	0,8	0,5
C07-C08	Salivary Glands	0,6	0,4
C09	Tonsil	0,3	0,1
C10	Other Oropharynx	0,1	0,0
C11	Nasopharynx	1,1	0,5
C12-C13	Hypopharynx	0,3	0,1
C14	Pharynx, unspecified	0,0	0,0
<b>C15-26</b>	<b>Digestion Organs</b>	<b>52,8</b>	<b>29,4</b>
C15	Esophagus	1,7	1,0
C16	Stomach	14,1	6,5
C17	Small Intestine	0,7	0,4
C18	Colon	15,8	9,7
C19-C20	Rectum	9,0	5,0
C21	Anus	0,3	0,2
C22	Liver	3,9	1,6
C23-C24	Gall bladder etc.	1,6	1,2
C25	Pancreas	5,6	3,7
C26	Other Digestion Organs	0,1	0,1
<b>C30-34,C37-C38</b>	<b>Respiratory Organs</b>	<b>62,6</b>	<b>12,0</b>
C30-C31	Nose, sinuses etc.	0,4	0,2
C32	Larynx	6,0	0,5
C33-C34	Trachea, Lung and Bronch	55,5	10,9
C37-C38	Other Thoracic Organs	0,7	0,4
<b>C40-C41</b>	<b>Bone</b>	<b>1,2</b>	<b>0,9</b>
<b>C43</b>	<b>Melanoma</b>	<b>1,8</b>	<b>1,2</b>
<b>C44</b>	<b>Other Skin</b>	<b>24,5</b>	<b>17,1</b>
<b>C45</b>	<b>Mesothelioma</b>	<b>0,9</b>	<b>0,4</b>
<b>C46</b>	<b>Kaposi's sarcoma</b>	<b>0,9</b>	<b>0,3</b>
<b>C47;C49</b>	<b>Connective, Soft tissue</b>	<b>2,1</b>	<b>1,5</b>
<b>C50</b>	<b>Breast</b>	<b>0,7</b>	<b>48,6</b>
<b>C51-58</b>	<b>Female Genital Organs</b>	<b>-</b>	<b>23,8</b>
C51	Vulva	-	0,5
C52	Vagina	-	0,1
C53	Cervix uteri	-	4,2
C54	Corpus uteri	-	11,1
C55	Uterus unspecified	-	0,8
C56	Ovary	-	6,5
C57	Other Female Genital	-	0,6
C58	Placenta	-	0,0
<b>C60-63</b>	<b>Male Genital Organs</b>	<b>44,8</b>	<b>-</b>
C60	Penis	0,1	-
C61	Prostate	40,3	-
C62	Testicle	4,3	-
C63	Other male genital	0,1	-
<b>C64-68</b>	<b>Urinary Organs</b>	<b>28,1</b>	<b>6,5</b>
C64	Kidney	7,5	3,4
C65	Renal Pelvis	0,3	0,1
C66	Ureter	0,2	0,0
C67	Bladder	20,0	2,9
C68	Other Urinary Organs	0,1	0,1
<b>C69</b>	<b>Eye</b>	<b>0,2</b>	<b>0,3</b>
<b>C70-C72</b>	<b>Brain, nervous system</b>	<b>5,2</b>	<b>4,2</b>
<b>C73</b>	<b>Thyroid</b>	<b>6,3</b>	<b>22,1</b>
<b>C74-75</b>	<b>Other Endocrine Glands</b>	<b>0,6</b>	<b>0,5</b>
C74	Adrenal gland	0,4	0,3
C75	Other Endocrine	0,2	0,2
<b>C81-85,88,90-96</b>	<b>Lymphoid and hematopoietic</b>	<b>18,9</b>	<b>13,5</b>
C81	Hodgkin's disease	2,1	1,4
C82-C85;C96	Non-Hodgkin lymphoma	6,9	5,2
C88	Immunoproliferative diseases	0,1	0,0
C90	Multiple Myeloma	3,0	2,1
C91	Lymphoid Leukemia	3,6	2,4
C92-C94	Myeloid Leukemia	2,9	2,1
C95	Leukemia, unspecified	0,3	0,3
<b>C39,C48,C76,C77,C80</b>	<b>Other&amp;Unspecified</b>	<b>5,7</b>	<b>3,7</b>

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), 2020



Source: IARC, GLOBOCAN 2020

Note: Cancer incidence is WHO's estimation for the year 2020.

Table 3.7. International Comparison of Cancer Incidence by Sex (per 100.000 Population, World Standard Population), 2020

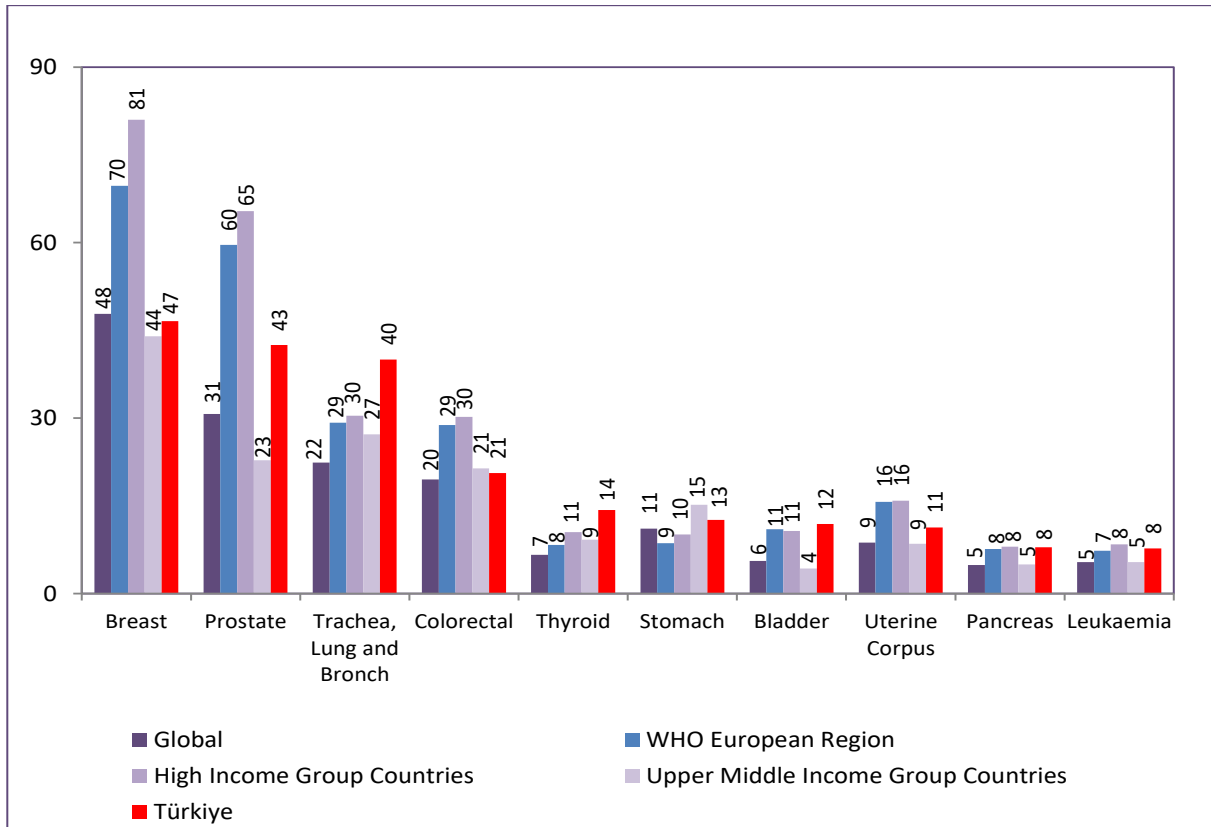
Rank	Country	Male	Country	Female	Country	Total
1	Australia	500,4	Australia	408,6	Australia	452,4
2	New Zealand	461,7	New Zealand	388,2	New Zealand	422,9
3	Ireland	414,1	Denmark	341,3	Ireland	372,8
4	United States	400,9	Ireland	336,6	United States	362,2
5	France	397,2	United States	333,2	Denmark	351,1
6	Hungary	393,3	Belgium	331,0	Netherlands	349,6
7	Latvia	377,8	Netherlands	330,2	Belgium	349,2
8	Belgium	376,9	Canada	327,6	Canada	348,0
9	Netherlands	375,5	Norway	307,4	France	341,9
10	Canada	373,7	Hungary	305,2	Hungary	338,2
	Türkiye (39)	291,5	Türkiye (65)	188,0	Türkiye (50)	231,5
	Global	222,0	Global	186,0	Global	201,0

Source: IARC, GLOBOCAN 2020

Note: Values in parentheses indicate the rank of Türkiye in world rankings. Cancer incidence is WHO's estimation for the year 2020.



Figure 3.9. International Comparison of Incidence of the Most Common 10 Types of Cancer in Türkiye, (per 100.000 Population, World Standard Population), 2020



Source: IARC, GLOBOCAN 2020

Note: Cancer incidence is WHO's estimation for the year 2020.

Table 3.8. Distribution of the Status of 15 and Over Aged Females Regarding Making Self-Examination of Breast, (%), 2016, 2019

Self-Examination	2016	2019
Once a Month	19,7	22,1
Once in Three Months	7,9	8,1
Once in More Than Three Months	11,9	15,4
Never	60,6	54,3

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

Table 3.9. Distribution of the Status of 15 and Over Aged Females Regarding Having Mammography, (%), 2016, 2019

Mammography Examination Period	2016	2019
Within the Past One Year	9,0	10,4
More Than One Year But Less Than Two Years	7,1	8,3
More Than Two Years But Less Than Three Years	3,6	5,3
More Than Three Years But Less Than Five Years	4,0	4,2
More Than Five Years	5,2	6,7
Never	71,1	65,1

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

Table 3.10. Distribution of the Status of 15 and Over Aged Females Regarding Having Smear Test, (%), 2016, 2019

Smear Test Period	2016	2019
Within the Past One Year	10,9	11,7
More Than One Year But Less Than Two Years	7,9	9,2
More Than Two Years But Less Than Three Years	3,6	5,8
More Than Three Years But Less Than Five Years	3,2	4,2
More Than Five Years	5,1	7,9
Never	69,3	61,2

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

Table 3.11. Distribution of 15 and Over Aged Individuals Having Difficulty in Performing Personal Care by Sex, (%), 2019

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

Source: TURKSTAT, Türkiye Health Interview Survey 2019

Table 3.12. Distribution of Major Diseases Seen in Children (0-6 Age Group) in the Past 6 Months by Sex, (%), 2019

Disease/Health Problem	Boy	Girl	Total
Upper Respiratory Tract Infection (Tonsillitis, Middle Ear Infections, Pharyngitis, etc.)	35,9	35,9	35,9
Diarrhea	29,8	27,6	28,7
Lower Respiratory Tract Infection (Pneumonia, etc.)	9,2	9,8	9,5
Anemia (Iron Deficiency Anemia, etc.)	8,2	5,5	6,9
Oral and Dental Health Problems	6,9	5,9	6,4
Urinary Tract Infection	2,8	5,6	4,2
Bone Deformities Caused by Vitamin D Lack	3,7	2,3	3,0
Skin Diseases	3,4	2,5	2,9

Source: TURKSTAT, Türkiye Health Interview Survey 2019

Table 3.13. Distribution of Major Diseases Seen in Children (7-14 Age Group) in the Past 6 Months by Sex, (%), 2019

Disease/Health Problem	Boy	Girl	Total
Upper Respiratory Tract Infection (Tonsillitis, Middle Ear Infections, Pharyngitis, etc.)	28,3	30,5	29,4
Diarrhea	19,5	17,2	18,3
Oral and Dental Health Problems	14,9	13,4	14,2
Visual Problems	9,5	12,5	10,9
Lower Respiratory Tract Infection (Pneumonia, etc.)	7,2	5,8	6,5
Skin Diseases	3,8	4,3	4,0
Hearing Problems	1,5	1,8	1,7
Diseases Related with Nutrition	1,5	1,8	1,7
Musculoskeletal System Diseases	1,3	1,4	1,3
Mental Health Problems	1,0	1,2	1,1

Source: TURKSTAT, Türkiye Health Interview Survey 2019

Table 3.14. Distribution of Major Diseases Seen in 15 and Over Aged Individuals in the Past 12 Months by Sex, (%), 2019

Disease/Health Problem	Male	Female	Total
Low Back Disorders(Lumbago, Back Hernia, Other Back Defections)	22,6	36,6	29,7
Neck Disorders(Neck Pain, Neck Hernia, Other Neck Defections)	12,8	27,9	20,5
High Blood Pressure (Hypertension)	11,9	20,8	16,4
Allergy (Such as Rhinitis, Eye Inflammation, Dermatitis, Food Allergy or Other)	8,9	15,6	12,3
Arthrosis	7,6	14,6	11,2
Diabetes	8,2	12,2	10,2
Depression	5,7	12,2	9,0
Asthma(Allergic Asthma Included)	5,8	12,1	8,9
Urinary Incontinence, Problems in Controlling the Bladder	5,3	10,4	7,8
Coronary heart disease (angina pectoris, chest pain, spasm)	6,6	7,7	7,2
Chronic obstructive pulmonary disease (Chronic bronchitis, emphysema)	5,2	9,0	7,1
Alzheimer*	6,0	6,0	6,0
Kidney Problems	4,9	6,4	5,7
Myocardial Infarction (Heart Attack)	2,5	1,9	2,2
Cirrhosis of the Liver, Liver Dysfunction	1,5	1,7	1,6
Stroke(Cerebral Hemorrhage, Cerebral Thrombosis)	0,7	0,8	0,8

Source: TURKSTAT, Türkiye Health Interview Survey 2019

\* Alzheimer was evaluated for individuals in the 65+ age group.

Table 3.15. 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 Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017

Note: The data is based on self-reported.

Table 3.16. Distribution of 0-14 Aged Children's General Health Status by Sex and Age Groups, (%), 2019

Age Groups	Health Status	Boy	Girl	Total
0-4	Very Good/Good	92,5	94,6	93,5
	Bad/Very Bad	1,8	1,5	1,7
5-9	Very Good/Good	88,8	89,8	89,3
	Bad/Very Bad	2,6	2,0	2,3
10-14	Very Good/Good	90,4	90,8	90,6
	Bad/Very Bad	2,1	2,2	2,2
Total	Very Good/Good	90,6	91,8	91,1
	Bad/Very Bad	2,2	1,9	2,0

Source: TURKSTAT, Türkiye Health Interview Survey 2019

Table 3.17. Distribution of 15 and Over Aged Individuals' General Health Status by Sex and Age Groups, (%), 2019

Age Groups	Health Status	Male	Female	Total
15-24	Very Good/Good	89,9	82,2	86,1
	Bad/Very Bad	1,0	1,9	1,5
25-34	Very Good/Good	83,9	75,6	79,8
	Bad/Very Bad	2,7	3,1	2,9
35-44	Very Good/Good	73,2	58,7	66,0
	Bad/Very Bad	4,0	7,5	5,7
45-54	Very Good/Good	58,0	39,7	48,9
	Bad/Very Bad	9,5	16,0	12,7
55-64	Very Good/Good	46,9	30,1	38,4
	Bad/Very Bad	12,4	21,2	16,9
65-74	Very Good/Good	35,2	17,5	25,8
	Bad/Very Bad	21,0	35,5	28,8
75+	Very Good/Good	20,8	10,8	14,8
	Bad/Very Bad	39,9	49,0	45,3
15+	Very Good/Good	68,1	53,9	60,9
	Bad/Very Bad	7,6	13,1	10,4

Source: TURKSTAT, Türkiye Health Interview Survey 2019

Table 3.18. Distribution of 15 and Over Aged Individuals Wearing Glasses or Lenses by Sex, (%), 2016, 2019

Type of Wearing	2016			2019		
	Male	Female	Total	Male	Female	Total
Wearing	33,7	37,6	35,6	35,7	40,6	38,2
Not Wearing	66,3	62,3	64,3	63,9	58,9	61,4
Profoundly Deaf	0,1	0,1	0,1	0,3	0,5	0,4

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

Table 3.19. Distribution of 15 and Over Aged Individuals Having Vision Problem by Sex and Age Groups, (%), 2016, 2019

Age Group	2016			2019		
	Male	Female	Total	Male	Female	Total
15-24	1,6	1,6	1,6	1,1	2,3	1,7
25-34	1,3	1,4	1,4	1,5	2,4	2,0
35-44	2,1	4,4	3,3	1,9	3,2	2,5
45-54	7,8	11,1	9,4	6,2	8,6	7,4
55-64	9,4	17,0	13,3	7,5	11,7	9,6
65-74	16,4	20,2	18,5	11,3	17,4	14,6
75+	23,8	37,2	31,9	20,8	26,3	24,1
15+	5,3	8,6	6,9	4,4	7,2	5,8

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

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, (%), 2016, 2019

Type of Wearing	2016			2019		
	Male	Female	Total	Male	Female	Total
Wearing	4,1	4,0	4,1	4,2	4,2	4,2
Not Wearing	95,7	95,8	95,8	95,4	95,1	95,2
Profoundly Deaf	0,1	0,2	0,1	0,4	0,7	0,6

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

Table 3.21. Distribution of 15 and Over Aged Individuals Having Hearing Problem by Sex and Age Groups, (%), 2016, 2019

Age Group	2016			2019		
	Male	Female	Total	Male	Female	Total
15-24	0,3	1,0	0,6	1,0	1,5	1,2
25-34	1,6	0,8	1,2	1,1	1,4	1,3
35-44	1,5	1,6	1,5	0,9	2,2	1,6
45-54	3,4	4,9	4,1	3,6	4,2	3,9
55-64	4,6	6,2	5,4	4,8	5,5	5,2
65-74	15,5	14,5	15,0	12,4	11,5	11,9
75+	33,0	35,8	34,7	30,8	32,0	31,5
15+	3,9	5,0	4,5	3,8	5,0	4,4

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

Note: Those who could not hear / hear at all despite the wear of hearing aids were included in the calculation.

Table 3.22. In the past 12 Months, Days of Absence from Work for Reasons of Health Problems and the Percentage of in 15 and Over Aged Individuals Absent from Work for Reasons of Health Problems by Years

	2010	2012	2014	2016	2019
The Percentage of in 15 and Over Aged Individuals Absent from Work for Reasons of Health Problems, (%)	14,2	13,4	14,9	10,6	13,4
Days of Absence from Work for Reasons of Health Problems in 15 and Over Aged Individuals, (Day)	3,4	3,0	3,2	2,5	2,9

Source: TURKSTAT, Türkiye Health Interview Survey 2010, 2012, 2014, 2016, 2019

Table 3.23. In the Last Two Weeks, Percentage of 15 and Over Aged Individuals Having Some Mental Problems Almost Everyday by Sex, (%), 2016, 2019

	2016			2019		
	Male	Female	Total	Male	Female	Total
Doing something with little pleasure/interest	2,5	3,6	3,1	3,0	4,4	3,7
Downhearted, depressed, or hopeless	3,2	4,3	3,8	3,7	5,1	4,4
Have difficulty falling asleep /too much sleep	4,3	6,2	5,3	4,9	7,1	6,0
Tired/Lack of energy	4,2	6,3	5,2	4,7	7,6	6,1
Anorexia/Overeating	2,6	3,5	3,0	2,8	3,8	3,3
Feeling worthless and bad	1,7	2,4	2,0	1,8	3,1	2,5
Concentration problem (while reading the newspaper, TV, etc.)	1,3	1,8	1,5	1,7	2,7	2,2
Moving or speaking so slowly/too much that other people could have noticed	1,1	1,3	1,2	1,1	1,7	1,4

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019



### 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 2022.
- ☑ The data regarding cancer were obtained from Ankara, Antalya, Bursa, Edirne, Erzurum, Eskişehir, İzmir, Samsun, Trabzon, Gaziantep, Malatya, İstanbul, Kocaeli and Mersin which collects data with Active Cancer Registry System and ensures adequate quality standards. Population-based cancer registration is carried out in provinces where there are active cancer registry centers. For population-based cancer registration, data are collected from all Ministry of Health, university and private hospitals within the provincial borders, death certificates and centers such as nursing homes and palliative care centers where patients may be. Data are transferred from the units to the cancer registry center. Cancer registration forms are evaluated at the center and checked for error and duplication. Provincial cancer registry center database is then transferred to the database of Cancer Department. Duplications and errors are checked in the Türkiye database. For errors in the data base of the Provincial, inspection reports are forwarded to the provincial cancer registry centers, "Türkiye Cancer Repository" is created.
- ☑ **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, Türkiye Health Interview Survey 2019

#### Research is based on self-reported.

- ☑ **Coverage:** All the individuals living in Türkiye 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 Türkiye. 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 23.199 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 and September-December in 2019 for three months.

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

- ☑ **Coverage:** 15 and over aged citizens of the Republic of Türkiye, living in Türkiye, 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 Türkiye. 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

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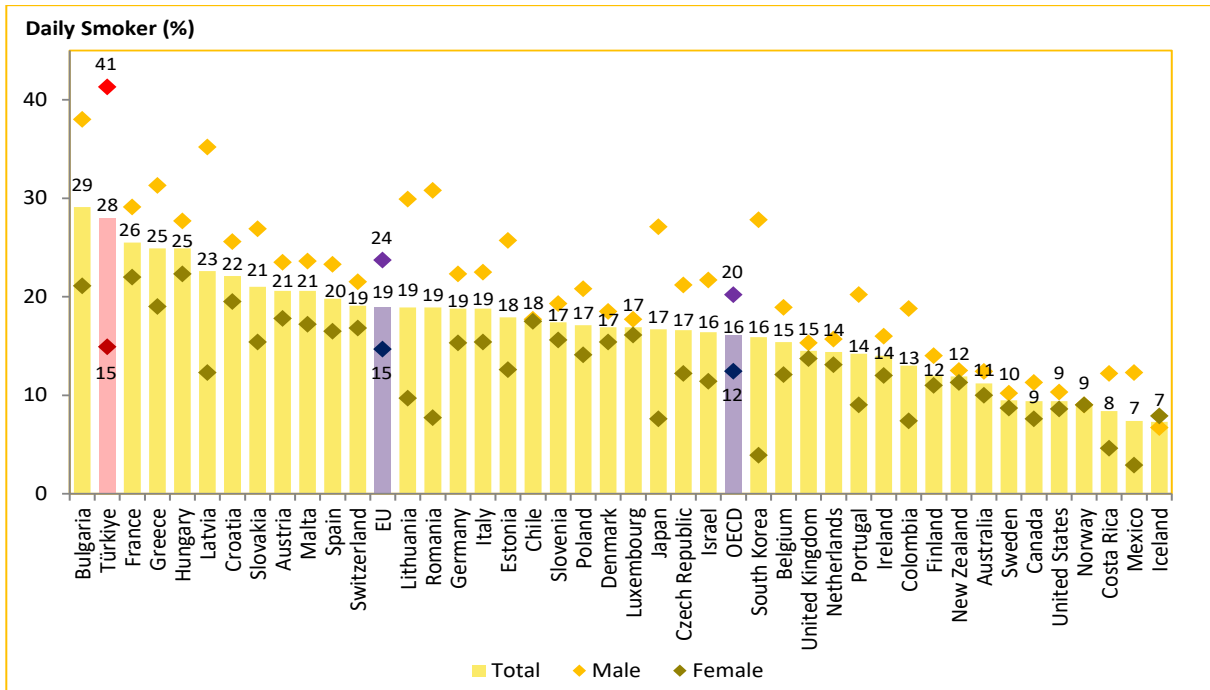
## Risk Factors

Table 4.1. Distribution of Individuals Using Tobacco Product by Sex and Age Groups, (%), 2014, 2016, 2019

Tobacco Consumption	Age Group	2014			2016			2019		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Daily Smoker	15-24	31,4	5,7	18,5	28,2	7,8	18,1	31,0	7,9	19,6
	25-34	51,2	18,8	35,1	49,6	16,6	33,2	51,3	17,6	34,4
	35-44	49,9	19,7	34,9	50,6	19,6	35,2	52,9	24,1	38,6
	45-54	48,7	16,5	32,7	45,3	17,7	31,6	45,1	18,4	31,8
	55-64	38,2	10,2	24,0	35,0	10,9	22,8	37,8	12,8	25,1
	65-74	22,4	3,4	12,1	24,2	4,4	13,5	19,9	6,1	12,5
	75+	8,9	2,4	5,0	10,7	1,0	4,8	13,2	3,1	7,1
	<b>15+</b>	<b>41,8</b>	<b>13,1</b>	<b>27,3</b>	<b>40,1</b>	<b>13,3</b>	<b>26,5</b>	<b>41,3</b>	<b>14,9</b>	<b>28,0</b>
Occasional Smoker	15-24	6,1	3,7	4,9	3,6	3,0	3,3	3,6	2,9	3,2
	25-34	6,9	6,5	6,7	5,1	6,1	5,6	3,9	3,6	3,8
	35-44	6,4	6,8	6,6	5,0	5,9	5,4	3,9	4,6	4,2
	45-54	4,4	4,8	4,6	4,1	4,1	4,1	3,6	3,2	3,4
	55-64	3,6	3,3	3,4	2,5	2,3	2,4	3,2	2,8	3,0
	65-74	5,2	2,2	3,6	1,9	1,3	1,6	1,6	1,5	1,6
	75+	2,9	1,4	2,0	2,8	2,0	2,3	2,9	1,7	2,2
	<b>15+</b>	<b>5,6</b>	<b>4,8</b>	<b>5,2</b>	<b>4,0</b>	<b>4,1</b>	<b>4,1</b>	<b>3,5</b>	<b>3,2</b>	<b>3,4</b>
Non-Smoker	15-24	10,2	7,5	8,8	3,4	2,1	2,7	4,2	2,0	3,1
	25-34	12,6	12,8	12,7	9,3	6,6	8,0	10,5	7,0	8,7
	35-44	20,6	13,0	16,8	16,6	8,2	12,4	15,9	6,9	11,4
	45-54	29,6	14,1	21,9	24,5	8,7	16,7	26,2	9,4	17,8
	55-64	43,4	14,5	28,8	39,5	9,0	24,1	39,7	11,3	25,3
	65-74	51,8	10,9	29,7	47,4	7,7	26,0	53,6	9,7	30,2
	75+	58,7	8,4	28,4	47,3	5,4	22,0	53,7	6,1	25,2
	<b>15+</b>	<b>23,8</b>	<b>11,8</b>	<b>17,7</b>	<b>19,3</b>	<b>6,7</b>	<b>12,9</b>	<b>21,3</b>	<b>7,2</b>	<b>14,2</b>
Never Smoker	15-24	52,3	83,2	67,7	64,9	87,0	75,9	61,2	87,3	74,1
	25-34	29,3	61,8	45,5	36,0	70,7	53,3	34,3	71,8	53,1
	35-44	23,1	60,4	41,7	27,8	66,3	47,0	27,4	64,3	45,8
	45-54	17,2	64,6	40,8	26,1	69,5	47,7	25,1	69,0	47,0
	55-64	14,8	72,1	43,8	22,9	77,8	50,7	19,3	73,1	46,5
	65-74	20,5	83,5	54,6	26,5	86,6	58,9	24,8	82,7	55,7
	75+	29,5	87,8	64,6	39,2	91,6	70,9	30,1	89,1	65,5
	<b>15+</b>	<b>28,7</b>	<b>70,3</b>	<b>49,8</b>	<b>36,6</b>	<b>75,9</b>	<b>56,5</b>	<b>33,8</b>	<b>74,7</b>	<b>54,5</b>

Source: TURKSTAT, Türkiye Health Interview Survey 2014, 2016, 2019

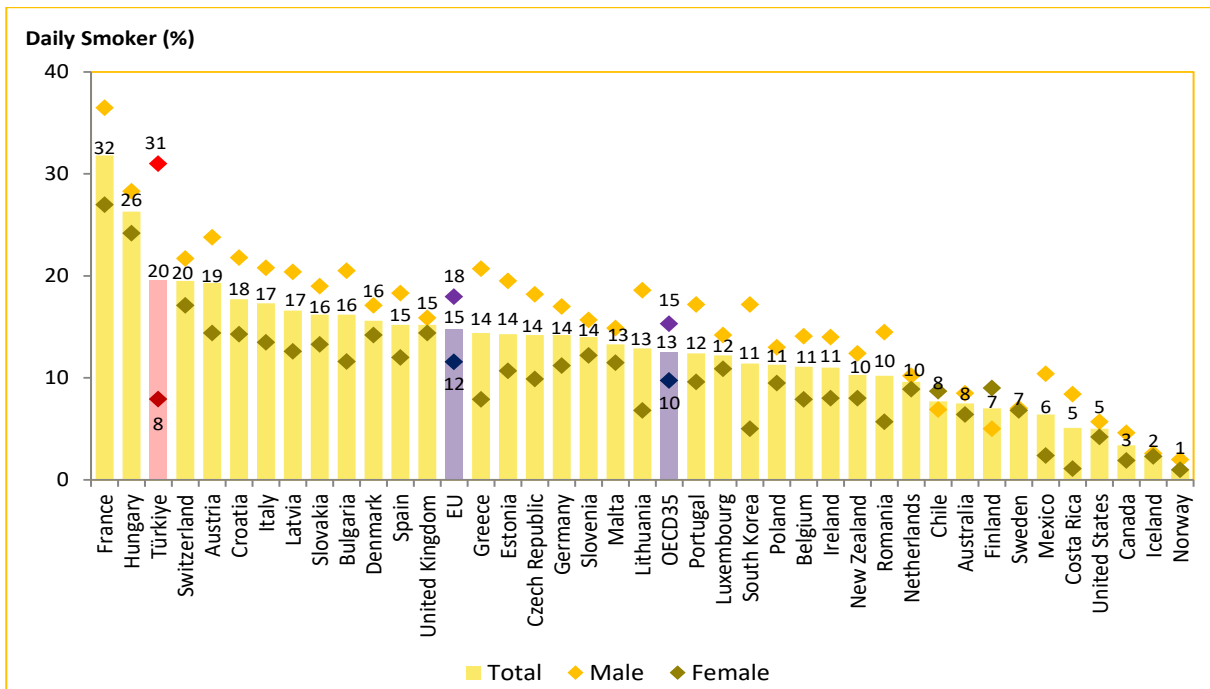
Figure 4.1. International Comparison of Distribution of 15 and Over Aged Individuals Using Tobacco Product by Sex, (%), 2020



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2022, EUROSTAT Database

Note: Türkiye's data belong to the year 2019. Countries' data belong to the year 2020 or nearest.

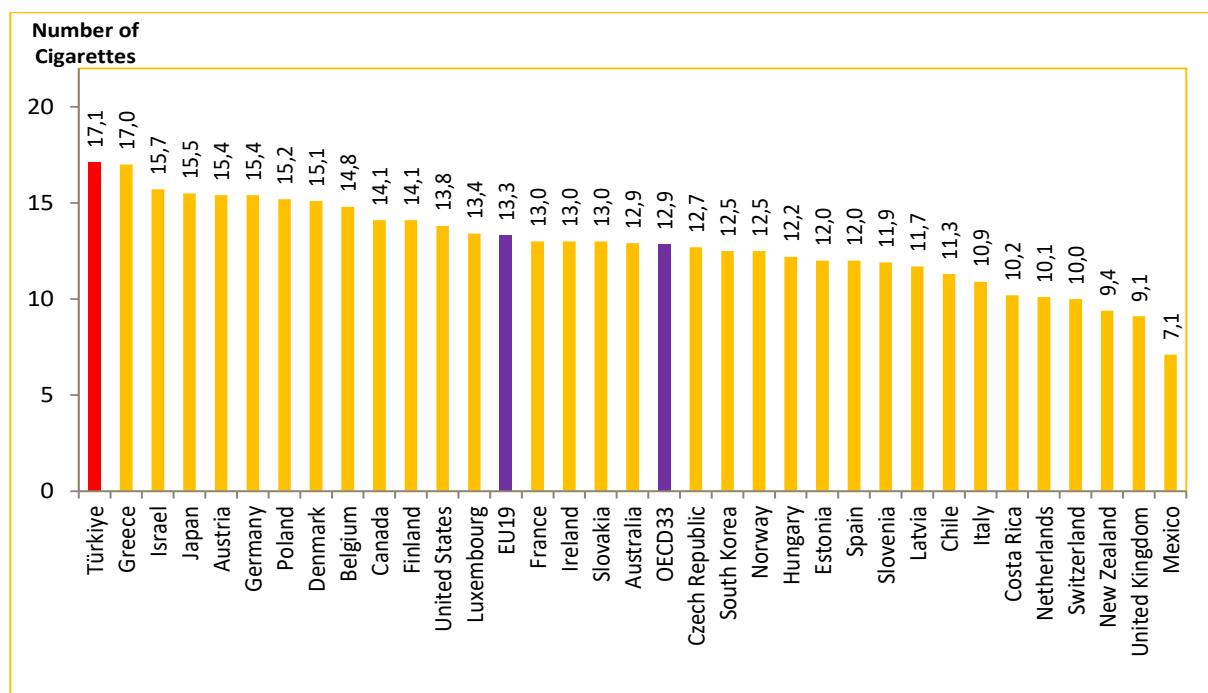
Figure 4.2. International Comparison of Distribution of 15-24 Aged Individuals Using Tobacco Product by Sex, (%), 2020



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2022, EUROSTAT Database

Note: Türkiye's data belong to the year 2019. Countries' data belong to the year 2020 or nearest.

Figure 4.3. International Comparison of the Average Number of Daily Cigarette per 15 and Over Aged Individuals Using Cigarette, 2020



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2022

Note: Türkiye's data belongs to the year 2019. Countries' data belong to the year 2020 or nearest.

Table 4.2. Distribution of Reasons Behind Starting Tobacco Use of 15 and Over Aged Individuals by Sex (%), 2014, 2016, 2019

Reason	2014			2016			2019		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Impact of Friend	30,4	27,2	29,4	30,3	25,9	29,1	34,4	29,9	33,2
Desire	18,3	13,2	16,8	31,7	24,3	29,7	26,7	20,8	25,1
Interest	37,2	34,0	36,2	22,4	19,4	21,6	20,3	17,7	19,6
Personal Problems	4,5	7,0	5,3	5,0	10,1	6,3	5,4	10,2	6,6
No Special Reason	1,7	2,3	1,9	4,3	4,5	4,4	5,9	5,7	5,9
Family Problems	2,3	7,6	3,9	3,1	11,2	5,2	3,5	10,5	5,3
For Fun	2,7	3,3	2,8	3,0	3,8	3,3	3,7	5,0	4,0

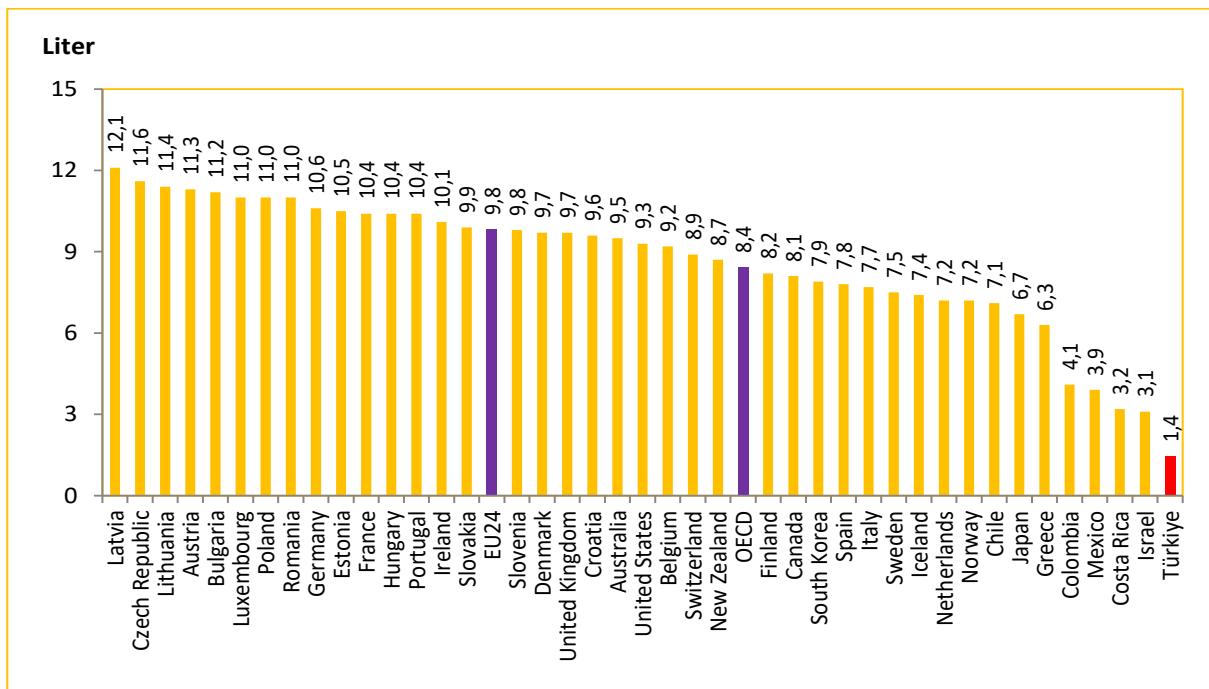
Source: TURKSTAT, Türkiye Health Interview Survey 2014, 2016, 2019

Table 4.3. Distribution of 15 and Over Aged Individuals' Alcohol Consumption by Sex and Age Groups, (%), 2014, 2016, 2019

Alcohol Consumption	Age Group	2014			2016			2019		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Consumes	15-24	20,9	5,8	13,3	13,1	5,4	9,3	16,4	6,2	11,4
	25-34	31,0	10,0	20,5	24,1	8,7	16,5	30,9	10,5	20,7
	35-44	27,4	6,7	17,1	25,2	6,4	15,9	30,8	8,7	19,8
	45-54	25,6	4,7	15,2	19,2	3,7	11,5	22,2	6,0	14,2
	55-64	22,6	2,9	12,6	19,7	3,8	11,6	21,3	3,9	12,5
	65-74	11,2	1,3	5,8	11,5	1,0	5,9	15,0	2,3	8,2
	75+	4,4	0,5	2,0	5,5	0,6	2,5	4,1	0,5	2,0
	<b>15+</b>	<b>24,3</b>	<b>5,8</b>	<b>14,9</b>	<b>19,3</b>	<b>5,3</b>	<b>12,2</b>	<b>23,3</b>	<b>6,6</b>	<b>14,9</b>
Doesn't Consume	15-24	11,9	7,1	9,5	5,9	3,9	4,9	5,7	3,0	4,4
	25-34	22,4	11,5	17,0	16,0	7,0	11,5	12,2	5,6	8,9
	35-44	31,0	10,9	21,0	21,4	4,9	13,2	16,0	5,3	10,6
	45-54	34,2	8,3	21,3	23,8	5,8	14,8	20,9	3,7	12,3
	55-64	39,7	6,8	23,1	28,7	4,4	16,4	29,9	3,5	16,6
	65-74	44,0	5,5	23,2	30,4	3,6	16,0	32,9	1,8	16,3
	75+	37,0	2,5	16,2	25,8	1,8	11,3	30,9	2,6	13,9
	<b>15+</b>	<b>27,6</b>	<b>8,6</b>	<b>18,0</b>	<b>19,1</b>	<b>5,0</b>	<b>11,9</b>	<b>17,6</b>	<b>4,0</b>	<b>10,7</b>
Never Consume	15-24	67,2	87,1	77,2	81,0	90,6	85,8	77,9	90,7	84,2
	25-34	46,6	78,6	62,5	59,9	84,3	72,0	56,9	83,9	70,4
	35-44	41,6	82,4	61,9	53,4	88,7	71,0	53,3	86,1	69,6
	45-54	40,2	87,0	63,5	57,0	90,5	73,6	56,9	90,3	73,5
	55-64	37,7	90,3	64,3	51,6	91,9	72,0	48,8	92,6	70,9
	65-74	44,8	93,1	71,0	58,1	95,4	78,2	52,1	95,9	75,5
	75+	58,6	97,1	81,7	68,8	97,5	86,2	65,0	96,9	84,1
	<b>15+</b>	<b>48,2</b>	<b>85,6</b>	<b>67,1</b>	<b>61,6</b>	<b>89,8</b>	<b>75,8</b>	<b>59,1</b>	<b>89,4</b>	<b>74,4</b>

Source: TURKSTAT, Türkiye Health Interview Survey 2014, 2016, 2019

Figure 4.4. Consumption of Absolute Alcohol per 15 and Over Aged Individuals, (Liter), 2020



Source: Ministry of Agriculture and Forestry, OECD Health Data 2022

Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest.

Table 4.4. Distribution of Reasons Behind Starting Alcohol Use of 15 and Over Aged Individuals by Sex (%), 2014, 2016, 2019

Reason	2014			2016			2019		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
For Fun	18,1	29,8	20,7	25,9	55,1	29,4	46,9	70,8	52,3
Impact of Friend	27,5	12,9	24,2	25	13,4	23,6	19,8	6,7	16,8
No special Reason	2,0	2,7	2,2	6,5	7,4	6,6	10,9	12,0	11,2
Interest	37,1	40,6	37,9	19,8	7,6	18,3	10,0	6,0	9,1
Desire	9,7	3,0	8,2	15,1	3,4	13,7	7,2	2,4	6,1
Personal Problems	1,6	1,5	1,6	5,3	9,3	5,8	3,8	1,0	3,2
Family Problems	1,2	0,7	1,1	1,5	1,9	1,5	1,4	0,9	1,3

Source: TURKSTAT, Türkiye Health Interview Survey 2014, 2016, 2019

Table 4.5. Distribution of Height and Weight Averages by Sex and Age Groups, (Self-Reported), 2019

Age Group	Weight (kg)			Height (cm)		
	Male	Female	Total	Male	Female	Total
15-24	70,4	58,6	64,6	175,1	162,9	169,1
25-34	78,7	65,1	71,9	176,0	163,0	169,5
35-44	82,2	70,5	76,4	174,4	161,7	168,1
45-54	82,4	75,0	78,7	172,0	161,0	166,5
55-64	80,3	75,6	77,9	171,3	160,1	165,7
65-74	79,0	73,8	76,2	170,2	159,0	164,2
75+	72,7	68,4	70,1	168,4	157,5	161,9
<b>15+</b>	<b>78,4</b>	<b>68,8</b>	<b>73,5</b>	<b>173,6</b>	<b>161,4</b>	<b>167,4</b>

Source: TURKSTAT, Türkiye Health Interview Survey 2019



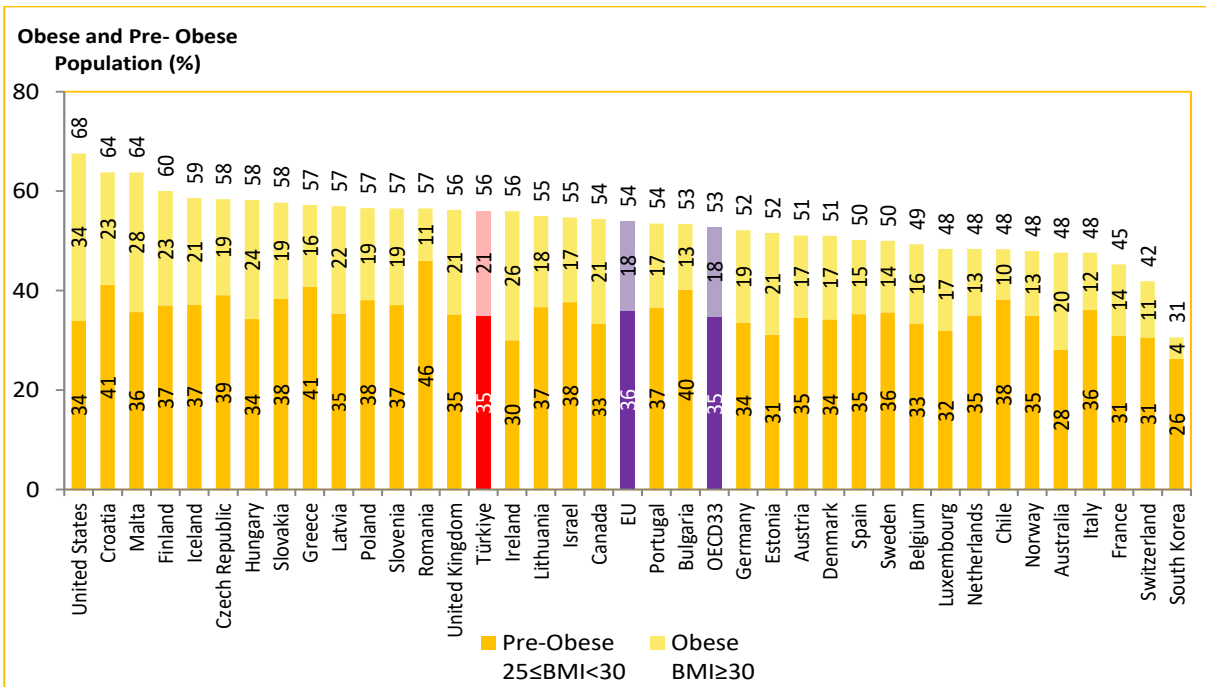
Table 4.6. Distribution of Body Mass Index of 15 and Over Aged Individuals by Sex, (Self-Reported), (%), 2014, 2016, 2019

Year	Sex	Underweight	Normal	Pre-Obese	Obese
2014	Male	2,8	43,7	38,2	15,3
	Female	5,5	40,7	29,3	24,5
	<b>Total</b>	<b>4,2</b>	<b>42,2</b>	<b>33,7</b>	<b>19,9</b>
2016	Male	2,5	43,8	38,6	15,2
	Female	5,6	40,4	30,1	23,9
	<b>Total</b>	<b>4,0</b>	<b>42,1</b>	<b>34,3</b>	<b>19,6</b>
2019	Male	2,7	40,3	39,7	17,3
	Female	4,9	40,0	30,4	24,8
	<b>Total</b>	<b>3,8</b>	<b>40,1</b>	<b>35,0</b>	<b>21,1</b>

Source: TURKSTAT, Türkiye Health Interview Survey 2014, 2016, 2019

Note: The phrase "overweight" has been changed with "pre-obese".

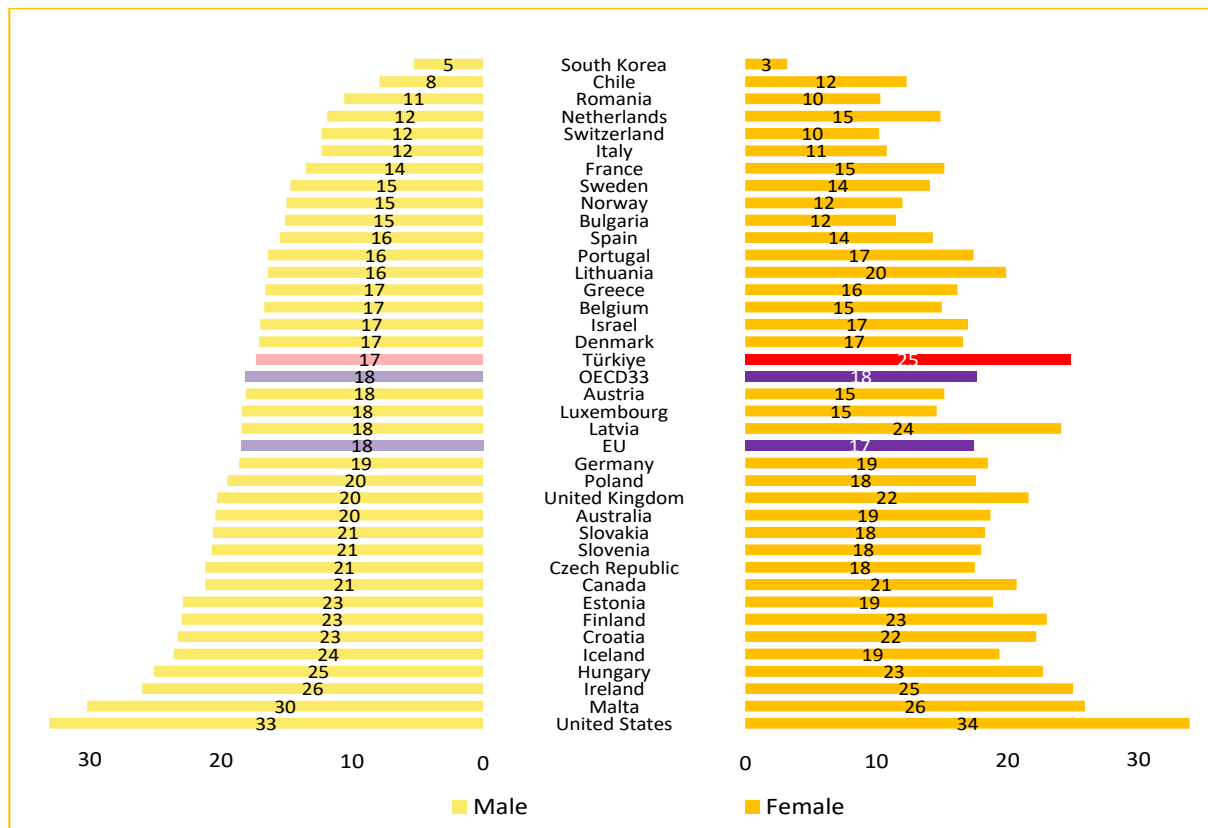
Figure 4.5. International Comparison of Obesity and Pre-Obesity Among 15 and Over Aged Individuals (Self-Reported), (%), 2020



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2022, EUROSTAT Database

Note: Türkiye's data belong to the year 2019. Countries' data belong to the year 2020 or nearest.

Figure 4.6. International Comparison of Obesity (BMI≥30) Among 15 and Over Aged Individuals by Sex (Self-Reported), (%), 2020



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2022, EUROSTAT Database

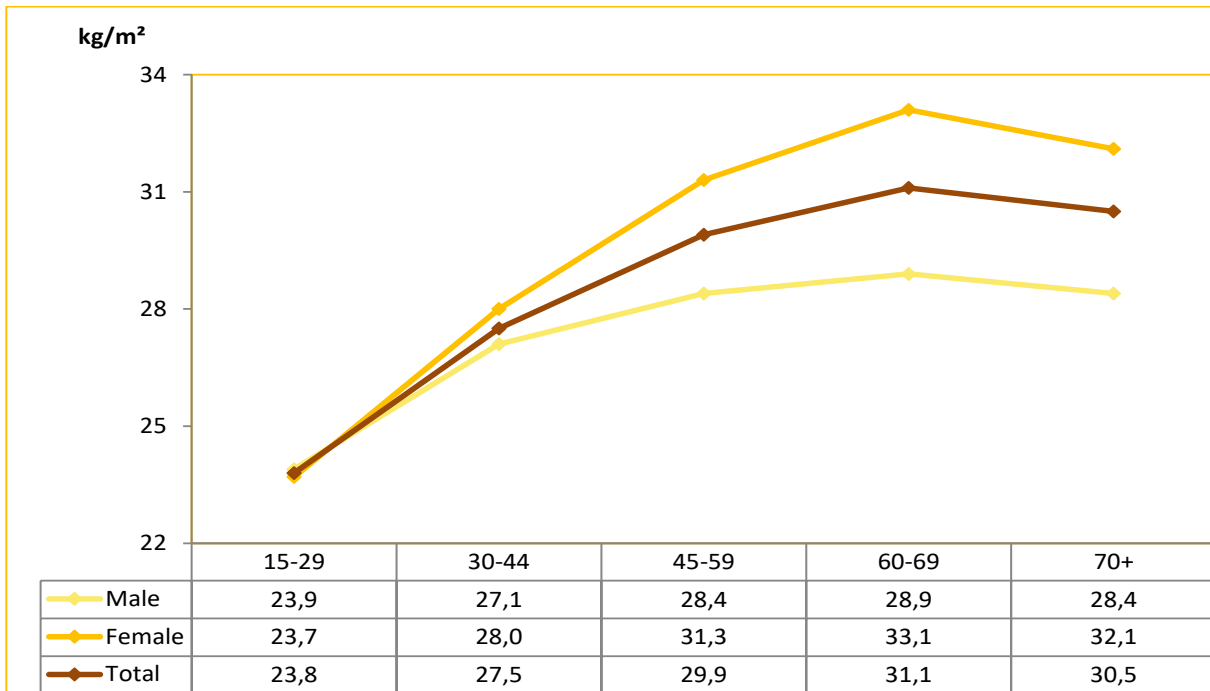
Note: Türkiye's data belong to the year 2019. Countries' data belong to the year 2020 or nearest.

Table 4.7. Average Value of Anthropometric Measurements by Sex and Age Groups, 2017

Sex	Age Group	Weight (kg)	Height (cm)	BMI (kg/m <sup>2</sup> )	Waist Circumference (cm)	Hip Circumference (cm)	Neck Circumference (cm)
Male	≥15	79,7	172,0	26,9	94,4	103,1	38,9
	≥19	80,9	172,0	27,4	95,7	103,7	39,2
	19-64	81,2	172,6	27,3	95,0	103,6	39,1
	≥65	78,8	166,5	28,4	102,2	104,6	39,8
Female	≥15	70,7	157,6	28,6	90,4	106,3	34,6
	≥19	71,9	157,2	29,2	91,9	107,4	34,9
	19-64	71,6	158,1	28,8	90,2	106,6	34,7
	≥65	73,6	151,3	32,1	102,7	111,9	36,0
Total	≥15	74,9	164,4	27,8	92,3	104,8	36,6
	≥19	76,1	164,1	28,3	93,7	105,7	36,9
	19-64	76,2	165,0	28,0	92,5	105,2	36,8
	≥65	75,9	158,0	30,4	102,5	108,7	37,7

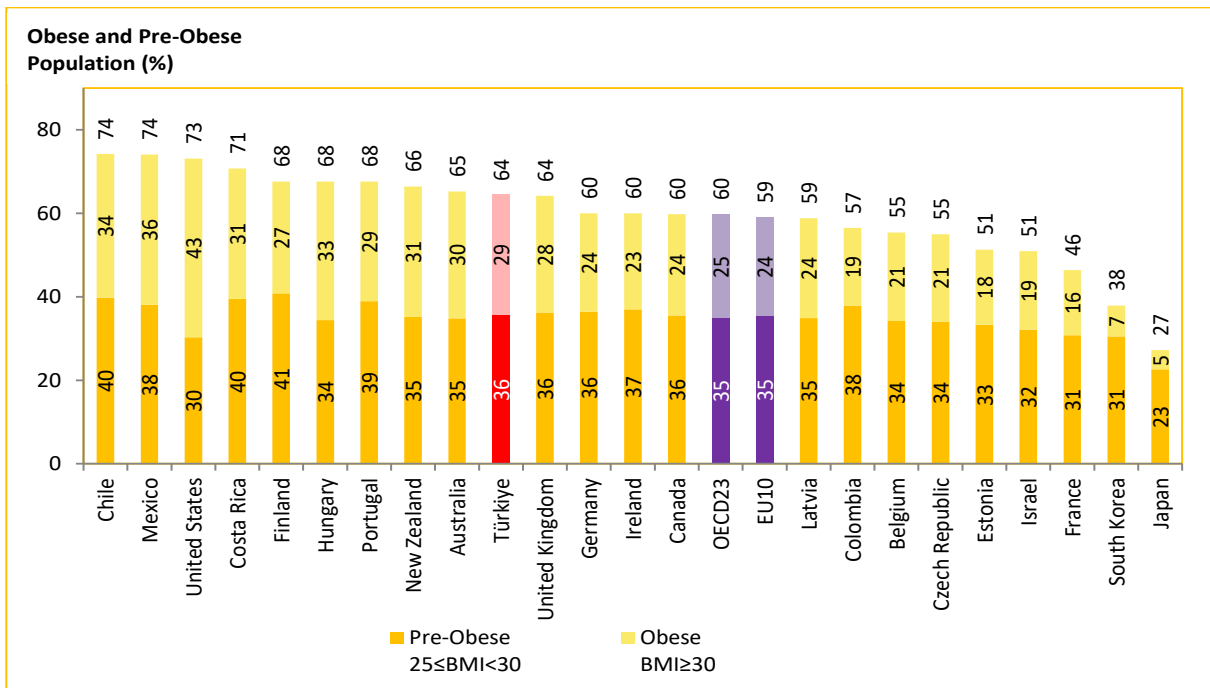
Source: Ministry of Health, Türkiye Nutrition and Health Survey 2017

Figure 4.7. Distribution of Body Mass Index by Sex and Age Groups, (Measured), kg/m<sup>2</sup>, 2017



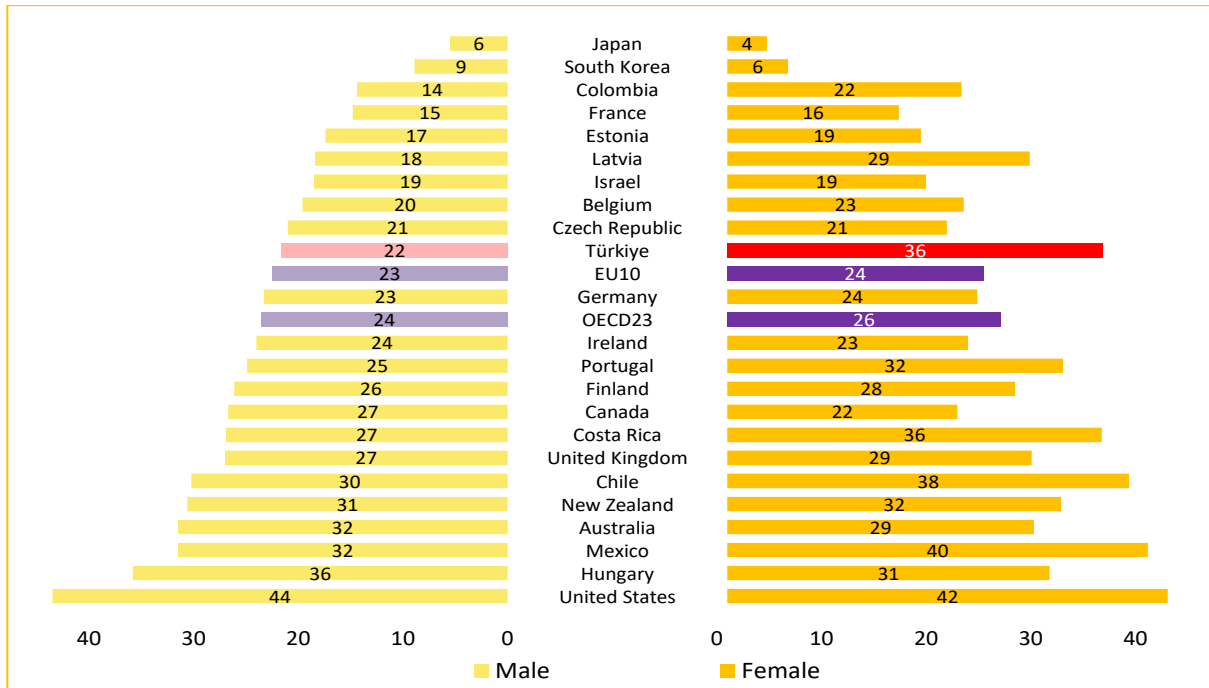
Source: Ministry of Health, National Household Health Survey in Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017

Figure 4.8. International Comparison of Obesity and Pre-Obesity Among 15 and Over Aged Individuals (Measured), (%), 2020



Source: Ministry of Health National Household Health Survey in Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017, OECD Health Data 2022

Note: Türkiye's data belong to the year 2017. Countries' data belong to the year 2020 or nearest.

Figure 4.9. International Comparison of Obesity (BMI $\geq$ 30) Among 15 and Over Aged Individuals by Sex (Measured), (%), 2020


Source: Ministry of Health National Household Health Survey in Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017, OECD Health Data 2022

Note: Türkiye's data belong to the year 2017. Countries' data belong to the year 2020 or nearest.

 Table 4.8. Distribution of Anthropometric Measurements of 2<sup>nd</sup> 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<sup>nd</sup> 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 4.9. Distribution of BMI Among 15 and Over Aged Individuals by Sex and Age Groups (Measured), (%), 2017

Sex	Age Group	Weak BMI<18,5	Normal 18,5≤BMI≤24,9	Overweight 25,0≤BMI≤29,9	Obese 30,0≤BMI≤39,9	Morbid Obese BMI≥40,0	Obese+Morbid Obese BMI≥30,0
Male	15-18	2,0	73,9	15,7	6,5	1,9	8,4
	19-30	2,6	51,2	33,0	12,2	0,9	13,2
	31-50	0,6	25,1	46,6	26,4	1,3	27,7
	51-64	0,6	17,5	45,1	34,9	1,9	36,8
	65-74	0,7	19,6	42,5	36,3	1,0	37,2
	75-84	1,1	25,6	43,5	29,5	0,2	29,8
	≥85	-	34,8	52,9	12,3	-	12,3
	≥15	1,2	34,3	39,9	23,3	1,3	24,6
	≥19	1,1	29,2	43,4	24,9	1,4	26,3
	19-64	1,2	31,6	42,0	23,8	1,3	25,1
≥65	0,8	22,0	43,3	33,2	0,7	33,9	
Female	15-18	2,1	72,7	18,6	4,8	1,8	6,6
	19-30	6,7	58,4	21,7	12,5	0,8	13,2
	31-50	0,7	24,1	33,6	34,8	6,8	41,6
	51-64	0,3	9,0	26,9	52,9	10,9	63,9
	65-74	0,4	7,1	25,5	52,6	14,5	67,1
	75-84	2,2	10,2	32,9	47,8	6,9	54,7
	≥85	1,9	25,9	31,4	40,4	0,5	40,9
	≥15	2,1	31,2	27,6	32,7	6,4	39,1
	≥19	2,1	26,0	29,2	35,6	7,0	42,6
	19-64	2,3	30,0	28,5	33,1	6,2	39,3
≥65	1,0	9,6	28,2	50,1	11,0	61,2	
Total	15-18	2,1	73,3	17,2	5,7	1,8	7,5
	19-30	4,4	54,4	28,0	12,3	1,5	13,8
	31-50	0,6	24,7	40,5	30,3	3,9	34,2
	51-64	0,4	13,2	35,9	44,0	6,4	50,4
	65-74	0,5	12,9	33,5	44,9	8,1	53,1
	75-84	1,7	17,0	37,5	39,8	4,0	43,7
	≥85	1,3	28,7	38,2	31,5	0,4	31,9
	≥15	1,7	32,8	34,0	27,8	3,7	31,5
	≥19	1,6	27,7	36,6	30,0	4,1	34,1
	19-64	1,7	29,3	36,9	28,4	3,8	32,1
≥65	0,9	15,2	35,0	42,5	6,4	48,9	

Source: Ministry of Health, Türkiye Nutrition and Health Survey 2017

Table 4.10. Distribution of Feeding Time with Only Breast Milk, Average of Feeding Time with Breast Milk and BMI Z-Scores Obesity Ratio for 2<sup>nd</sup> 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
<b>Türkiye</b>	<b>4,5</b>	<b>15,6</b>	<b>9,9</b>

Source: Ministry of Health, Turkish Childhood (2<sup>nd</sup> Grade Students in Primary School) Obesity Research (COSI-TUR-2016)

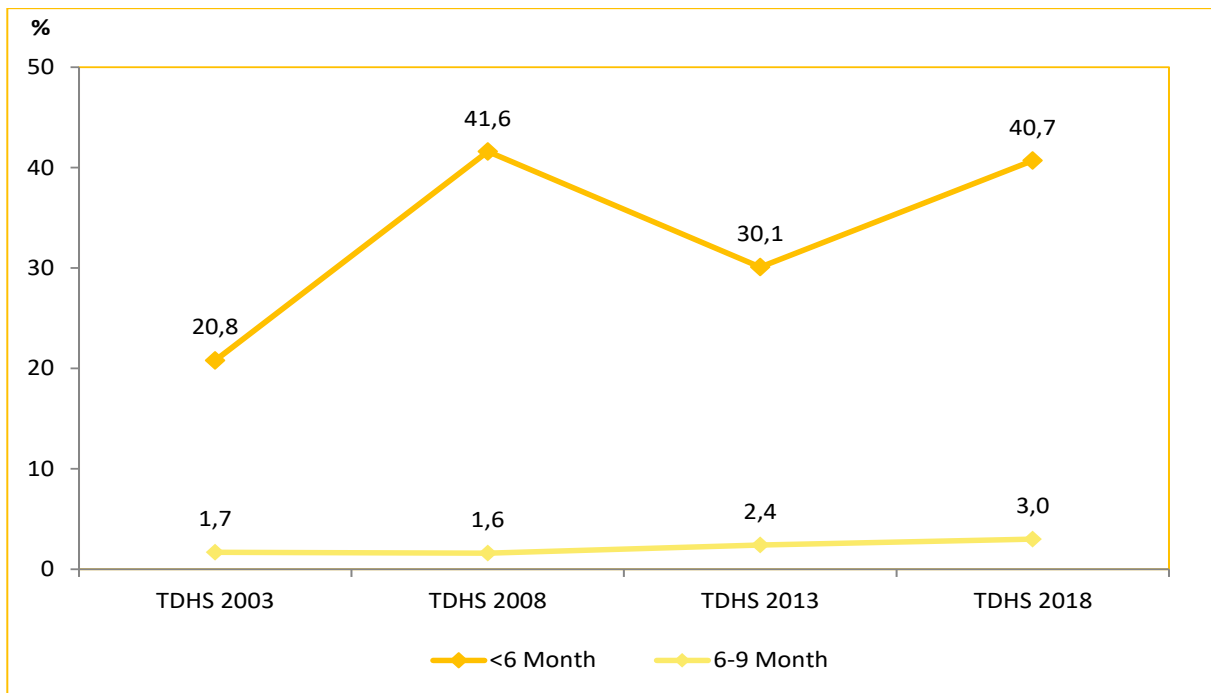
Table 4.11. Distribution of Breastfeeding Status of Children Under Two Years by Age (in Months), (%), 2018

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
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: TDHS 2018

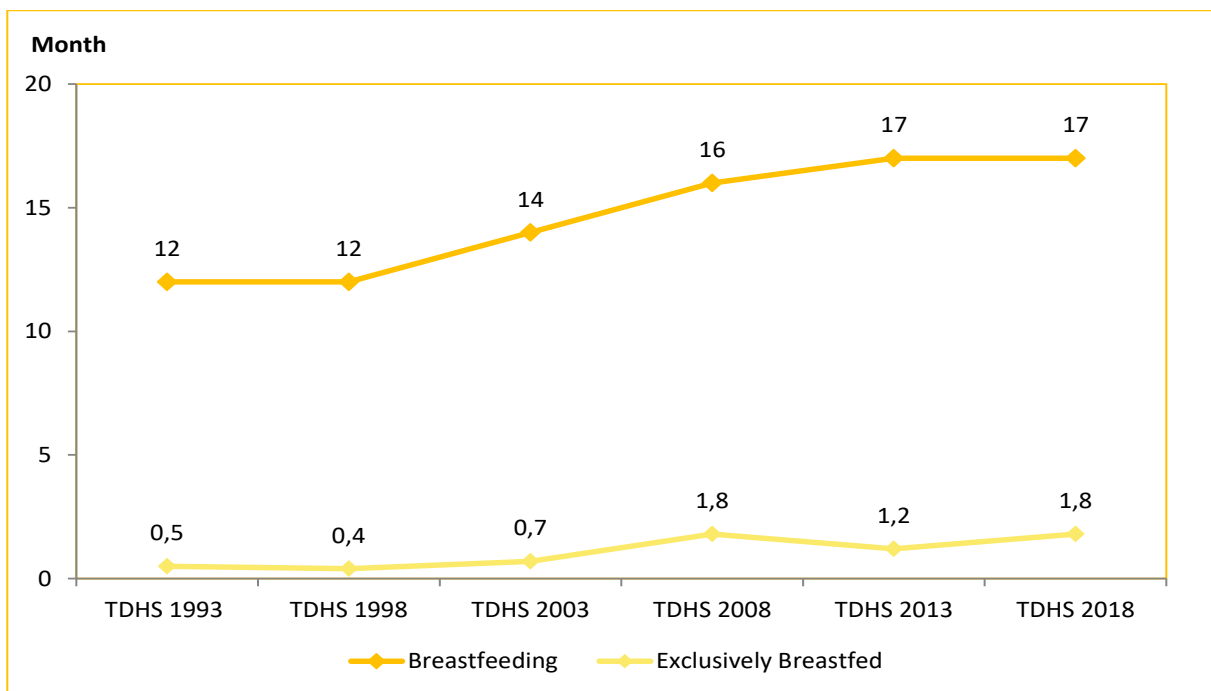
\* Non-milk liquids include juice, juice drinks, clear broth or other liquids.

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 4.12. Distribution of the Consumption Frequencies of Some Foods and Drinks by 2<sup>nd</sup> 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
Flavored 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<sup>nd</sup> Grade Students in Primary School) Obesity Research (COSI-TUR-2016)

Table 4.13. Average Nutrition Consumption Amount Among 19 and Over Aged Individuals by Sex, (person/day/gr, mL), 2010, 2017

Nutrition Group	Male		Female		Total	
	2010	2017	2010	2017	2010	2017
Meat Group	87,8	111,7	47,9	62,2	69,3	86,8
Egg	27,1	30,6	21,3	24,8	24,4	27,7
Legume	10,0	16,7	8,1	13,2	9,1	14,9
Oil Seeds	7,5	10,8	6,1	9,0	6,9	9,9
Milk and Milk Products	205,9	205,7	169,1	171,0	188,9	188,2
Fruit and Vegetable Group	544,9	420,3	552,2	409,8	548,3	415,0
Bread and Grain	325,3	328,2	221,4	217,1	277,2	272,3
Total Fat Group	33,9	54,9	31,5	45,6	32,8	50,2
Solid Fat	10,8	13,7	7,9	9,2	9,4	11,4
Liquid Fat	22,1	23,1	20,4	20,5	21,3	21,8
Sugar and Sugared Food	36,6	34,9	28,7	26,4	33,0	30,6
Water and Other Drinks	1.841,9	1.882,8	1.497,2	1.576,3	1.682,3	1.728,6

Source: Ministry of Health, Türkiye Nutrition and Health Survey 2017



Table 4.14. Distribution of Main Meal Consumption Status Among 15 and Over Aged Individuals by Sex (%), 2017

	Breakfast			Lunch			Dinner		
	Yes	No	No and Reason, Percentage	Yes	No	No and Reason, Percentage	Yes	No	No and Reason, Percentage
Male	83,6	16,4	1- Don't want, inappetent - 44,1% 2- Insufficient time - 21,1% 3- No Habit - 16,1%	83,1	16,9	1- Eating two meals(morning, evening) - 20,0% 2- Don't want, inappetent - 19,8% 3- No Habit - 17,3%	97,0	3,0	1- Don't want, inappetent - 28,2% 2- Want to lose weight - 14,8% 3- No Habit - 14,7%
Female	86,4	13,6	1- Don't want, inappetent - 54,2% 2- Insufficient time - 14,2% 3- No Habit - 12,3%	67,6	32,4	1- Don't want, inappetent - 24,9% 2- Get up late- 23,2% 3- Eating two meals(morning, evening) - 19,7%	95,7	4,3	1- Don't want, inappetent - 29,8% 2- Eating two meals(morning, noon) - 20,0% 3- Want to lose weight - 13,4%
Total	85,0	15,0	1- Don't want, inappetent - 48,7% 2- Insufficient time - 17,9% 3- No Habit - 14,4%	75,3	24,7	1- Don't want, inappetent - 23,2% 2- Get up late - 20,7% 3- Eating two meals(morning, evening )- 19,8%	96,3	3,7	1- Don't want, inappetent - 29,1% 2- Eating two meals(morning, noon)- 17,0% 3- Want to lose weight - 14,0%

Source: Ministry of Health, Türkiye Nutrition and Health Survey 2017

Note: The most common reasons of no meal consumption are top 3 reasons.

Table 4.15. Distribution of Having Breakfast Among 15 and Over Aged Individuals by Sex, (%), 2017

Age Group	Male	Female	Total
15-18	72,9	62,3	67,6
19-50	80,7	85,2	82,9
51-64	92,2	94,3	93,2
65+	96,2	96,6	96,4
15+	83,6	86,4	85,0
19+	84,6	88,5	86,5

Source: Ministry of Health, Türkiye Nutrition and Health Survey 2017

Table 4.16. Distribution of Consumption Fresh Fruit Habits by Sex and Age Groups, (%), 2014, 2016, 2019

Fruit Consumption	Age Group	2014			2016			2019		
		Male	Female	Total	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	37,9	42,7	40,3
	25-34	42,1	46,9	44,5	43,4	51,1	47,2	35,3	45,1	40,2
	35-44	44,7	47,6	46,2	46,3	50,7	48,5	42,4	45,8	44,1
	45-54	48,9	54,0	51,4	54,2	57,1	55,7	47,3	50,1	48,7
	55-64	55,6	56,9	56,3	59,4	60,0	59,7	52,2	56,5	54,4
	65-74	54,1	51,0	52,5	60,5	59,1	59,7	54,9	52,4	53,5
	75+	48,9	51,5	50,5	58,0	50,9	53,7	52,7	50,2	51,2
	<b>15+</b>	<b>45,9</b>	<b>49,0</b>	<b>47,5</b>	<b>50,2</b>	<b>53,1</b>	<b>51,6</b>	<b>43,4</b>	<b>47,9</b>	<b>45,7</b>
4-6 Times a Week	15-24	17,7	19,0	18,4	18,2	17,0	17,6	19,1	17,0	18,1
	25-34	20,1	15,9	18,0	16,8	15,7	16,3	19,8	16,6	18,2
	35-44	18,4	16,1	17,3	17,9	16,6	17,2	18,7	15,7	17,2
	45-54	17,7	15,9	16,8	16,7	15,5	16,1	17,6	13,8	15,7
	55-64	15,3	17,3	16,3	15,8	16,4	16,1	16,8	16,0	16,4
	65-74	19,5	19,8	19,6	16,5	15,7	16,0	19,5	18,1	18,7
	75+	21,9	17,8	19,4	18,6	20,8	20,0	19,8	19,6	19,7
	<b>15+</b>	<b>18,4</b>	<b>17,1</b>	<b>17,7</b>	<b>17,2</b>	<b>16,4</b>	<b>16,8</b>	<b>18,7</b>	<b>16,2</b>	<b>17,4</b>
1-3 Times a Week	15-24	31,5	27,2	29,4	25,9	25,7	25,8	32,5	30,4	31,5
	25-34	26,7	25,7	26,2	30,4	25,8	28,1	33,7	27,6	30,6
	35-44	27,6	24,7	26,1	25,9	24,4	25,2	29,0	27,7	28,4
	45-54	23,8	20,0	21,9	21,8	20,9	21,4	26,2	27,3	26,7
	55-64	20,7	19,0	19,9	20,0	18,4	19,2	24,2	20,0	22,1
	65-74	19,5	21,0	20,3	18,7	19,0	18,9	19,3	22,0	20,8
	75+	21,6	21,4	21,5	20,6	22,2	21,6	21,0	25,6	23,8
	<b>15+</b>	<b>26,1</b>	<b>23,7</b>	<b>24,9</b>	<b>24,9</b>	<b>23,2</b>	<b>24,0</b>	<b>28,6</b>	<b>26,6</b>	<b>27,6</b>
Less Than Once a Week	15-24	7,6	7,1	7,4	6,4	6,6	6,5	8,2	7,2	7,7
	25-34	8,9	8,4	8,7	7,1	5,3	6,2	9,1	8,1	8,6
	35-44	7,6	8,6	8,1	8,1	6,5	7,3	7,8	7,9	7,9
	45-54	7,4	7,2	7,3	5,9	5,3	5,6	7,3	7,0	7,2
	55-64	5,9	5,0	5,4	3,7	4,5	4,1	5,9	5,8	5,8
	65-74	4,9	6,6	5,8	3,8	4,9	4,4	5,8	6,4	6,1
	75+	6,2	8,0	7,2	2,1	4,8	3,7	5,5	3,7	4,4
	<b>15+</b>	<b>7,5</b>	<b>7,5</b>	<b>7,5</b>	<b>6,2</b>	<b>5,7</b>	<b>5,9</b>	<b>7,6</b>	<b>7,1</b>	<b>7,3</b>
Never	15-24	2,8	3,4	3,1	1,6	2,3	1,9	2,2	2,6	2,4
	25-34	2,1	3,1	2,6	2,3	2,2	2,2	2,1	2,6	2,4
	35-44	1,7	3,0	2,3	1,8	1,8	1,8	2,0	2,9	2,5
	45-54	2,2	2,9	2,5	1,4	1,2	1,3	1,7	1,7	1,7
	55-64	2,5	1,8	2,1	1,0	0,7	0,9	1,0	1,8	1,4
	65-74	2,1	1,6	1,8	0,6	1,4	1,0	0,5	1,1	0,8
	75+	1,5	1,4	1,4	0,7	1,2	1,0	1,0	0,9	1,0
	<b>15+</b>	<b>2,2</b>	<b>2,8</b>	<b>2,5</b>	<b>1,6</b>	<b>1,7</b>	<b>1,6</b>	<b>1,7</b>	<b>2,2</b>	<b>2,0</b>

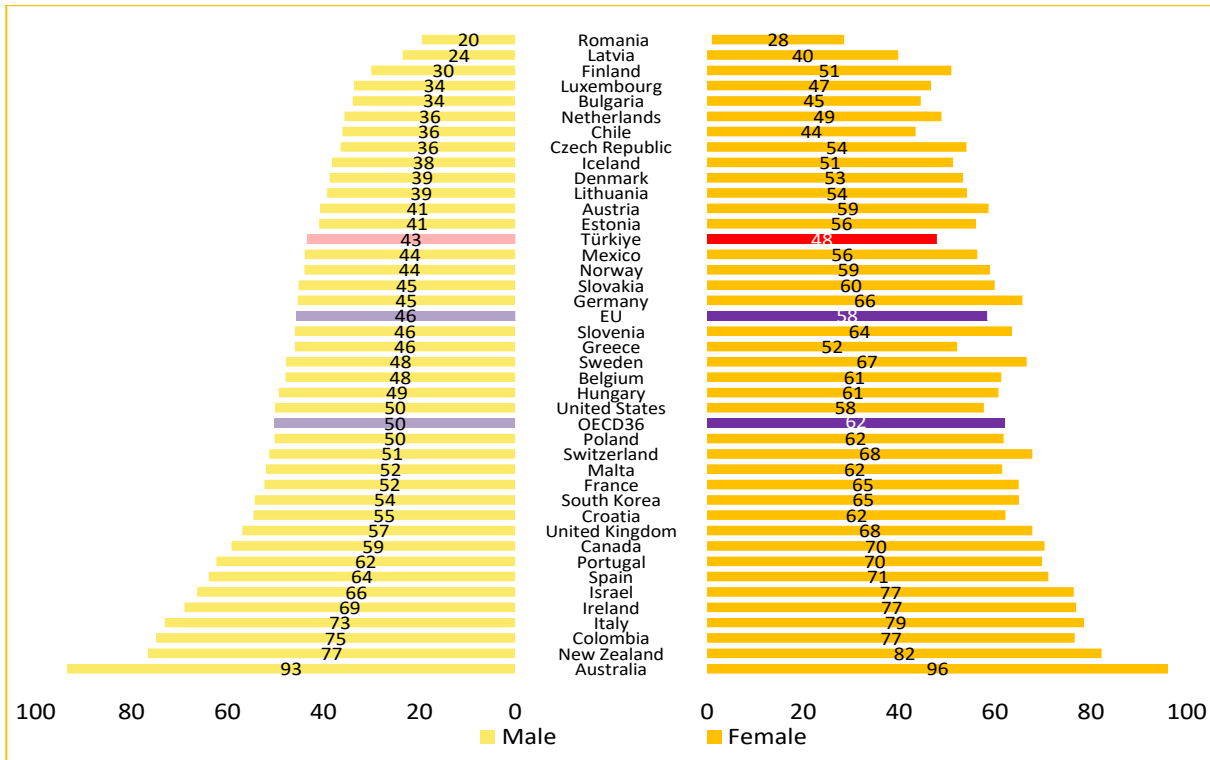
Source: TURKSTAT, Türkiye Health Interview Survey 2014, 2016, 2019

Table 4.17. Distribution of Consumption Vegetable or Salad Habits by Sex and Age Groups, (%), 2014, 2016, 2019

Vegetable or Salad Consumption	Age Group	2014			2016			2019		
		Male	Female	Total	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	44,7	53,7	49,1
	25-34	56,1	61,3	58,7	53,2	62,1	57,6	45,1	57,0	51,1
	35-44	58,3	63,8	61,0	59,9	63,7	61,8	53,8	59,2	56,5
	45-54	59,2	66,1	62,6	64,5	67,3	65,9	58,5	61,6	60,0
	55-64	66,4	68,7	67,5	65,4	66,2	65,8	58,1	64,7	61,4
	65-74	63,2	60,4	61,7	66,5	64,4	65,4	58,8	55,7	57,1
	75+	55,1	61,2	58,7	58,8	55,1	56,6	55,9	57,4	56,8
	<b>15+</b>	<b>57,7</b>	<b>62,9</b>	<b>60,3</b>	<b>59,0</b>	<b>62,8</b>	<b>60,9</b>	<b>52,0</b>	<b>58,5</b>	<b>55,3</b>
4-6 Times a Week	15-24	19,9	18,7	19,3	19,4	20,5	19,9	21,1	20,2	20,6
	25-34	20,9	19,4	20,1	21,0	20,3	20,7	22,7	21,2	21,9
	35-44	19,6	17,7	18,7	19,7	19,8	19,8	19,2	18,0	18,6
	45-54	20,7	18,8	19,7	17,8	18,3	18,0	18,7	18,6	18,6
	55-64	18,6	17,0	17,8	17,7	20,0	18,9	20,9	17,9	19,4
	65-74	23,1	22,6	22,9	18,1	17,9	18,0	21,0	20,9	20,9
	75+	25,2	18,9	21,4	19,7	23,1	21,7	18,6	22,3	20,8
	<b>15+</b>	<b>20,4</b>	<b>18,8</b>	<b>19,6</b>	<b>19,3</b>	<b>19,9</b>	<b>19,6</b>	<b>20,5</b>	<b>19,6</b>	<b>20,0</b>
1-3 Times a Week	15-24	22,0	18,2	20,1	21,1	17,1	19,1	26,5	22,2	24,4
	25-34	18,6	16,4	17,5	20,9	15,5	18,2	26,4	19,0	22,7
	35-44	18,9	15,5	17,2	16,5	14,1	15,3	23,1	19,7	21,4
	45-54	17,0	12,5	14,8	13,8	11,8	12,8	18,8	16,7	17,8
	55-64	12,8	12,0	12,4	15,0	12,1	13,6	18,4	13,9	16,1
	65-74	10,7	13,7	12,3	12,3	14,3	13,3	18,0	19,1	18,5
	75+	15,7	15,4	15,5	18,7	17,5	18,0	19,0	16,9	17,8
	<b>15+</b>	<b>17,9</b>	<b>15,2</b>	<b>16,6</b>	<b>17,6</b>	<b>14,6</b>	<b>16,1</b>	<b>22,6</b>	<b>18,6</b>	<b>20,6</b>
Less Than Once a Week	15-24	4,4	2,6	3,5	4,2	3,3	3,8	6,5	3,2	4,9
	25-34	3,5	2,4	2,9	3,7	1,6	2,6	4,8	2,6	3,7
	35-44	2,6	2,6	2,6	3,2	2,0	2,6	3,3	2,8	3,1
	45-54	2,5	2,0	2,2	3,4	2,4	2,9	3,8	2,6	3,2
	55-64	1,5	1,5	1,5	1,5	1,6	1,6	2,1	3,3	2,7
	65-74	2,0	3,1	2,6	2,8	2,7	2,8	1,8	3,8	2,9
	75+	3,3	3,5	3,4	1,8	2,7	2,4	5,7	3,0	4,0
	<b>15+</b>	<b>3,0</b>	<b>2,4</b>	<b>2,7</b>	<b>3,3</b>	<b>2,3</b>	<b>2,8</b>	<b>4,1</b>	<b>2,9</b>	<b>3,5</b>
Never	15-24	1,7	1,3	1,5	1,4	0,8	1,1	1,3	0,7	1,0
	25-34	1,0	0,5	0,8	1,2	0,5	0,8	1,1	0,2	0,6
	35-44	0,6	0,4	0,5	0,6	0,4	0,5	0,5	0,2	0,4
	45-54	0,7	0,6	0,7	0,5	0,3	0,4	0,3	0,4	0,4
	55-64	0,7	0,9	0,8	0,5	0,0	0,2	0,5	0,2	0,3
	65-74	1,0	0,2	0,5	0,3	0,7	0,5	0,5	0,6	0,6
	75+	0,7	1,0	0,9	1,1	1,6	1,4	0,8	0,4	0,6
	<b>15+</b>	<b>1,0</b>	<b>0,7</b>	<b>0,8</b>	<b>0,9</b>	<b>0,5</b>	<b>0,7</b>	<b>0,7</b>	<b>0,4</b>	<b>0,6</b>

Source: TURKSTAT, Türkiye Health Interview Survey 2014, 2016, 2019

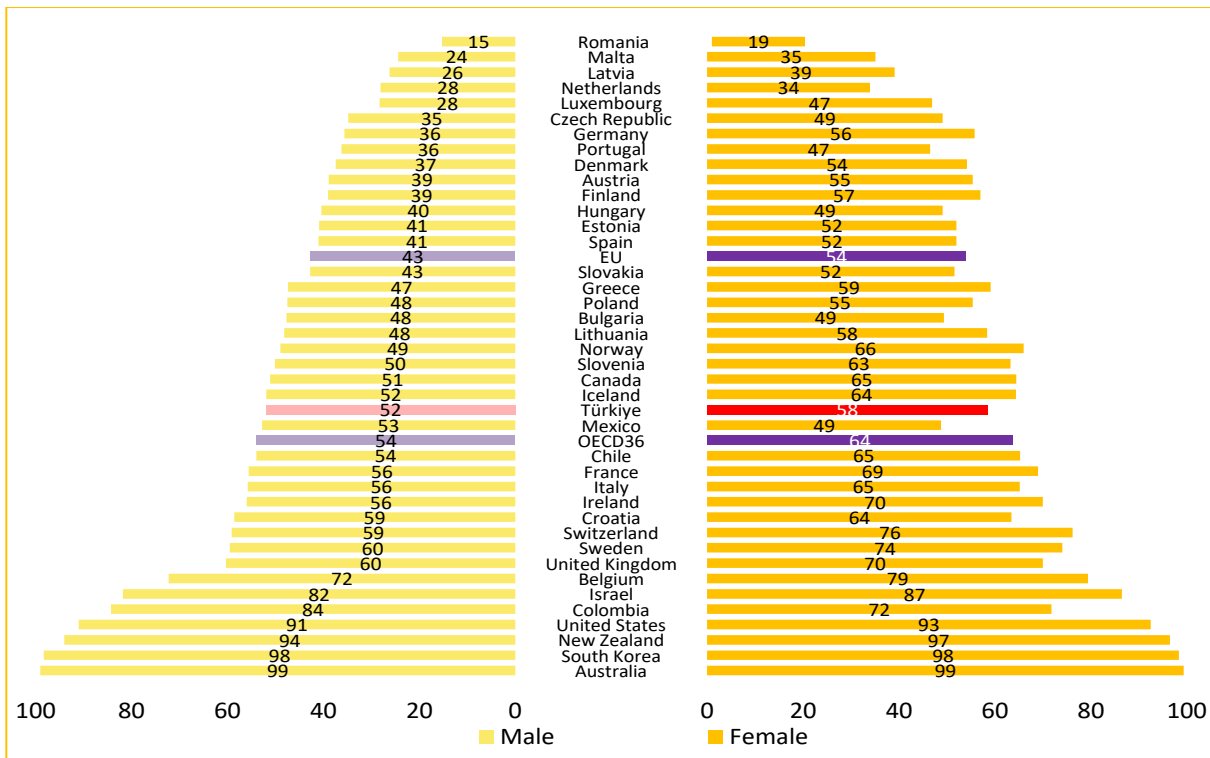
Figure 4.12. International Comparison of Distribution of 15 and Over Aged Individuals' Fruit Consumption Once a Day or More by Sex, (%), 2020



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2022, EUROSTAT Database

Note: Türkiye's data belong to the year 2019. Countries' data belong to the year 2020 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, (%), 2020



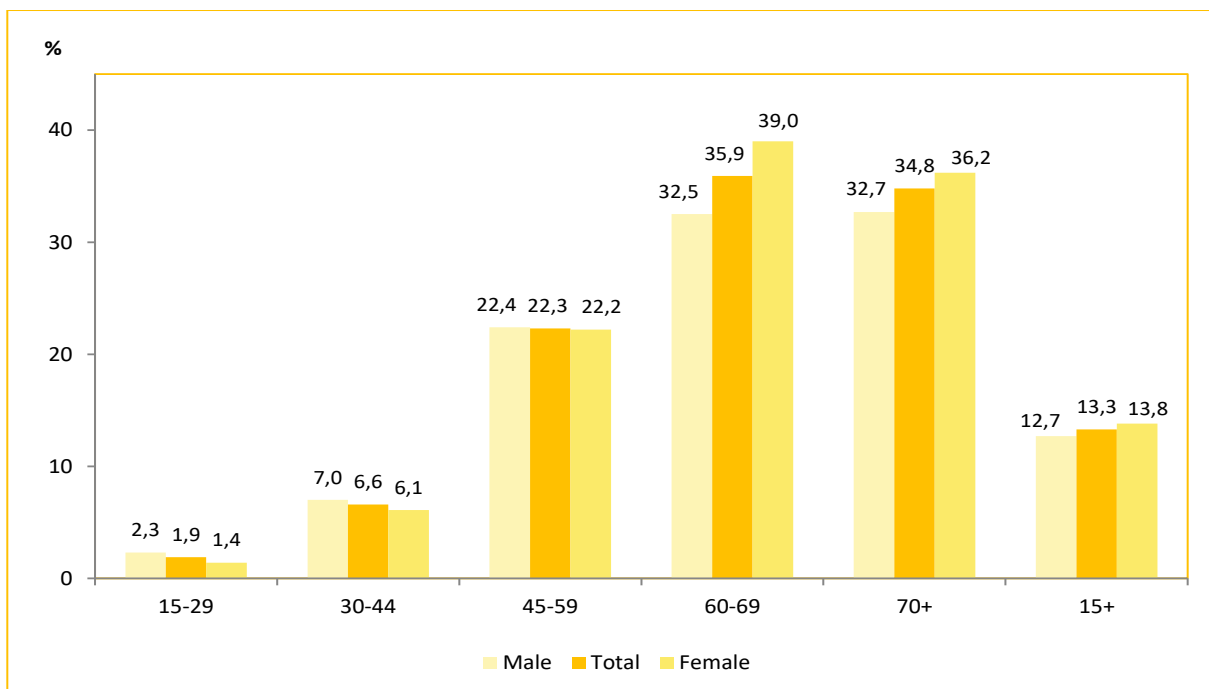
Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2022, EUROSTAT Database

Note: Türkiye's data belong to the year 2019. Countries' data belong to the year 2020 or nearest.

Table 4.18. Distribution of 15 and Over Aged Individuals' Benefit from Preventive Services in the Last 12 Months by Sex, (%), 2016, 2019

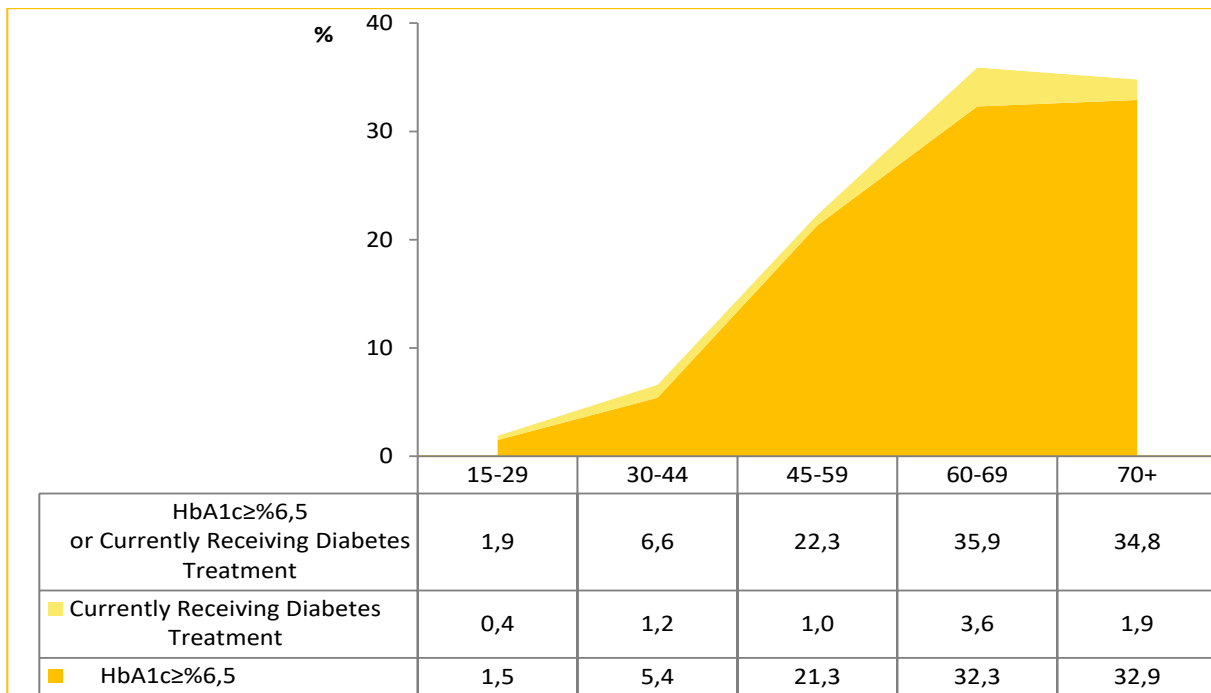
Service	2016			2019		
	Male	Female	Total	Male	Female	Total
Blood Pressure Measurement	41,1	55,9	48,6	44,0	57,5	50,8
Blood Sugar Measurement	32,0	47,2	39,7	36,6	52,1	44,4
Blood Cholesterol Measurement	29,4	43,8	36,7	33,8	48,5	41,2
Faecal Occult Blood Test	9,8	13,0	11,4	10,7	14,1	12,4
Colonoscopy	2,2	2,8	2,5	2,1	2,6	2,4
Vaccinated Against Flu	2,9	2,4	2,6	2,8	1,6	2,2

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

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

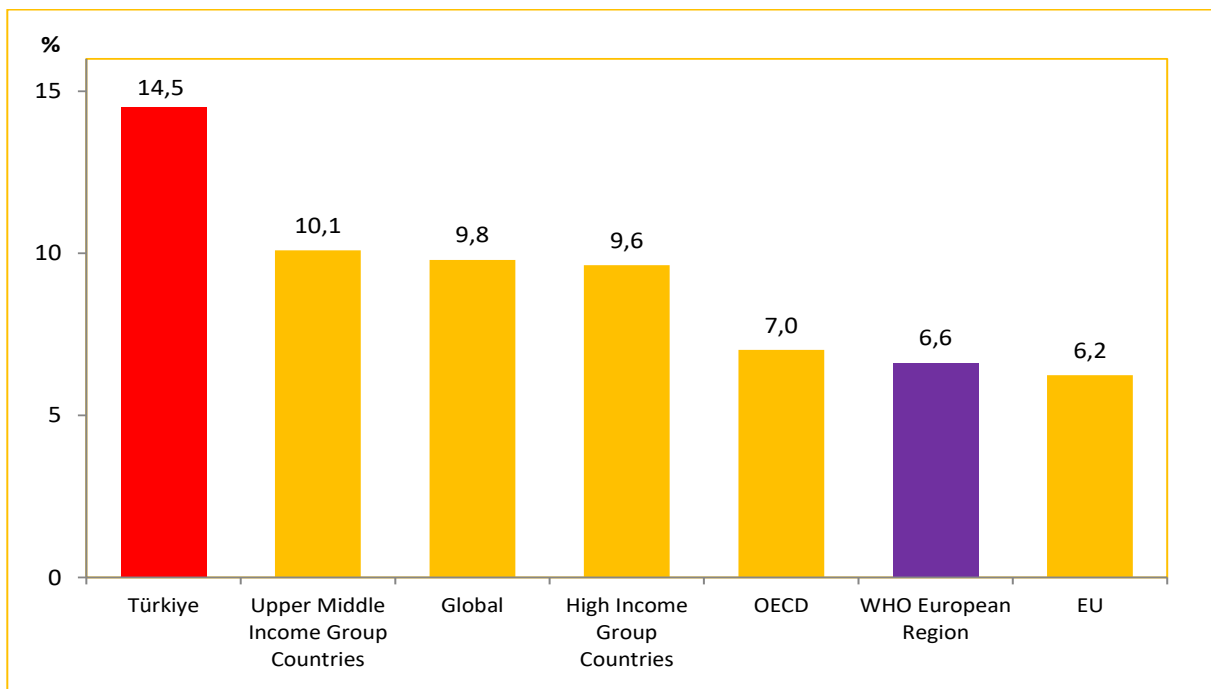
Source: Ministry of Health, National Household Health Survey in Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017

Figure 4.15. Distribution of Individuals with HbA1c $\geq$ 6,5% and Currently Receiving Diabetes Treatment by Age Groups, (%), 2017



Source: Ministry of Health, National Household Health Survey in Türkiye: 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), 2021



Source: IDF Diabetes Atlas 10th Edition, 2021

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 4.19. 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 Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017

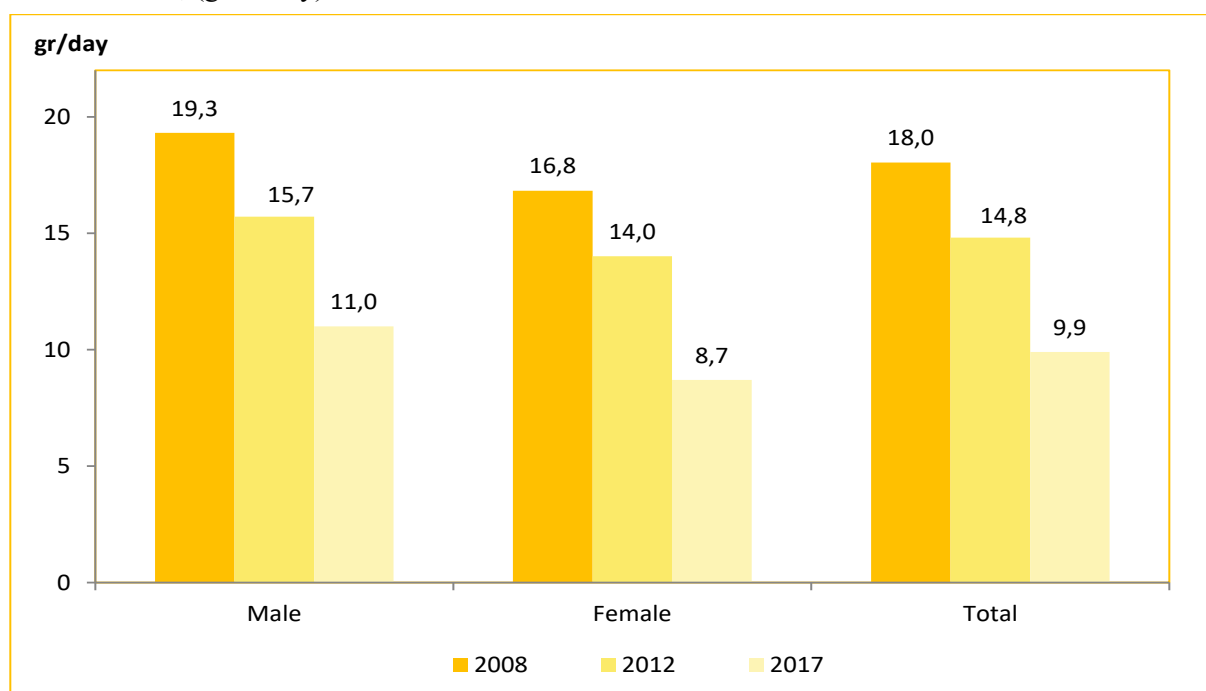
Note: Individuals using drugs were also included in the calculation of total cholesterol. Low HDL threshold was considered as <40 mg/dl for men and <50 mg/dl for women.

Table 4.20. Distribution of 15 and Over Aged Individuals' Salt Consumption Habit by Sex, (%), 2017

Salt Consumption	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 Türkiye: 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 SALTürk-I, 2012 SALTürk-II, Ministry of Health National Household Health Survey in Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017

Table 4.21. Distribution of 15 and Over Aged Individuals' Physical Activity Status According to PAL Classification by Sex and Years, (%), 2017

Sex	Age Group	Sedentary or Light Active		Active or Middle Active	More Active	
		<1,40	1,40-1,69	1,70-1,99	2,00-2,40	>2,40
Male	15-18	4,4	52,6	33,6	8,5	0,9
	19-49	2,7	36,1	38,6	16,2	6,4
	50-64	3,2	43,3	38,5	11,5	3,5
	≥65	10,2	53,1	31,7	4,4	0,7
	≥15	3,7	40,5	37,5	13,5	4,9
	≥19	3,6	39,4	37,8	13,9	5,2
	19-64	2,8	37,8	38,5	15,1	5,8
Female	15-18	1,9	69,5	27,2	1,1	0,3
	19-49	1,6	29,3	55,4	13,0	0,7
	50-64	2,6	32,6	52,6	11,6	0,6
	≥65	16,2	52,2	28,8	2,5	0,2
	≥15	3,6	35,9	49,4	10,5	0,6
	≥19	3,7	33,0	51,3	11,3	0,6
	19-64	1,9	30,1	54,7	12,7	0,7
Total	15-18	3,1	61,0	30,4	4,9	0,6
	19-49	2,2	32,7	46,8	14,6	3,6
	50-64	2,9	37,9	45,6	11,5	2,0
	≥65	13,5	52,6	30,1	3,3	0,4
	≥15	3,6	38,2	43,4	12,0	2,7
	≥19	3,7	36,2	44,6	12,6	2,9
	19-64	2,4	34,0	46,5	13,9	3,2

Source: Ministry of Health, Türkiye Nutrition and Health Survey 2017

Note: PAL classification is based on FAO / WHO / UNU standards.

Table 4.22. 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
<b>15+</b>	<b>37,4</b>	<b>26,3</b>	<b>36,3</b>	<b>61,1</b>	<b>25,8</b>	<b>13,1</b>	<b>49,4</b>	<b>26,0</b>	<b>24,6</b>

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



Table 4.23. Distribution of Individuals Who Felt Physical Pain in the Last 4 Weeks by Sex and Age Groups, (%), 2014, 2016, 2019

Age Group	2014			2016			2019		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-24	13,1	16,4	14,7	8,6	13,5	11,0	9,0	17,3	13,1
25-34	13,9	27,1	20,5	11,8	21,1	16,4	13,6	22,2	17,9
35-44	19,5	38,4	28,9	16,0	28,9	22,4	16,0	32,5	24,2
45-54	22,5	45,8	34,1	20,3	40,1	30,2	22,4	41,7	32,0
55-64	24,4	53,1	38,9	19,6	44,4	32,2	22,0	50,1	36,2
65-74	37,1	61,4	50,3	34,7	57,9	47,2	29,7	56,3	43,9
75+	49,0	66,7	59,6	47,7	69,4	60,8	44,5	67,4	58,3
<b>15+</b>	<b>20,0</b>	<b>37,3</b>	<b>28,7</b>	<b>17,0</b>	<b>32,0</b>	<b>24,6</b>	<b>18,0</b>	<b>35,1</b>	<b>26,7</b>

Source: TURKSTAT, Türkiye Health Interview Survey 2014, 2016, 2019

Table 4.24. Distribution of Individuals Not Able to Walk, Walk Up and Down Stairs without Any Aid or Assistance by Sex and Age Groups, (%), 2014, 2016, 2019

Age Group	2014			2016			2019			
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Not Able to Walk	15-44	1,3	2,1	1,7	1,4	1,1	1,3	0,5	1,1	0,8
	45-54	3,4	10,4	6,8	2,7	7,6	5,1	2,9	6,0	4,4
	55-64	5,2	20,5	12,9	4,3	17,1	10,8	4,3	12,0	8,2
	65-74	15,3	31,9	24,3	15,4	30,2	23,4	9,3	23,9	17,1
	75+	38,3	59,7	51,2	36,0	55,8	48,0	32,0	53,1	44,7
	<b>15+</b>	<b>4,1</b>	<b>10,4</b>	<b>7,3</b>	<b>4,0</b>	<b>8,9</b>	<b>6,5</b>	<b>3,1</b>	<b>7,9</b>	<b>5,5</b>
Not Able to Walk Up and Down Stairs	15-44	1,7	3,2	2,4	1,7	2,2	1,9	1,0	2,0	1,5
	45-54	3,9	14,2	9,0	4,2	13,4	8,8	4,5	10,6	7,5
	55-64	7,1	25,2	16,3	6,5	24,1	15,4	6,7	18,9	12,9
	65-74	19,6	40,1	30,7	18,6	38,5	29,3	13,6	34,3	24,7
	75+	42,1	61,3	53,6	39,8	65,7	55,4	39,0	58,7	50,8
	<b>15+</b>	<b>5,1</b>	<b>12,8</b>	<b>9,0</b>	<b>5,0</b>	<b>12,4</b>	<b>8,7</b>	<b>4,6</b>	<b>11,1</b>	<b>7,9</b>

Source: TURKSTAT, Türkiye Health Interview Survey 2014, 2016, 2019

Table 4.25. 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, 2019

	2016			2019		
	Male	Female	Total	Male	Female	Total
Providing Help	8,9	9,9	9,4	7,8	9,1	8,4
Members of Family	63,1	67,0	65,2	68,0	66,9	67,4
Other	36,9	33,0	34,8	32,0	33,1	32,6
Not Providing Help	91,1	90,1	90,6	92,2	90,9	91,6

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

Table 4.26. Distribution of Individuals Having Difficulty in Learning and Remembering Events Compared to Peers by Sex and Age Groups, (%), 2016, 2019

Age Group	2016			2019		
	Male	Female	Total	Male	Female	Total
15-44	1,5	3,9	2,7	1,1	2,9	2,0
45-54	2,7	10,3	6,4	2,7	6,2	4,5
55-64	3,2	15,3	9,3	3,2	9,5	6,4
65-74	11,2	26,2	19,3	9,0	19,9	14,9
75+	24,5	46,3	37,7	31,0	37,4	34,9
<b>15+</b>	<b>3,3</b>	<b>10,0</b>	<b>6,7</b>	<b>3,3</b>	<b>7,4</b>	<b>5,4</b>

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

Table 4.27. Distribution of Number of People Who Are So Close When Individuals Have Serious Personal Problems by Sex, (%), 2016, 2019

Number of Person	2016			2019		
	Male	Female	Total	Male	Female	Total
None	6,3	5,1	5,7	6,6	4,9	5,7
1-2 Person	36,5	39,8	38,2	34,0	38,5	36,3
3-5 Person	35,0	36,6	35,8	36,5	36,7	36,6
6 or More Person	22,2	18,5	20,3	22,9	19,8	21,3

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

Table 4.28. Distribution of 15 and Over Aged Individuals' for Status of Getting Help from Neighbours by Sex, (%), 2016, 2019

Status of Getting Help	2016			2019		
	Male	Female	Total	Male	Female	Total
Very Easy/Easy	72,3	76,2	74,3	67,3	71,9	69,6
Possible	14,7	13,0	13,9	17,4	16,6	17,0
Difficult/Very Difficult	13,0	10,8	11,9	15,3	11,4	13,4

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

### 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).

<b>Underweight</b>	:	BMI < 18,5
<b>Normal weight</b>	:	18,5 ≤ BMI < 25,0
<b>Pre-Obese</b>	:	25,0 ≤ BMI < 30,0
<b>Obesity</b>	:	BMI ≥ 30,0

☑ **Absolute Alcohol:** It expresses the equivalent of the alcohol amount of ethyl alcohol by volume over 100% alcohol amount. The alcohol amount of producer / importer companies having Alcoholic Beverage Distribution Authorization Certificate is the market supply data of the annual alcoholic beverages prepared as a result of processing the data in the monthly sales reports. While calculating the absolute alcohol consumption per capita, 15 and over aged population was taken into account. It is calculated as: (Consumption Amount of total Absolute Alcohol Offered to the Domestic Market)/ (15 and Over Aged)

☑ **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 10. Diabetes Atlas:** To make international comparisons, the prevalence of age and sex specific diabetes of countries was estimated by using statistical models. 219 data sources were used for 144 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.

### TURKSTAT, Türkiye Health Interview Survey 2019

#### Research is based on self-reported.

☑ **Coverage:** All the individuals living in Türkiye 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 was designed in order to produce estimators for only Türkiye. Thus, the total sample size necessary was found to be 9.470 households.

☑ **Sampling Distribution:** In 8.166 of these households the questionnaire was completed. The questionnaire was completed by 23.199 people. The information of 23.199 individuals, including 17.084 children aged 15 and over and 6.115 children between the ages of 0-14, was compiled.

☑ **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 and September-December in 2019 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.

### Hacettepe University, Türkiye Demographic and Health Survey 2018

- ☑ **Coverage:** All country.
- ☑ **Estimation Level:** The total sample size is 15.775 households.
- ☑ **Sampling Distribution:** 13.962 out of 15.775 households were found eligible to be interviewed. 79% (11.056) of this group were successfully interviewed. In the 11.056 households interviewed, 9.056 women between the ages of 15-49 were eligible for individual interviews. Interviews were successfully conducted with 7.346 (81%) of these women. In 13.962 of these households the questionnaire was completed.
- ☑ **Period of Field Study:** The research was conducted between October 2018 and February 2019.

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

- ☑ **Coverage:** 15 and over aged citizens of the Republic of Türkiye, living in Türkiye, 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 Türkiye. 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,
- $\geq 7$  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  $\geq 3$  days for at least 20 minutes a day,
- Moderate-intensity physical activity for  $\geq 5$  days for at least 30 minutes a day,
- Physical activity of any intensity and domain for  $\geq 5$  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.

#### **Ministry of Health, Turkish Childhood (2<sup>nd</sup> Grade Students in Primary School) Obesity Research (COSI-TUR-2016)**

- ☑ The research was conducted in the cooperation with World Health Organization European Region. The aim of this study is to monitor the growth and development of school-age children, food consumption habits, physical activity status, and nutrition and physical activity practices in schools among the WHO European Region, and to develop national and international health policies accordingly.
- ☑ In Türkiye, according to expression of primary school 2<sup>nd</sup> grade students (6-9 age group) and their families to collect information about the practices of schools regarding nutrition and physical activity, dietary behaviors and physical activity level were identified, the height and weight of the children were measured, and the indicators of growth (weakness, normal weight, overweight and obesity, stunting) were determined.
- ☑ Our country was included in the 3<sup>rd</sup> stage of Obesity Research implemented in 21 countries in 2012-2013. The research was conducted in 585 schools, a 2<sup>nd</sup> grade with 11.732 students (5.901 boy, 5.831 girl). The research was conducted in the cooperation of Ministry of Health, Ministry of National Education, Hacettepe University in the sample size calculated by TURKSTAT.
- ☑ The research was a cross-sectional epidemiological study, conducted in the cooperation of Ministry of Health, Ministry of National Education, Hacettepe University, WHO European Region.

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

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

#### **Ministry of Health, Türkiye Nutrition and Health Survey 2017**

- ☑ **Coverage:** 15 and over aged citizens of the Republic of Türkiye, living in Türkiye, are covered. Institutional population (hotel, individuals living in dormitories, prisons, hospitals in the long period, etc.) are excluded.
- ☑ **Estimation Level:** Sample size was calculated by TURKSTAT and covers eating habits, consumption of food, disease and physical activity status, blood tests of 15 and over aged individuals. Family Medicine Database was used for sampling process by TURKSTAT.
- ☑ **Sampling Distribution:** By selecting one individual from each household, the sample size was calculated 24.000 for 15 and over aged. The sampling method of the study is 3-stage cluster sampling (cluster, household, individuals aged 15 and over).
- ☑ **Period of Field Study:** Field studies for TNHS 2017 were conducted between September and December 2017.

An abstract graphic on the left side of the page, consisting of a complex network of blue lines and dots of varying sizes and colors (ranging from light blue to dark blue). The lines connect the dots, creating a web-like structure that is denser on the left and fades towards the right. The background is a light blue gradient.

# CHAPTER 5

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## Prevention of Diseases and Protection of Health

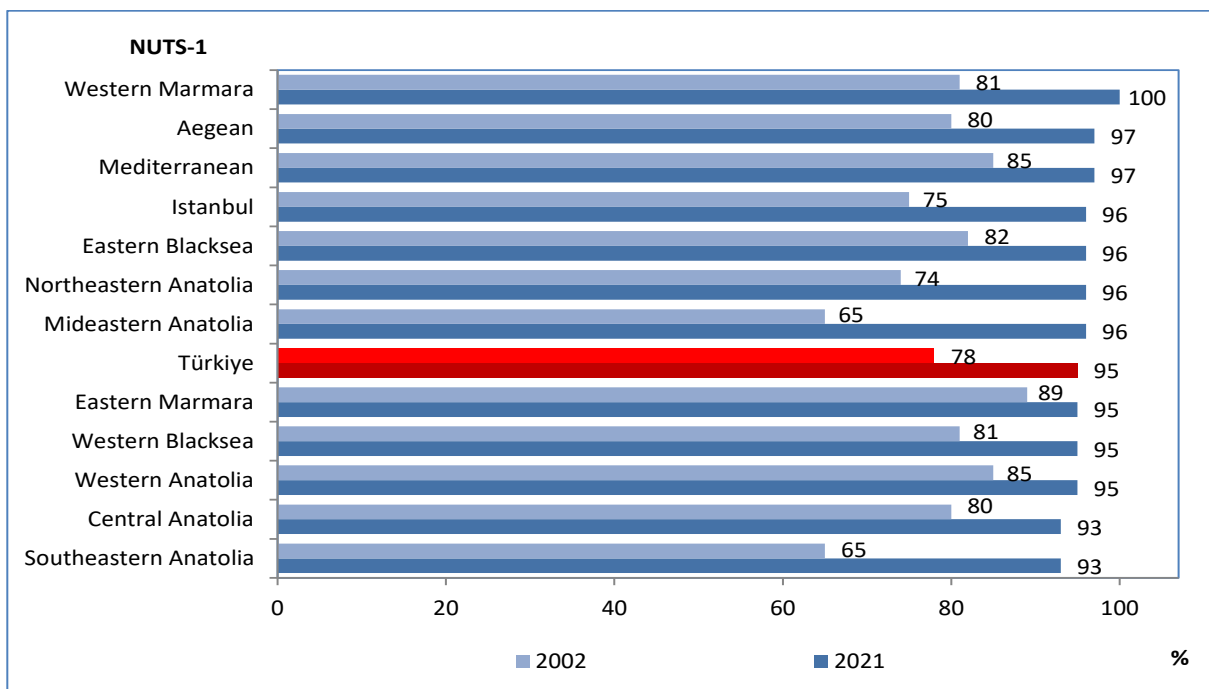
Table 5.1. Vaccination Rate by Years, (%)

	2002	2017	2018	2019	2020	2021
DaPT 3	78	96	98	99	98	95
BCG	77	93	96	96	96	95
HBV 3	72	96	98	99	98	96
MMR	82	96	96	97	95	96
CPV Booster*	-	96	98	-	95	96

Source: General Directorate of Public Health

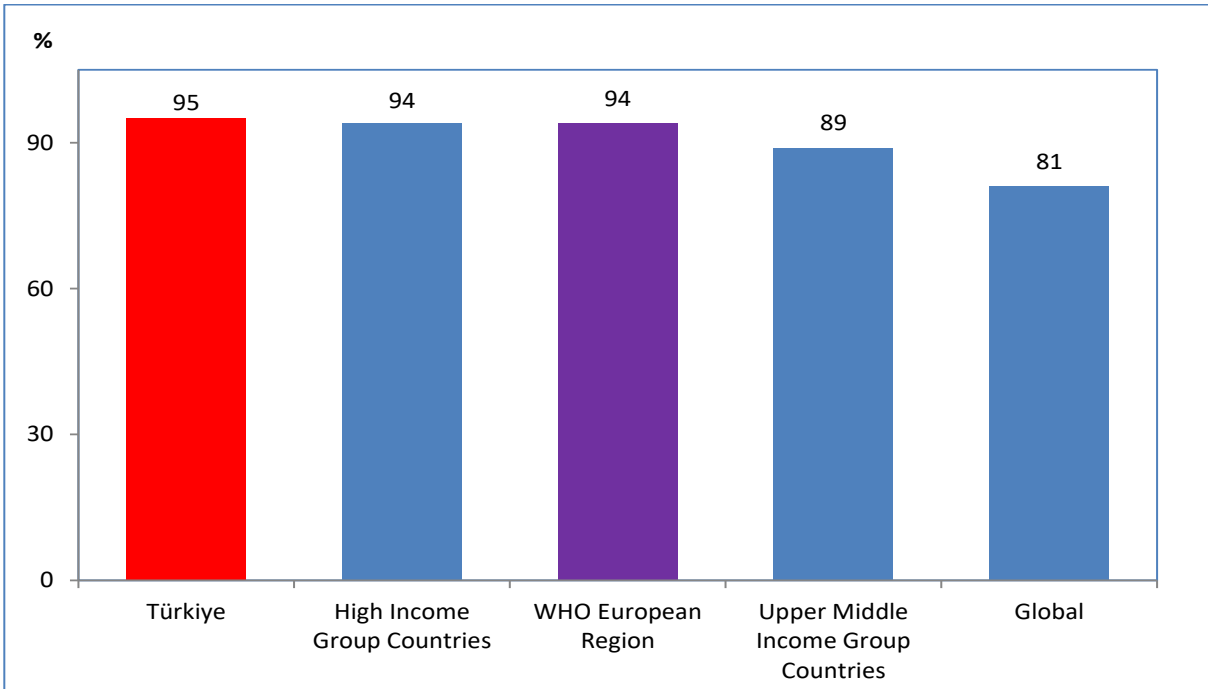
\* As of 1 July 2019, 3rd dose of CPV was withdrawn and CPV booster vaccination started to be used. Data for the year 2018 and before belong to CPV 3 vaccination.

Figure 5.1. Third Dose Vaccination Rate of 5-Component Combined Vaccine (DaPT+IPV+Hib) by NUTS-1, (%), 2002, 2021



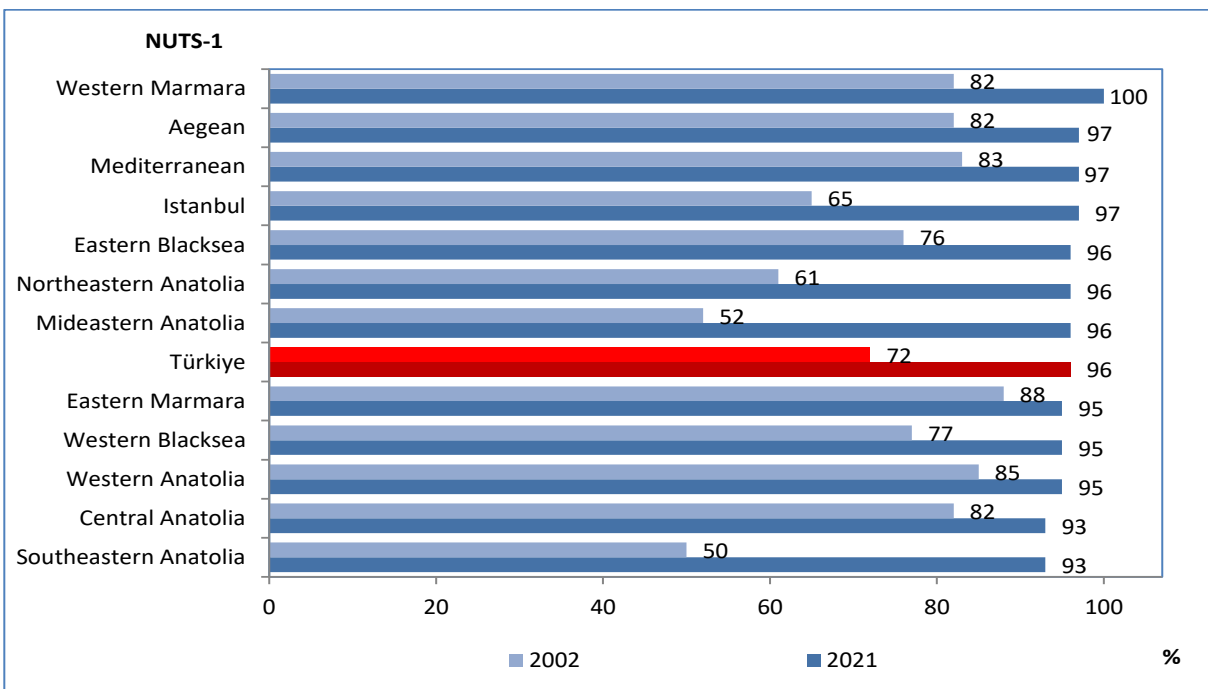
Source: General Directorate of Public Health

Figure 5.2. International Comparison of Third Dose Vaccination Rate of DaPT+IPV+Hib, (%), 2021



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

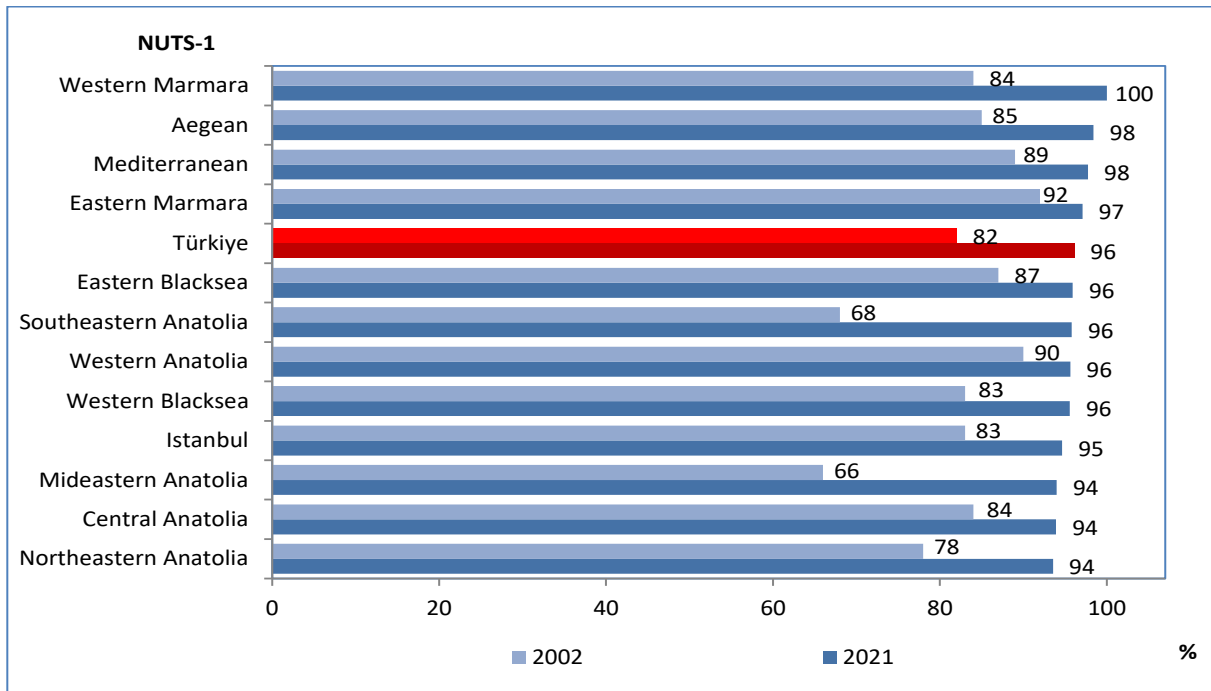
Figure 5.3. HBV 3 Vaccination Rate by NUTS-1, (%), 2002, 2021



Source: General Directorate of Public Health

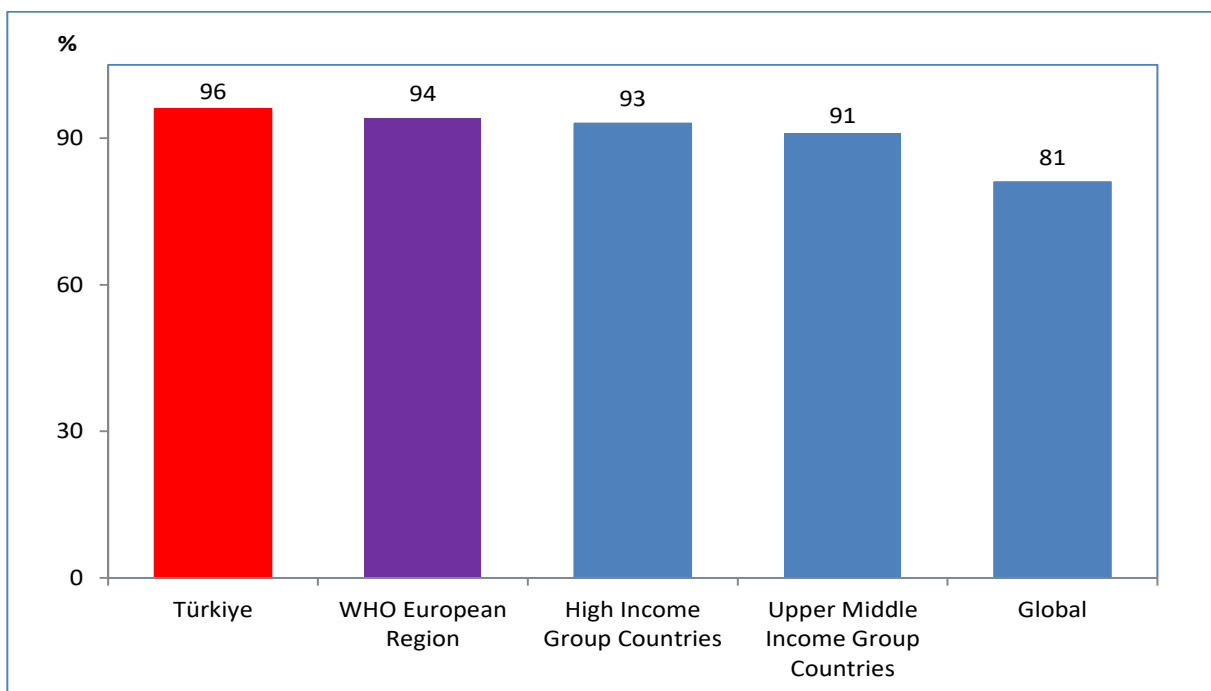


Figure 5.4. MMR Vaccination Rate by NUTS-1, (%), 2002, 2021



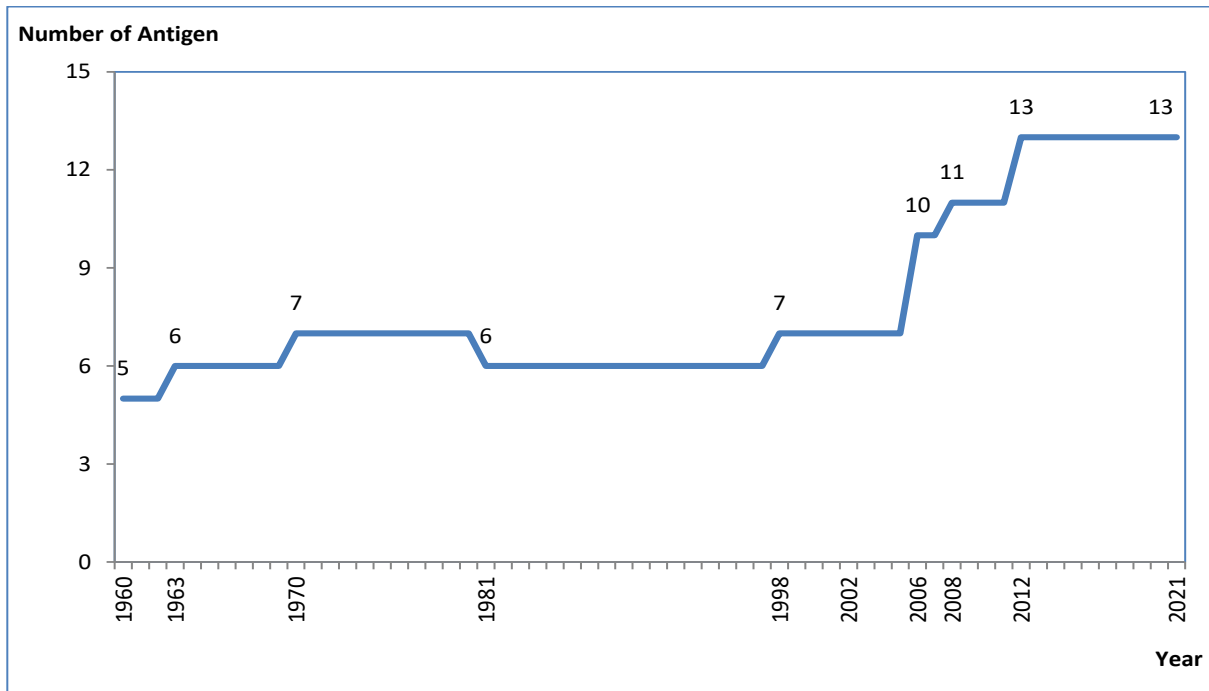
Source: General Directorate of Public Health

Figure 5.5. International Comparison of MMR Vaccination Rate, (%), 2021



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



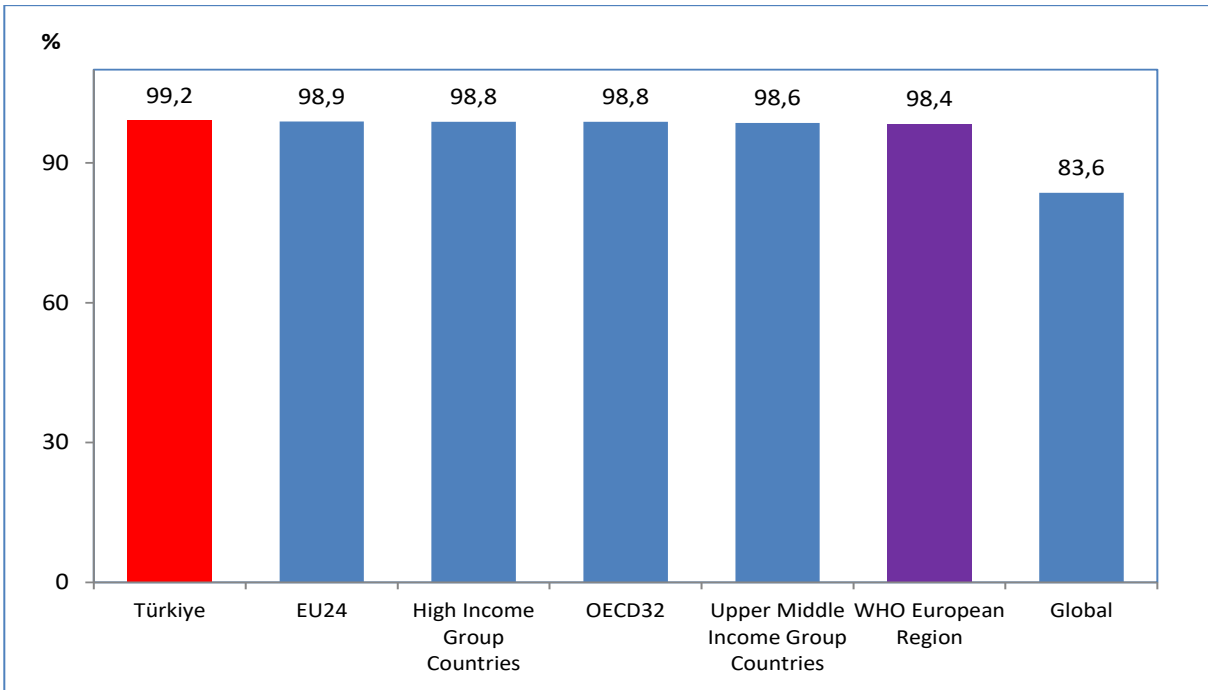
Source: General Directorate of Public Health

Table 5.2. Indicators of Birth by NUTS-1, (%), 2020, 2021

NUTS-1	Births at Hospital		Cesarean Sections Among Live Births		Primer Cesarean Sections Among Live Births	
	2020	2021	2020	2021	2020	2021
Istanbul	98	98,5	60,7	61,4	32,8	32,5
Western Marmara	96	95,8	62,8	64,6	34,8	35,7
Aegean	99	98,5	65,3	65,9	35,2	35,0
Eastern Marmara	97	97,7	60,7	61,9	31,9	32,6
Western Anatolia	99	98,5	55,9	57,1	29,7	30,2
Mediterranean	100	100,0	67,0	68,1	31,5	31,9
Central Anatolia	97	96,2	54,4	55,0	27,1	27,5
Western Blacksea	99	96,8	65,7	66,9	35,2	35,9
Eastern Blacksea	97	96,0	63,8	64,7	32,7	32,2
Northeastern Anatolia	94	94,2	40,1	43,4	20,0	22,3
Mideastern Anatolia	96	95,1	43,5	45,1	21,7	22,1
Southeastern Anatolia	96	96,0	46,4	48,5	19,2	19,8
Türkiye	98	97,5	57,3	58,4	28,8	29,1

Source: General Directorate of Public Health

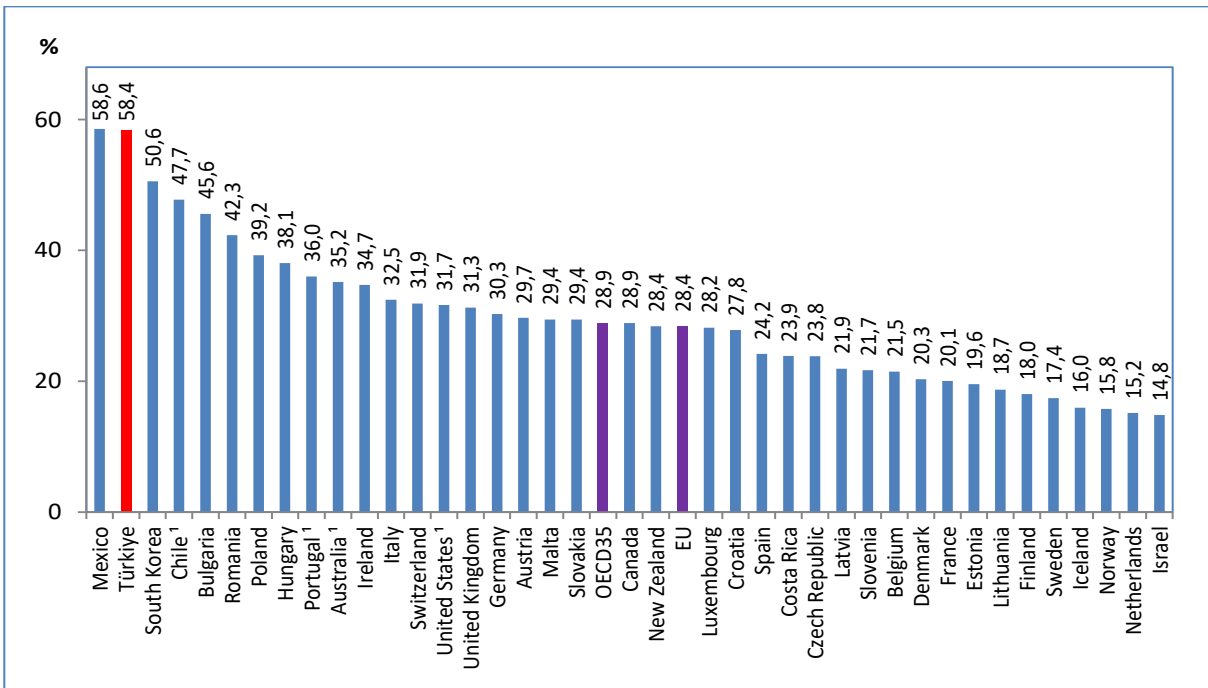
Figure 5.7. International Comparison of Proportion of Births Attended by Skilled Health Personnel, (%), 2021



Source: TDHS 2018, Joint UNICEF/WHO Global Database 2022

Note: Türkiye's data belongs to TDHS 2018. Countries' data belong to the year 2021 or nearest.

Figure 5.8. International Comparison of Cesarean Sections Among Live Births, (%), 2020



Source: General Directorate of Public Health, OECD Health Data 2022, EUROSTAT Database

Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest.

<sup>1</sup>Data only belongs to inpatients.

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

	Cesarean Sections			Primary Cesarean Sections		
	2019	2020	2021	2019	2020	2021
Ministry of Health	41,8	42,8	44,6	15,9	16,8	17,5
University	70,4	71,4	73,1	35,3	36,4	36,8
Private	71,8	74,1	75,5	39,8	41,8	42,3
Total	57,0	59,6	60,9	27,8	30,0	30,3

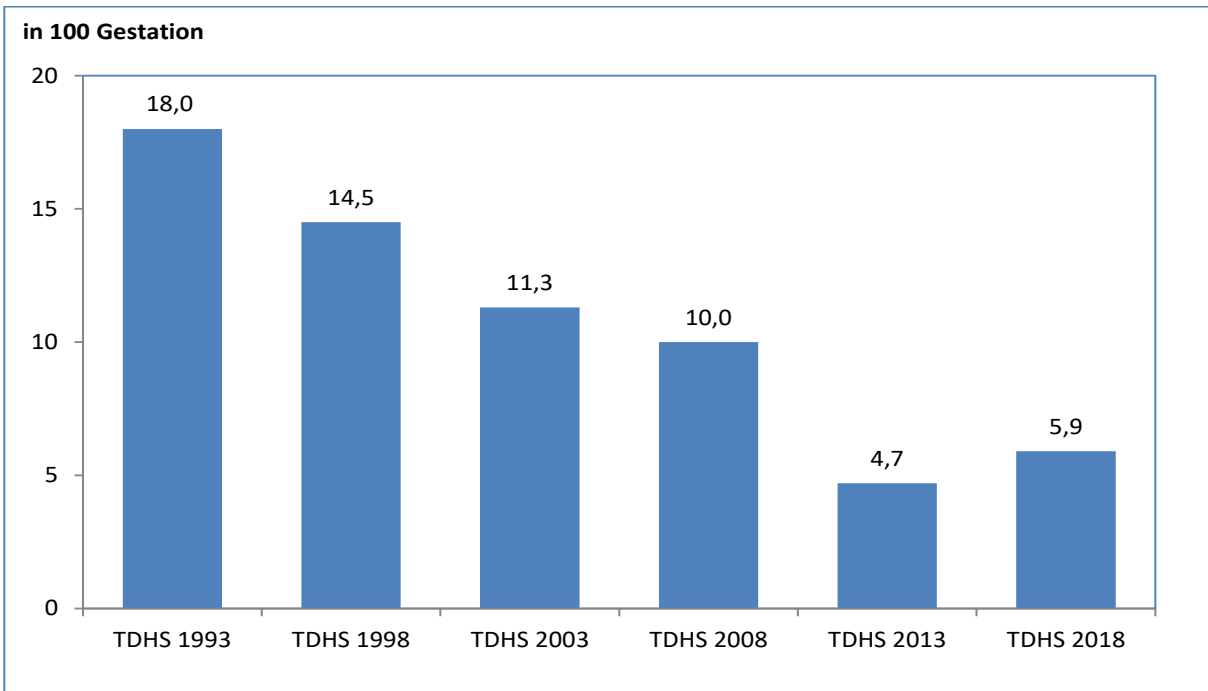
Source: General Directorate of Public Health

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

NUTS-1	2017	2018	2019	2020	2021
Istanbul	99,8	99,4	98,7	99,5	99,4
Western Marmara	99,8	99,7	99,9	99,8	99,8
Aegean	99,7	99,7	99,8	99,8	99,8
Eastern Marmara	99,8	99,6	99,8	99,8	99,7
Western Anatolia	99,6	99,0	99,4	99,7	99,7
Mediterranean	99,7	99,5	99,2	99,6	99,7
Central Anatolia	99,7	99,6	99,7	99,6	99,8
Western Blacksea	99,6	99,7	99,7	99,7	99,7
Eastern Blacksea	99,6	99,8	99,9	99,7	99,7
Northeastern Anatolia	99,6	99,7	99,8	99,8	99,7
Mideastern Anatolia	99,8	99,8	99,8	99,7	99,7
Southeastern Anatolia	99,7	99,3	99,2	99,7	99,8
Türkiye	99,7	99,5	99,4	99,7	99,7

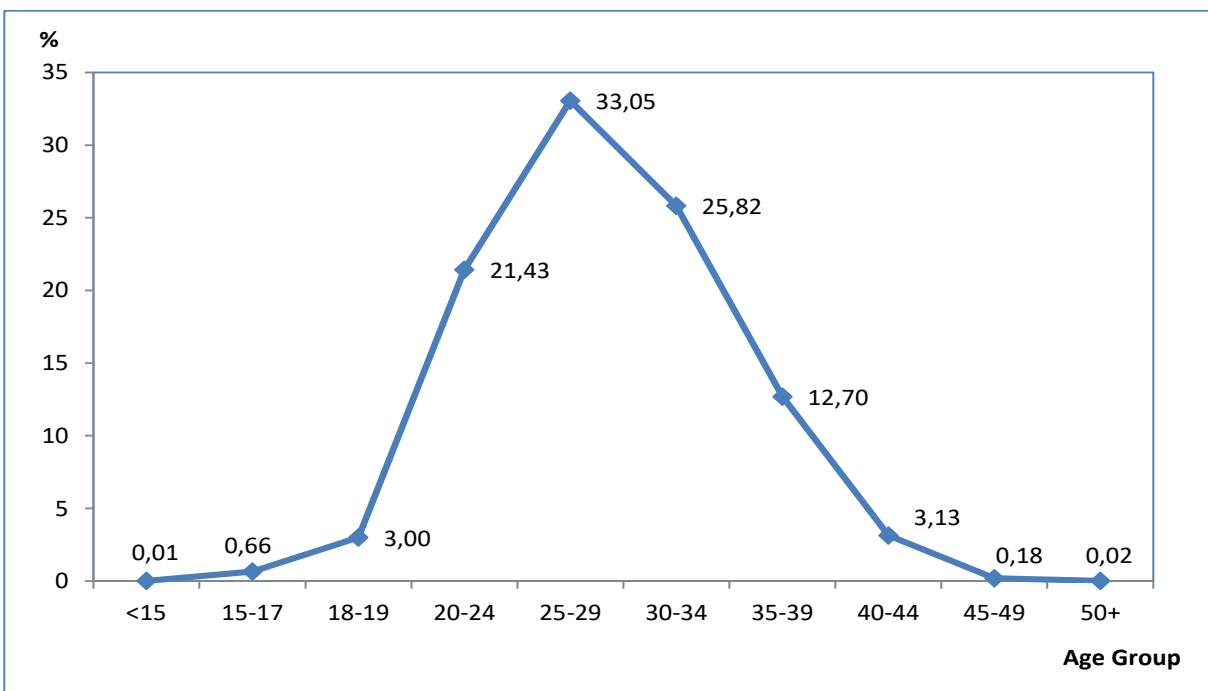
Source: General Directorate of Public Health

Figure 5.9. Proportion of Induced Abortion by Years, (in 100 Gestation)



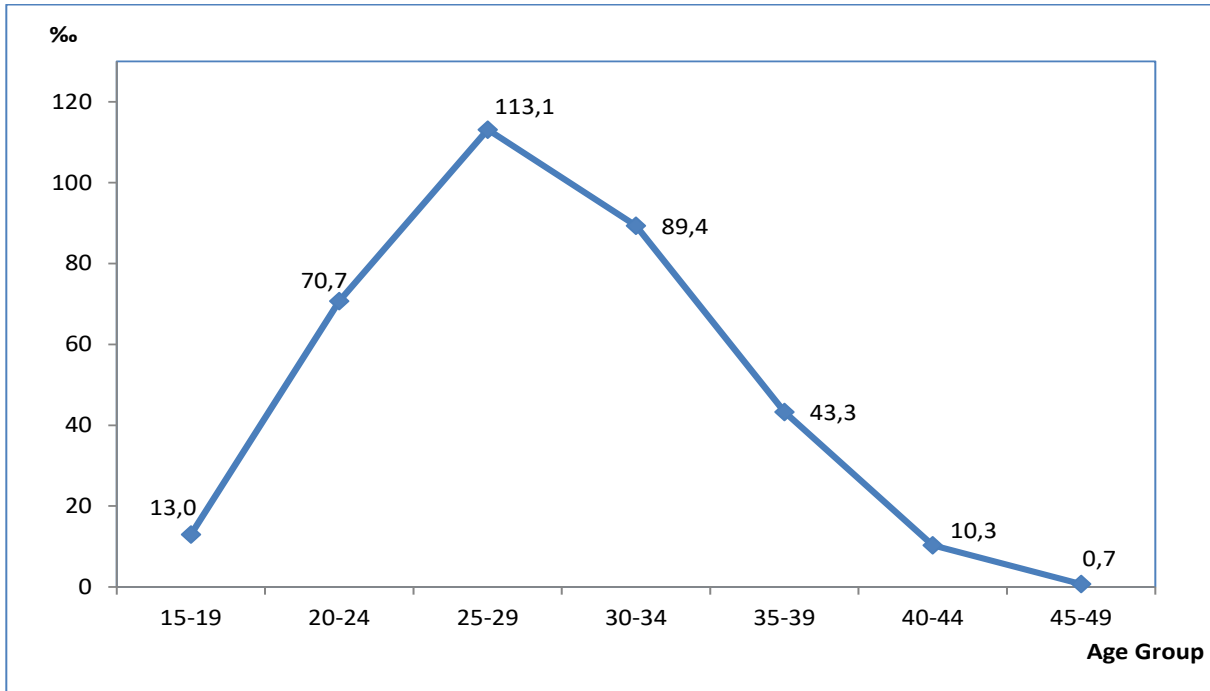
Source: TDHS, 1993, 1998, 2003, 2008, 2013, 2018

Figure 5.10. Proportion of Births by Age Group of Mother Among All Births, (%), 2021



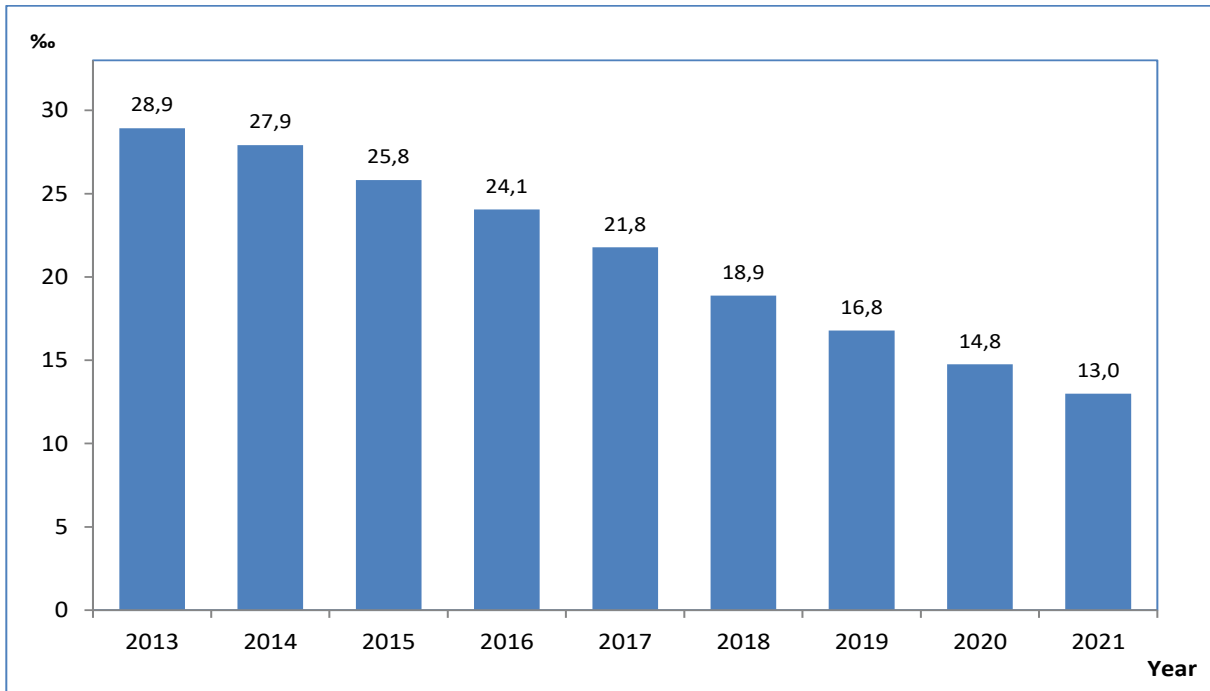
Source: TURKSTAT, Birth Statistics 2021

Figure 5.11. Age-Specific Fertility Rate, (%), 2021



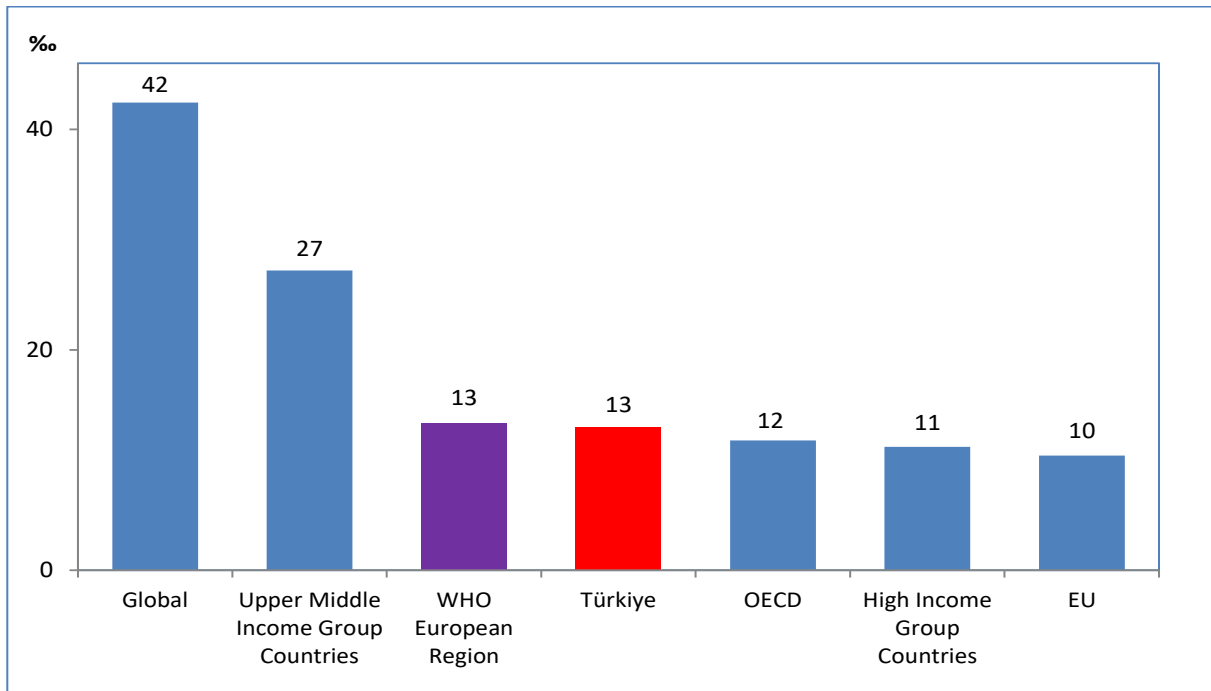
Source: TURKSTAT, Birth Statistics 2021

Figure 5.12. Adolescent Fertility Rate by Years, (%)



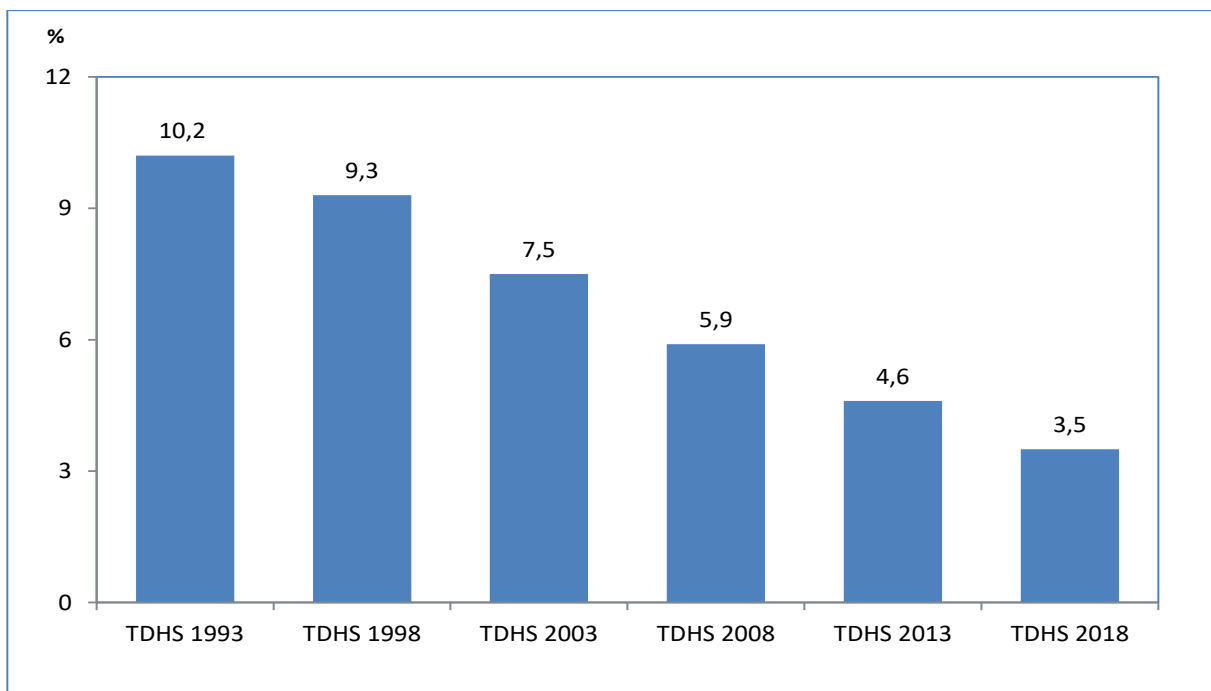
Source: TURKSTAT, Birth Statistics 2021

Figure 5.13. International Comparison of Adolescent Fertility Rate, (‰), 2021



Source: TURKSTAT Birth Statistics 2021, UNPD

Figure 5.14. 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, (%), 2020, 2021

NUTS-1	Pregnant		Infant		Child	
	2020	2021	2020	2021	2020	2021
Istanbul	96,1	96,1	91,2	93,2	90,9	92,8
Western Marmara	98,7	98,9	94,5	96,0	94,9	94,3
Aegean	98,7	98,8	93,1	94,4	94,1	94,3
Eastern Marmara	97,6	97,2	93,4	95,1	93,1	93,1
Western Anatolia	95,5	94,6	94,2	95,3	93,8	95,3
Mediterranean	94,7	93,8	92,0	94,0	90,1	91,9
Central Anatolia	96,3	96,0	93,7	94,9	92,3	95,4
Western Blacksea	98,7	98,6	96,5	98,1	94,8	95,8
Eastern Blacksea	99,2	99,4	96,5	98,1	94,6	95,3
Northeastern Anatolia	97,6	98,1	92,4	95,0	92,2	94,7
Mideastern Anatolia	96,0	96,5	89,7	93,5	89,8	93,8
Southeastern Anatolia	94,2	94,7	85,1	88,5	85,1	91,0
Türkiye	96,2	96,1	90,5	92,4	91,0	90,6

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).
- ☑ The population that was used to calculate the vaccination rate 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.
- ☑ Data on birth indicators before 2015 were obtained from the provinces by official letter, and between 2015 and 2018, using the “Hospital Birth Information System”, and as of 2019, the data collection method was changed and the “e-rapor” database has been used.
- ☑ **Births at Hospitals, (%):** It is the ratio of number of births in hospital to the number of live births in the given year.
- ☑ **Proportions of Cesarean Sections Among Live Births, (%):** It is the ratio of number of cesarean sections to the number of live births in the given year.
- ☑ **Proportions of Primary Cesarean Sections Among Live Births, (%):** It is the ratio of number of primary cesarean sections to the number of live births in the given year.
- ☑ **Proportions of Cesarean Sections Among Births in Hospitals, (%):** It is the ratio of number of cesarean sections to the number of all births procedure in hospital in the given year.
- ☑ **Proportions of Primary Cesarean Sections Among Births in Hospitals, (%):** It is the ratio of number of primary cesarean sections to the number of all births procedure in hospital in the given year.
- ☑ **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 (i.e., 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 between the age of 1 and 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)*

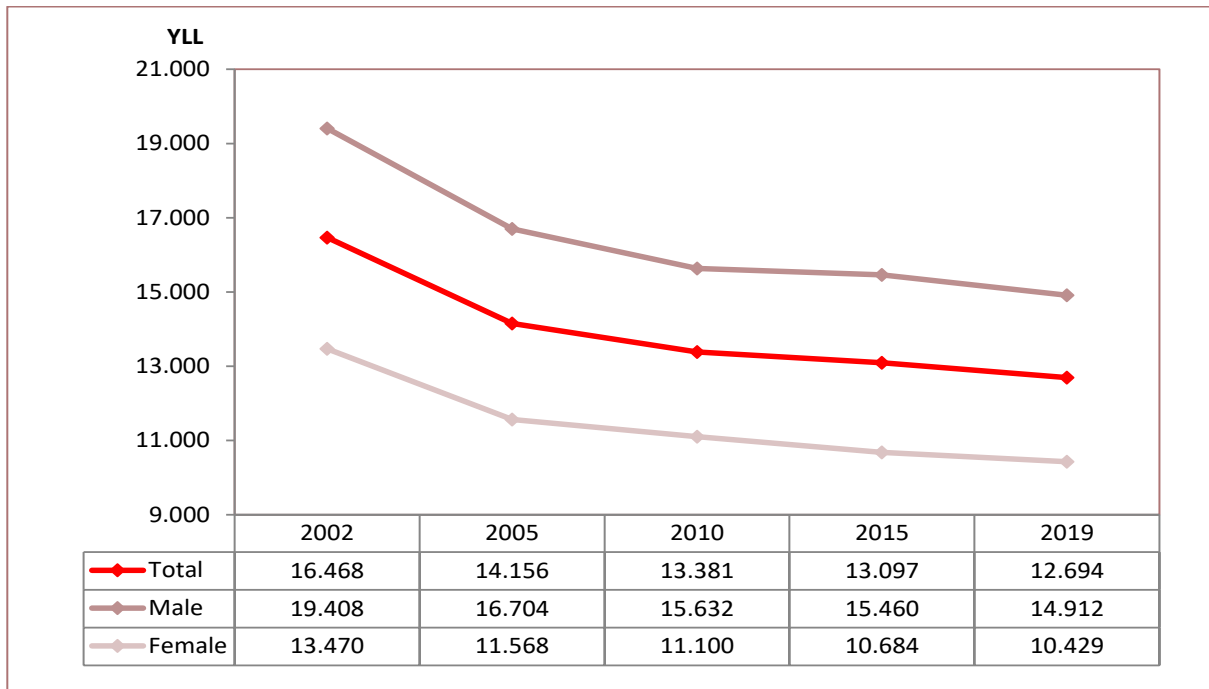


# CHAPTER 6

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## Global Burden of Disease 2019 Türkiye Results

Figure 6.1. YLL per 100.000 Population by Years and Sex



Source: IHME, Global Burden of Disease Study 2019

Table 6.1. Change in 2019 Top 10 YLL Causes Compared to 2002, (%), Total

Rank	Cause	2002	2019	Change (%)
1	Ischemic heart disease	1.770.301	1.788.335	1,02
2	Stroke	474.638	825.066	73,83
3	Tracheal, bronchus, and lung cancer	325.095	736.936	126,68
4	Neonatal disorders	1.974.350	616.006	-68,80
5	Chronic obstructive pulmonary disease	311.174	478.505	53,77
6	Congenital birth defects	984.531	440.984	-55,21
7	Diabetes mellitus	313.821	372.907	18,83
8	Chronic kidney disease	278.198	357.131	28,37
9	Road injuries	327.791	352.078	7,41
10	Lower respiratory infections	752.228	303.432	-59,66

Source: IHME, Global Burden of Disease Study 2019

Table 6.2. Change in 2019 Top 10 YLL Causes Compared to 2002, (%), Male

Rank	Cause	2002	2019	Change (%)
1	Ischemic heart disease	1.210.958	1.118.047	-7,67
2	Tracheal, bronchus, and lung cancer	274.928	620.216	125,59
3	Stroke	245.664	410.658	67,16
4	Neonatal disorders	1.112.663	334.346	-69,95
5	Chronic obstructive pulmonary disease	215.705	325.692	50,99
6	Road injuries	233.538	271.479	16,25
7	Congenital birth defects	547.635	240.368	-56,11
8	Chronic kidney disease	153.925	178.963	16,27
9	Diabetes mellitus	146.916	175.104	19,19
10	Lower respiratory infections	417.476	174.697	-58,15

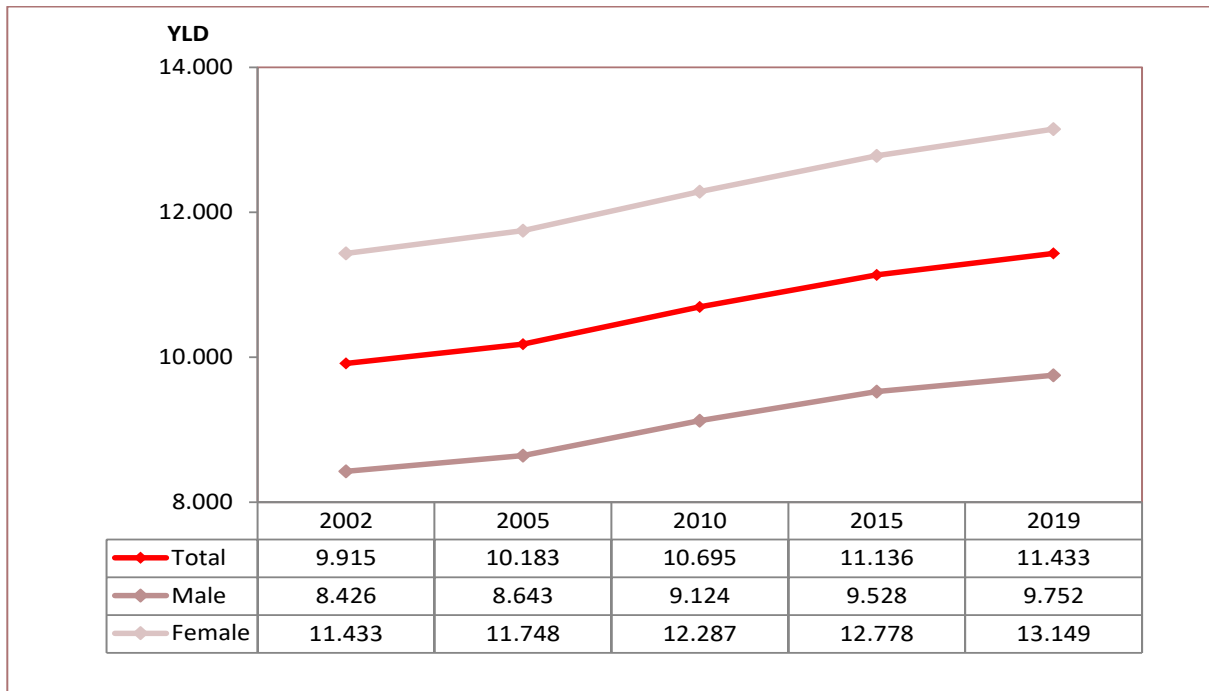
Source: IHME, Global Burden of Disease Study 2019

Table 6.3. Change in 2019 Top 10 YLL Causes Compared to 2002, (%), Female

Rank	Cause	2002	2019	Change (%)
1	Ischemic heart disease	559.343	670.288	19,83
2	Stroke	228.974	414.408	80,98
3	Neonatal disorders	861.688	281.660	-67,31
4	Congenital birth defects	436.896	200.616	-54,08
5	Diabetes mellitus	166.905	197.803	18,51
6	Chronic kidney disease	124.273	178.169	43,37
7	Breast cancer	94.322	164.911	74,84
8	Chronic obstructive pulmonary disease	95.468	152.813	60,07
9	Alzheimer's disease and other dementias	77.978	133.606	71,34
10	Lower respiratory infections	334.753	128.735	-61,54

Source: IHME, Global Burden of Disease Study 2019

Figure 6.2. YLD per 100.000 Population by Years and Sex



Source: IHME, Global Burden of Disease Study 2019

Table 6.4. Change in 2019 Top 10 YLD Causes Compared to 2002, (%), Total

Rank	Cause	2002	2019	Change (%)
1	Low back pain	714.815	874.588	22,35
2	Depressive disorders	515.818	632.644	22,65
3	Headache disorders	462.765	588.744	27,22
4	Gynecological diseases	406.154	522.324	28,60
5	Diabetes mellitus	164.236	445.593	171,31
6	Other musculoskeletal disorders	250.226	424.079	69,48
7	Anxiety disorders	305.615	375.857	22,98
8	Oral disorders	254.500	354.887	39,45
9	Age-related and other hearing loss	229.099	318.835	39,17
10	Neck pain	181.549	267.435	47,31

Source: IHME, Global Burden of Disease Study 2019

Table 6.5. Change in 2019 Top 10 YLD Causes Compared to 2002, (%), Male

Rank	Cause	2002	2019	Change (%)
1	Low back pain	406.744	455.555	12,00
2	Depressive disorders	179.838	228.187	26,88
3	Diabetes mellitus	77.807	212.785	173,48
4	Headache disorders	156.205	211.110	35,15
5	Oral disorders	119.013	166.728	40,09
6	Other musculoskeletal disorders	96.031	165.115	71,94
7	Age-related and other hearing loss	117.232	160.993	37,33
8	Anxiety disorders	119.194	147.083	23,40
9	Chronic obstructive pulmonary disease	77.581	137.828	77,66
10	Endocrine, metabolic, blood, and immune disorders	87.058	118.283	35,87

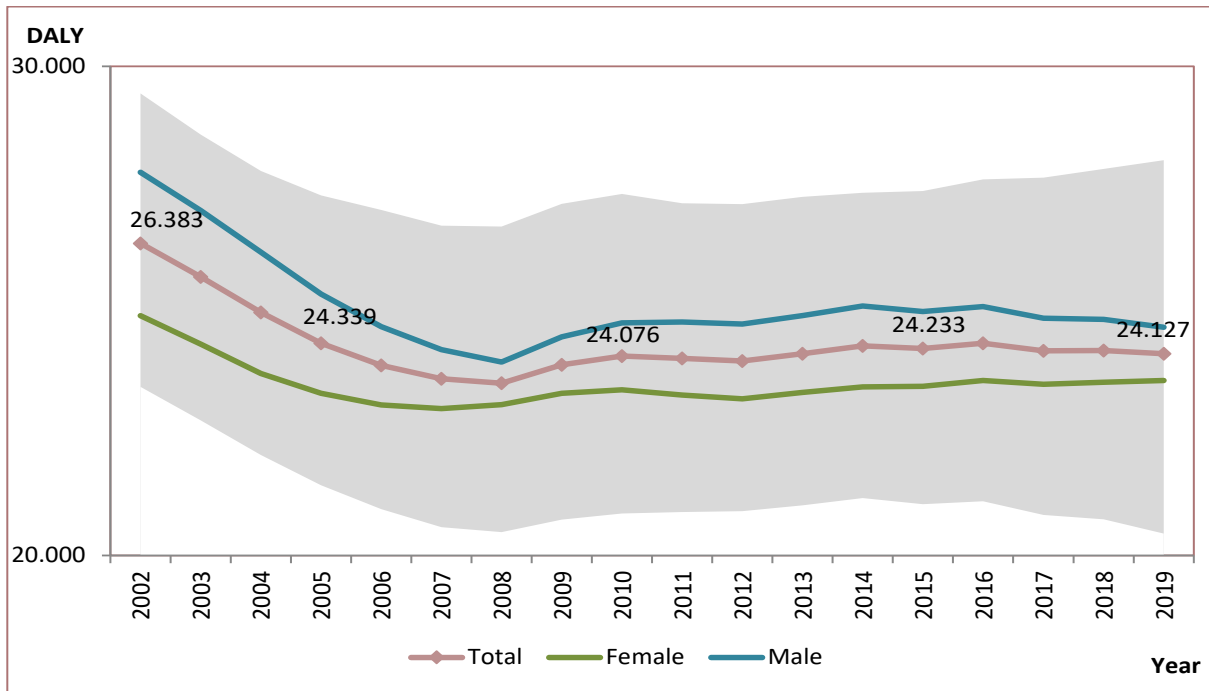
Source: IHME, Global Burden of Disease Study 2019

Table 6.6. Change in 2019 Top 10 YLD Causes Compared to 2002, (%), Female

Rank	Cause	2002	2019	Change (%)
1	Gynecological diseases	406.154	522.324	28,60
2	Low back pain	308.071	419.033	36,02
3	Depressive disorders	335.980	404.457	20,38
4	Headache disorders	306.559	377.634	23,18
5	Other musculoskeletal disorders	154.195	258.964	67,95
6	Diabetes mellitus	86.429	232.807	169,36
7	Anxiety disorders	186.421	228.774	22,72
8	Oral disorders	135.486	188.160	38,88
9	Neck pain	111.495	164.588	47,62
10	Age-related and other hearing loss	111.867	157.842	41,10

Source: IHME, Global Burden of Disease Study 2019

Figure 6.3. DALY per 100.000 Population by Years



Source: IHME, Global Burden of Disease Study 2019

Note: The shadow area in the figure shows confidence interval for the total DALY estimates.

Table 6.7. Change in 2019 Top 10 DALY Causes Compared to 2002, (%), Total

Rank	Cause	2002	2019	Change (%)
1	Ischemic heart disease	1.816.681	1.847.044	1,67
2	Stroke	585.368	993.082	69,65
3	Low back pain	714.815	874.588	22,35
4	Neonatal disorders	2.141.881	845.771	-60,51
5	Diabetes mellitus	478.057	818.499	71,21
6	Tracheal, bronchus, and lung cancer	327.883	743.637	126,80
7	Chronic obstructive pulmonary disease	457.684	733.647	60,30
8	Depressive disorders	515.818	632.644	22,65
9	Headache disorders	462.765	588.744	27,22
10	Gynecological diseases	406.715	522.877	28,56

Source: IHME, Global Burden of Disease Study 2019



Table 6.8. Change in 2019 Top 10 DALY Causes Compared to 2002, (%), Male

Rank	Cause	2002	2019	Change (%)
1	Ischemic heart disease	1.237.256	1.149.728	-7,07
2	Tracheal, bronchus, and lung cancer	277.258	625.682	125,67
3	Stroke	286.826	477.022	66,31
4	Chronic obstructive pulmonary disease	293.287	463.520	58,04
5	Low back pain	406.744	455.555	12,00
6	Neonatal disorders	1.194.192	446.864	-62,58
7	Diabetes mellitus	224.723	387.889	72,61
8	Road injuries	270.585	319.815	18,19
9	Congenital birth defects	571.811	263.262	-53,96
10	Chronic kidney disease	186.682	236.306	26,58

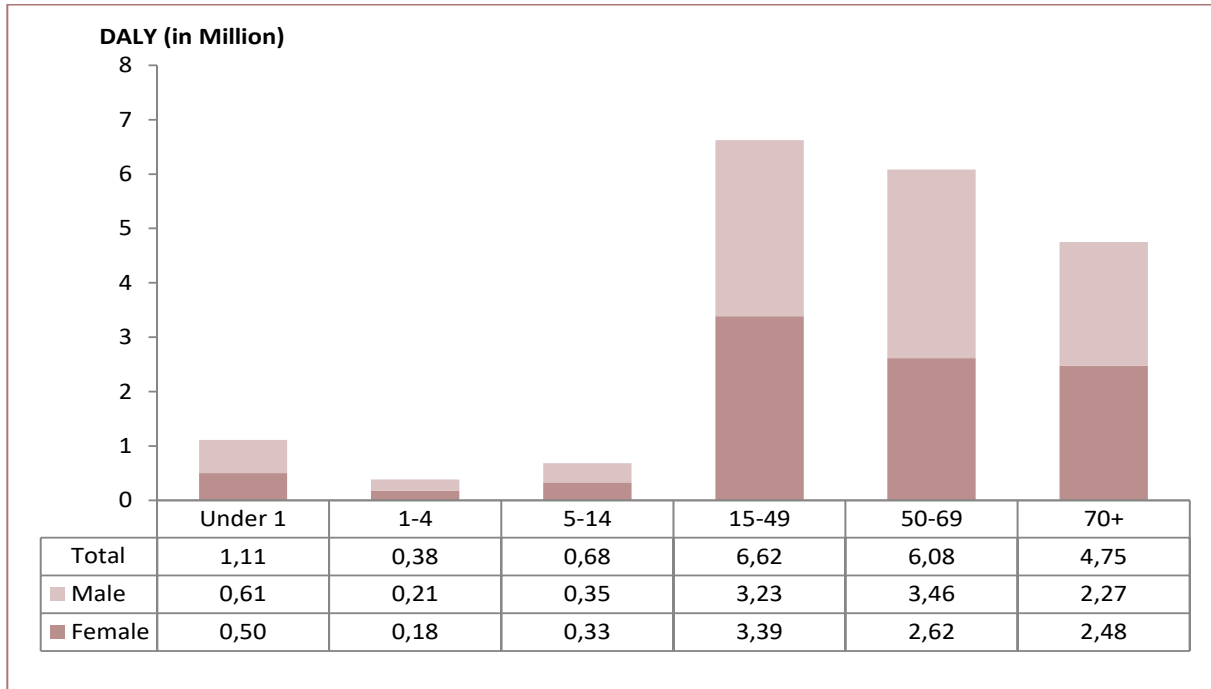
Source: IHME, Global Burden of Disease Study 2019

Table 6.9. Change in 2019 Top 10 DALY Causes Compared to 2002, (%), Female

Rank	Cause	2002	2019	Change (%)
1	Ischemic heart disease	579.425	697.316	20,35
2	Gynecological diseases	406.715	522.877	28,56
3	Stroke	298.542	516.060	72,86
4	Diabetes mellitus	253.334	430.611	69,98
5	Low back pain	308.071	419.033	36,02
6	Depressive disorders	335.980	404.457	20,38
7	Neonatal disorders	947.689	398.907	-57,91
8	Headache disorders	306.559	377.634	23,18
9	Other musculoskeletal disorders	165.460	271.901	64,33
10	Chronic obstructive pulmonary disease	164.398	270.126	64,31

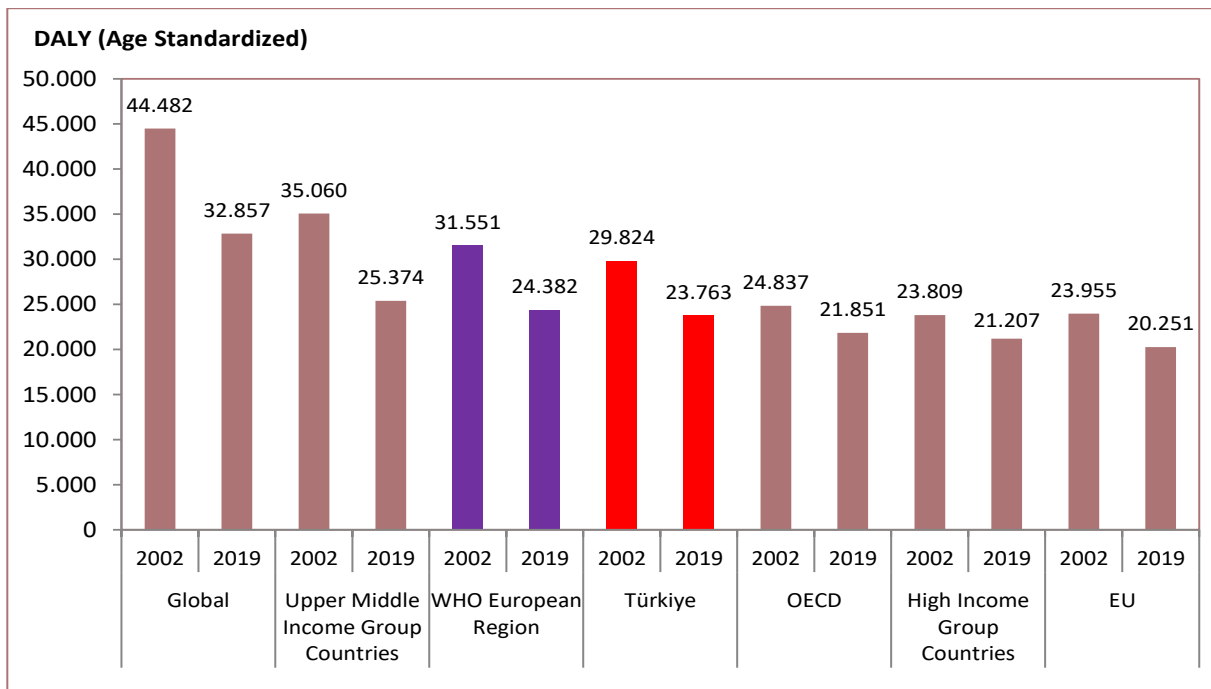
Source: IHME, Global Burden of Disease Study 2019

Figure 6.4. DALY by Sex and Age Groups, (in Million), 2019



Source: IHME, Global Burden of Disease Study 2019

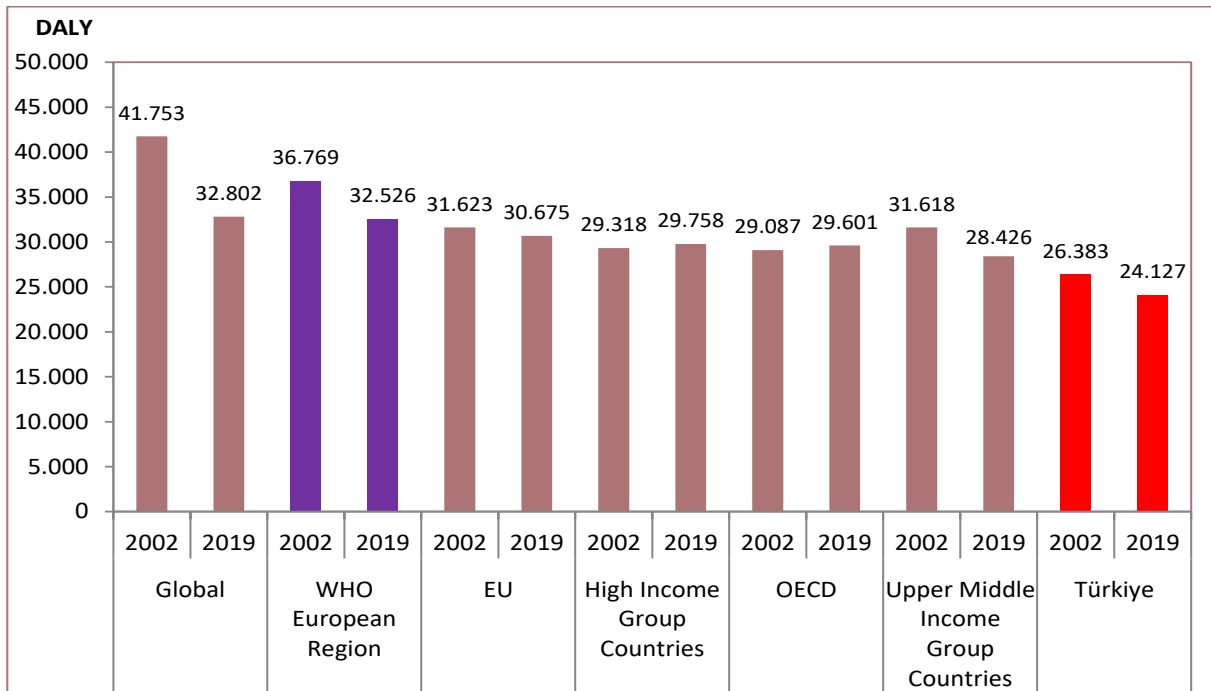
Figure 6.5. International Comparison of DALY per 100.000 Population, Age Standardized, 2002, 2019



Source: IHME, Global Burden of Disease Study 2019

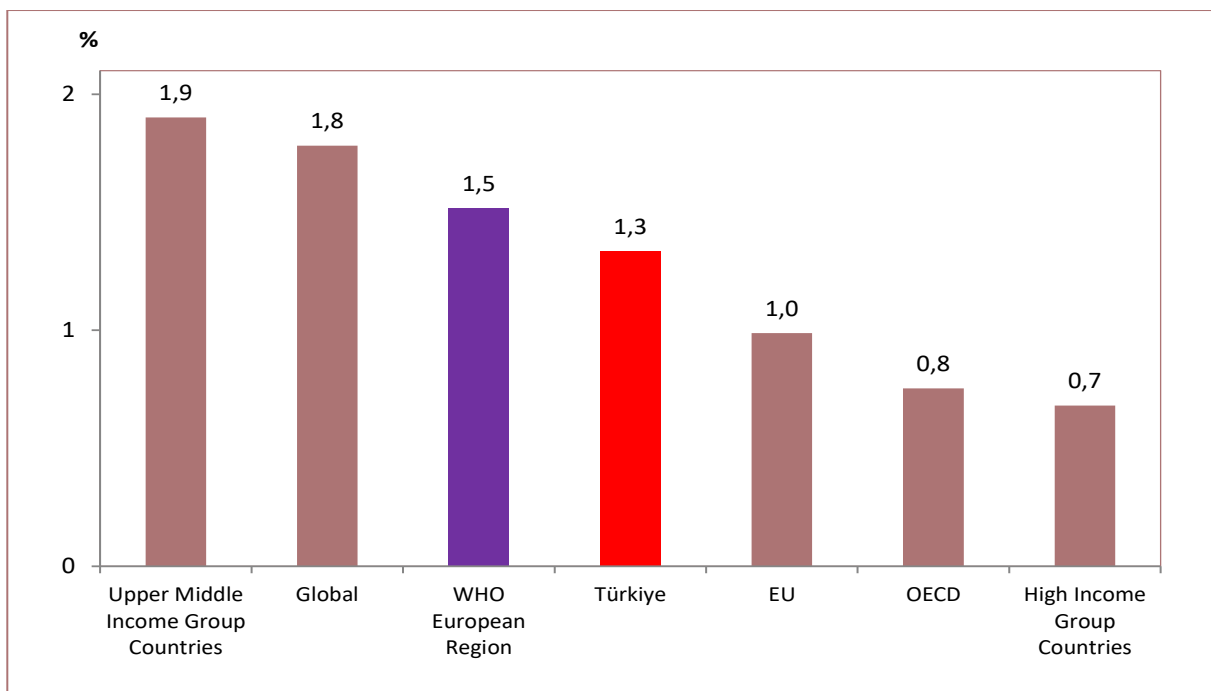
Note: To allow comparisons between countries and over time this metric is age-standardized.

Figure 6.6. International Comparison of DALY per 100.000 Population, 2002, 2019



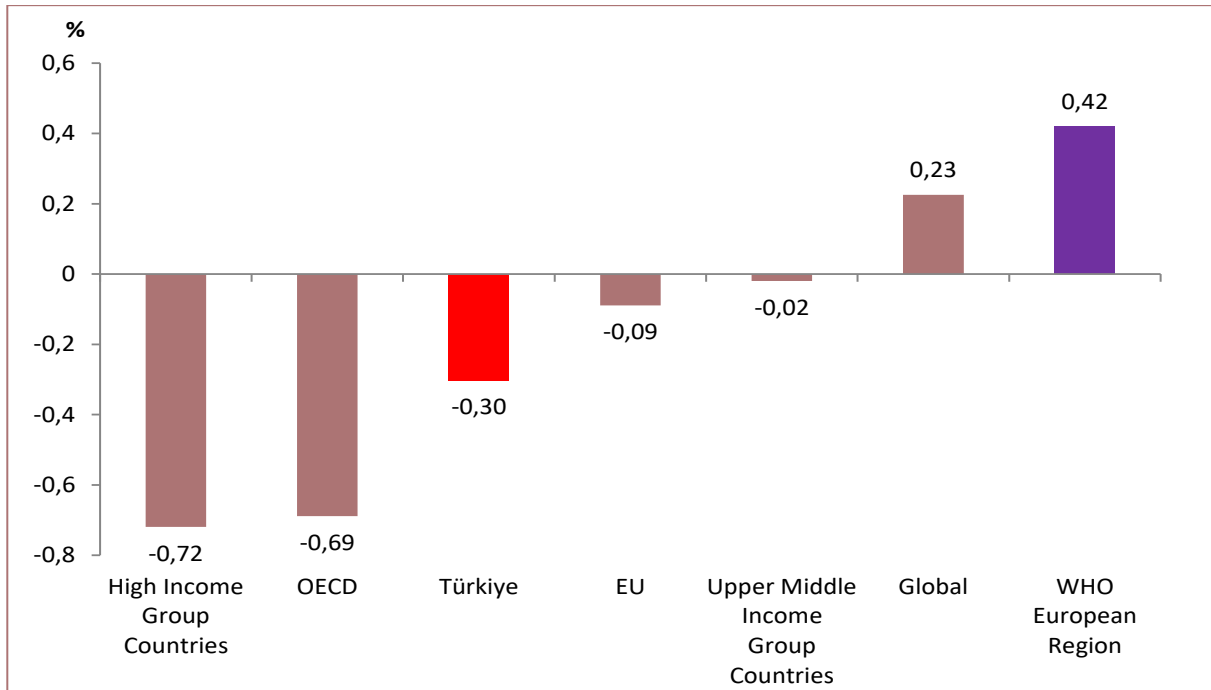
Source: IHME, Global Burden of Disease Study 2019  
 Note: Age standardization is not used to analyze effect of age pattern.

Figure 6.7. International Comparison of Annual Average Percent Decreasing in DALY Between 2002-2019, Age Standardized, (%)



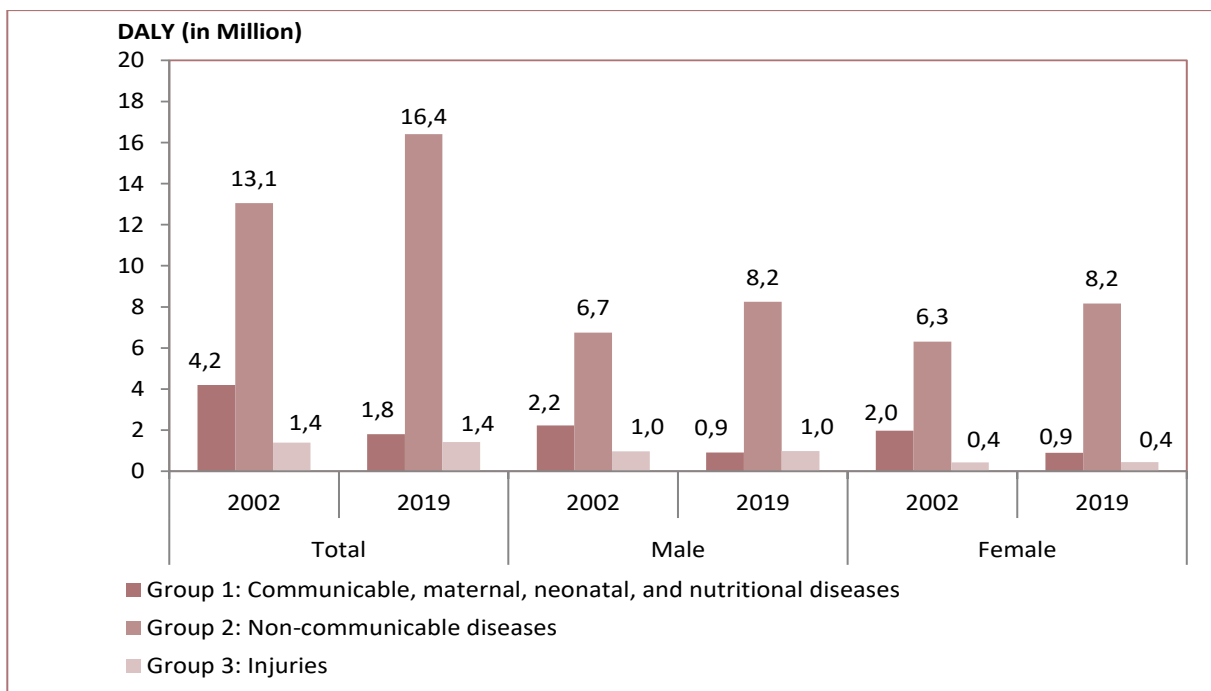
Source: IHME, Global Burden of Disease Study 2019  
 Note: To allow comparisons between countries and over time this metric is age-standardized.

Figure 6.8. International Comparison of Annual Average Percent Decreasing in DALY Between 2002-2019, (%)



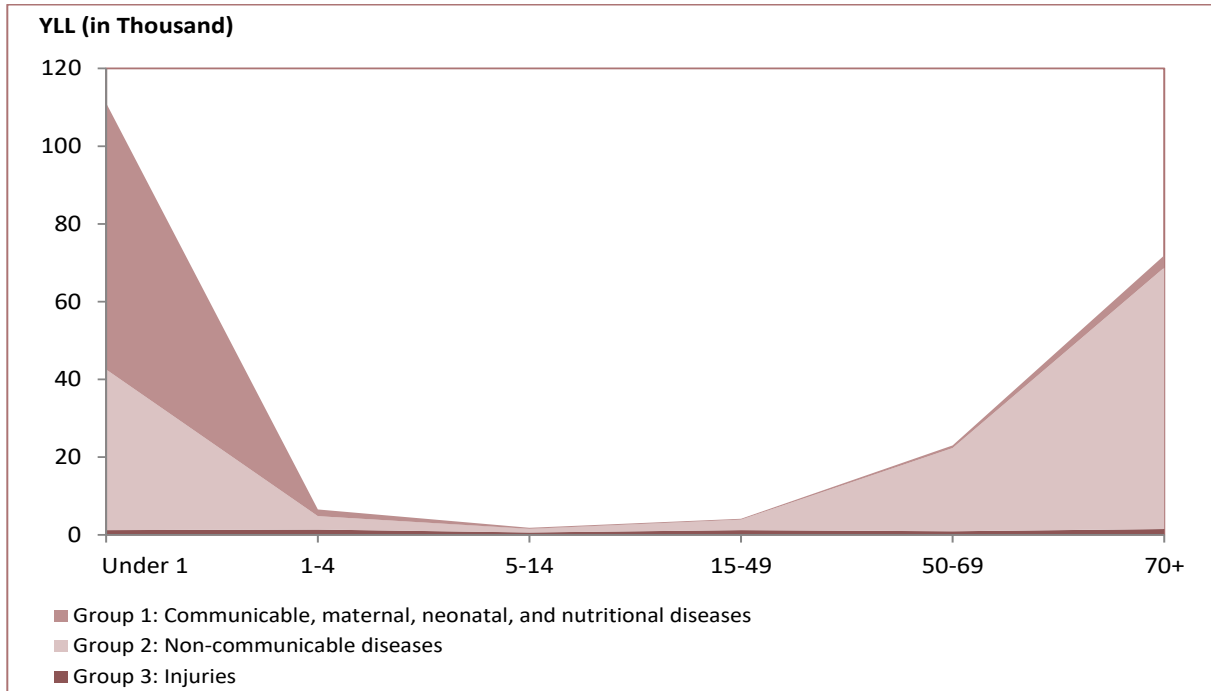
Source: IHME, Global Burden of Disease Study 2019  
 Note: Age standardization is not used to analyze effect of age pattern.

Figure 6.9. DALY by Major Disease Groups and Sex, (in Million), 2002, 2019



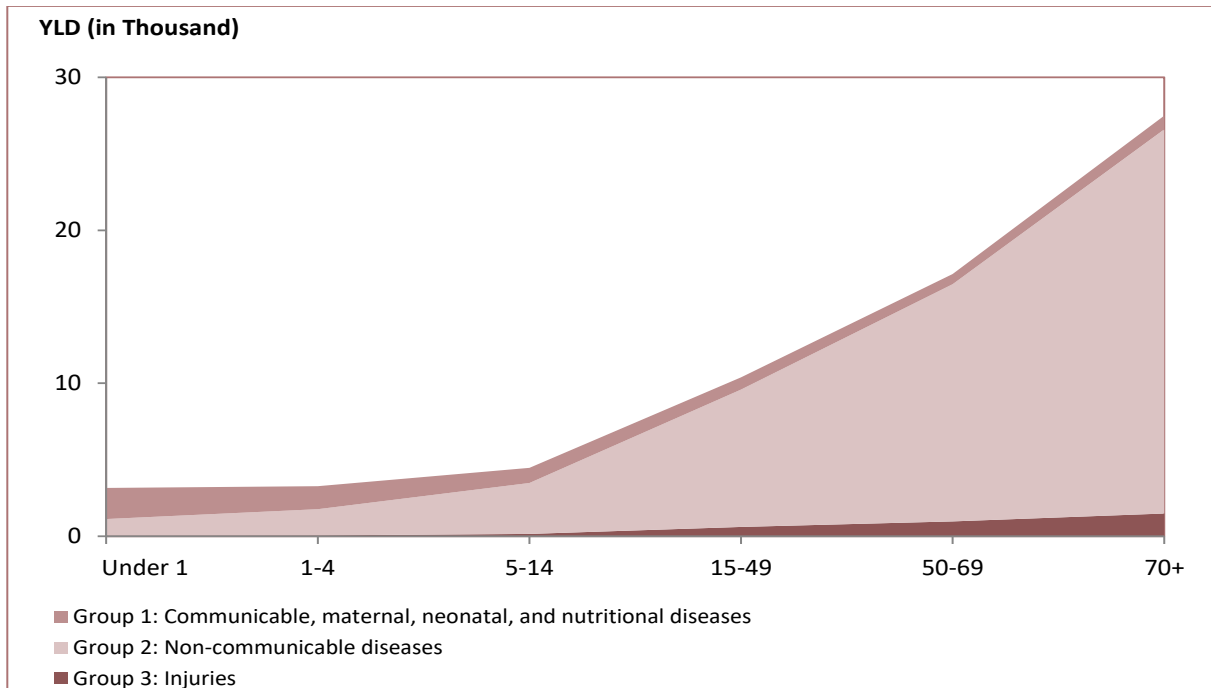
Source: IHME, Global Burden of Disease Study 2019

Figure 6.10. YLL per 100.000 Population by Major Disease Group and Age Group, (in Thousand), 2019



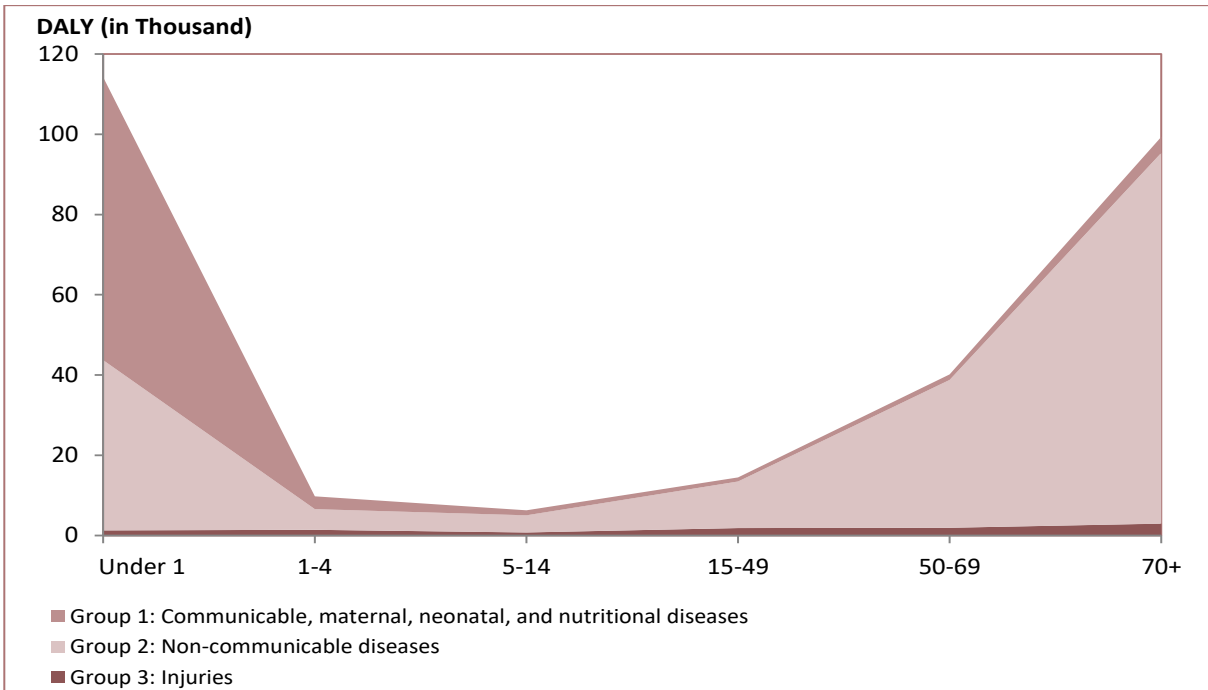
Source: IHME, Global Burden of Disease Study 2019

Figure 6.11. YLD per 100.000 Population by Major Disease Group and Age Group, (in Thousand), 2019



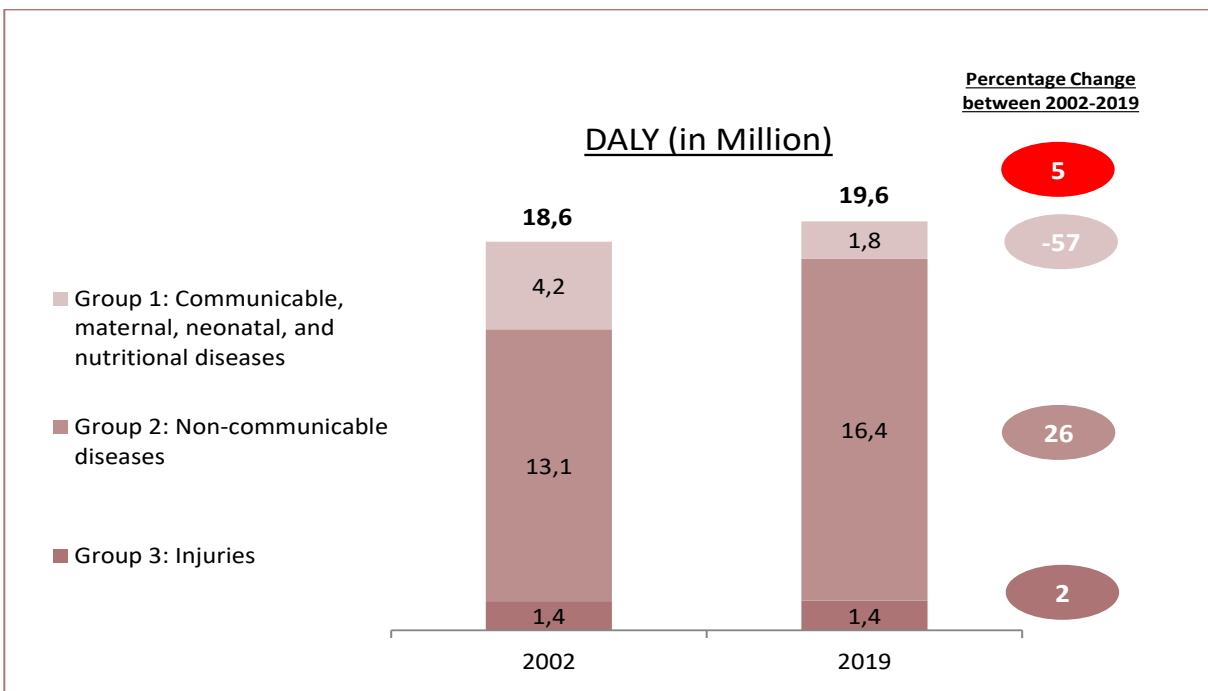
Source: IHME, Global Burden of Disease Study 2019

Figure 6.12. DALY per 100.000 Population by Major Disease Group and Age Group, (in Thousand), 2019



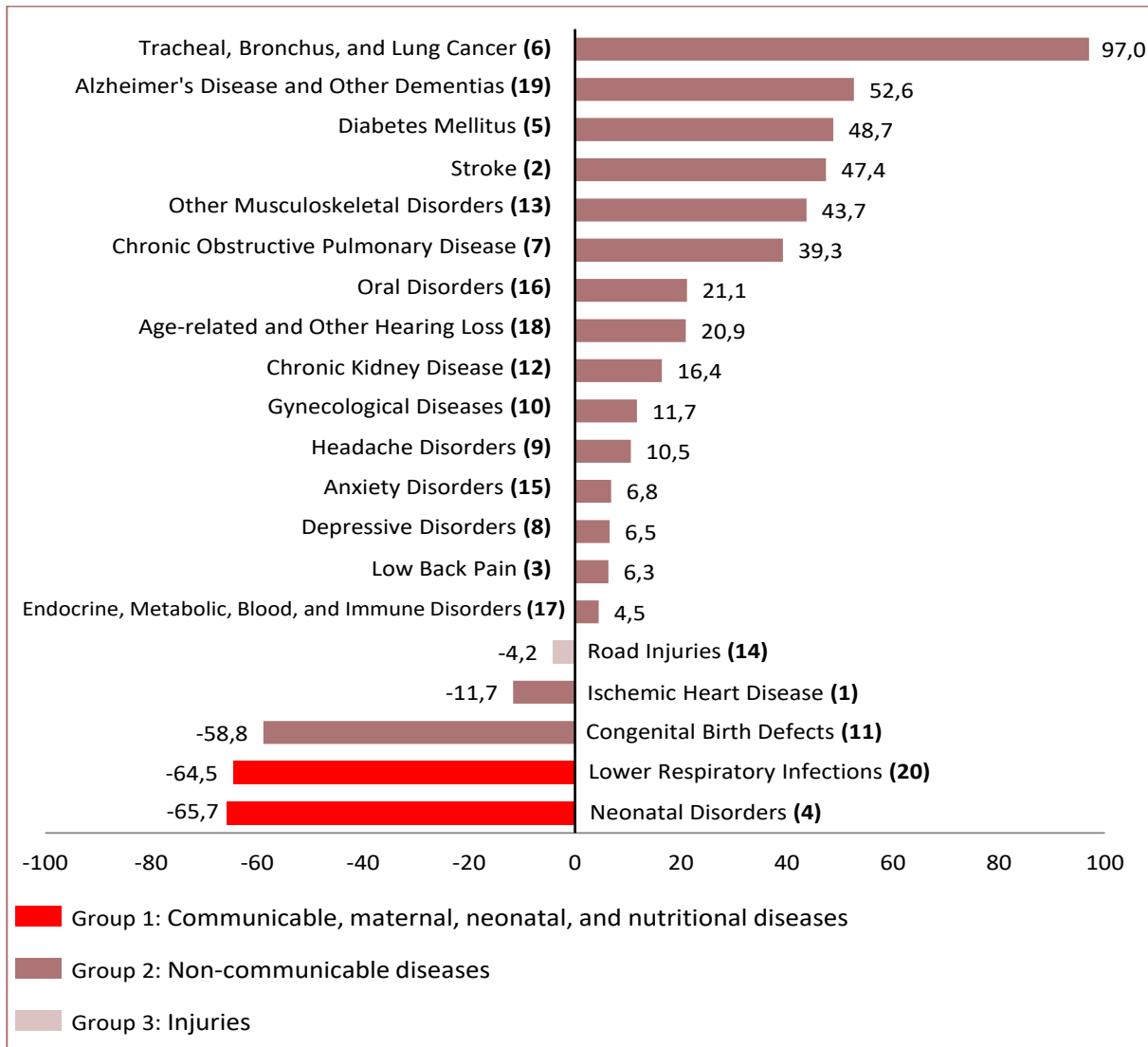
Source: IHME, Global Burden of Disease Study 2019

Figure 6.13. DALY in Major Disease Groups (in Million) and Percentage Change, (%), 2002, 2019



Source: IHME, Global Burden of Disease Study 2019

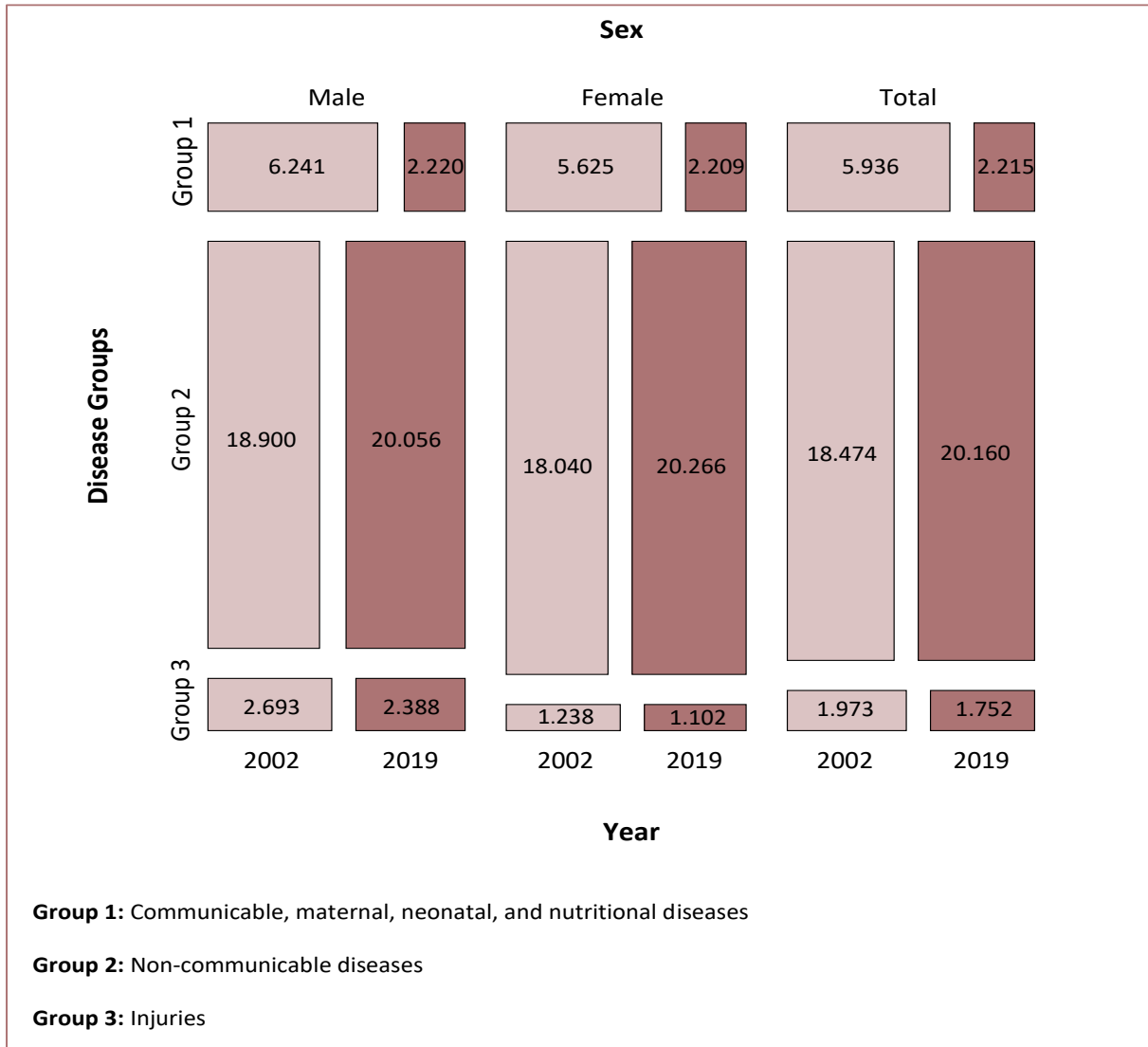
Figure 6.14. Change in Year of 2019 Top 20 DALY Causes Compared to Year of 2002, (%)



Source: IHME, Global Burden of Disease Study 2019

Note: The number in parenthesis written with cause show the rank of related cause in the "2019 Top 20 DALY Causes".

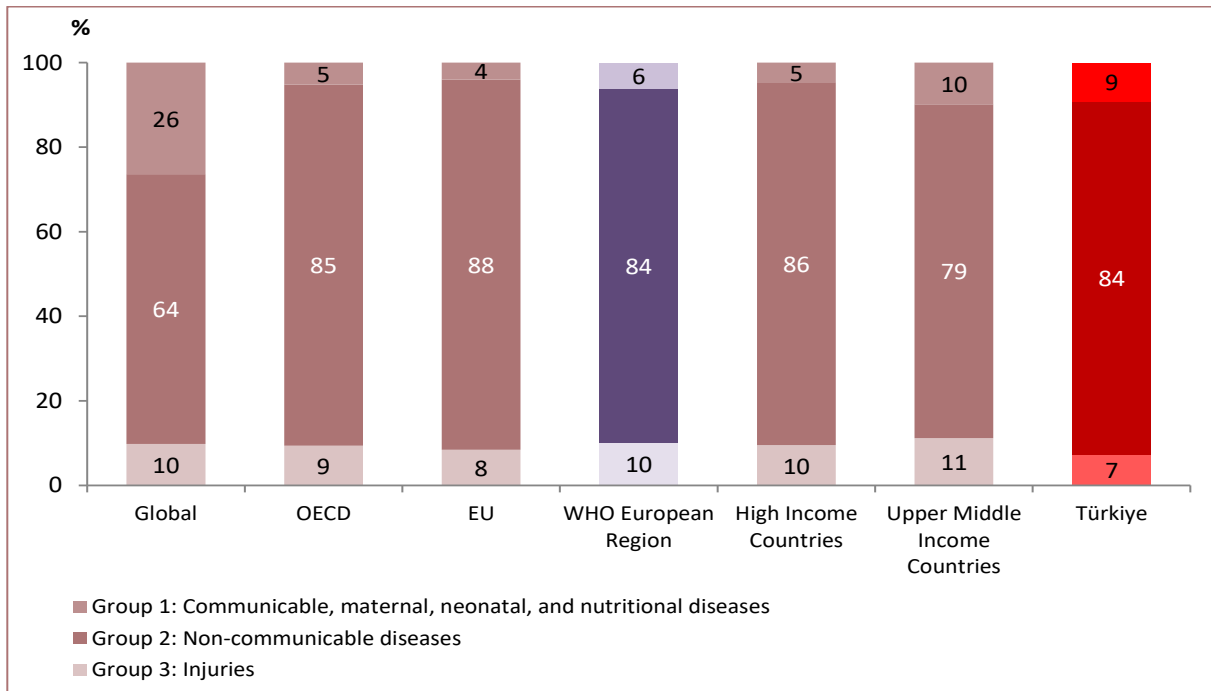
Figure 6.15. DALY per 100.000 Population by Major Disease Groups and Sex, 2002, 2019



Source: IHME, Global Burden of Disease Study 2019

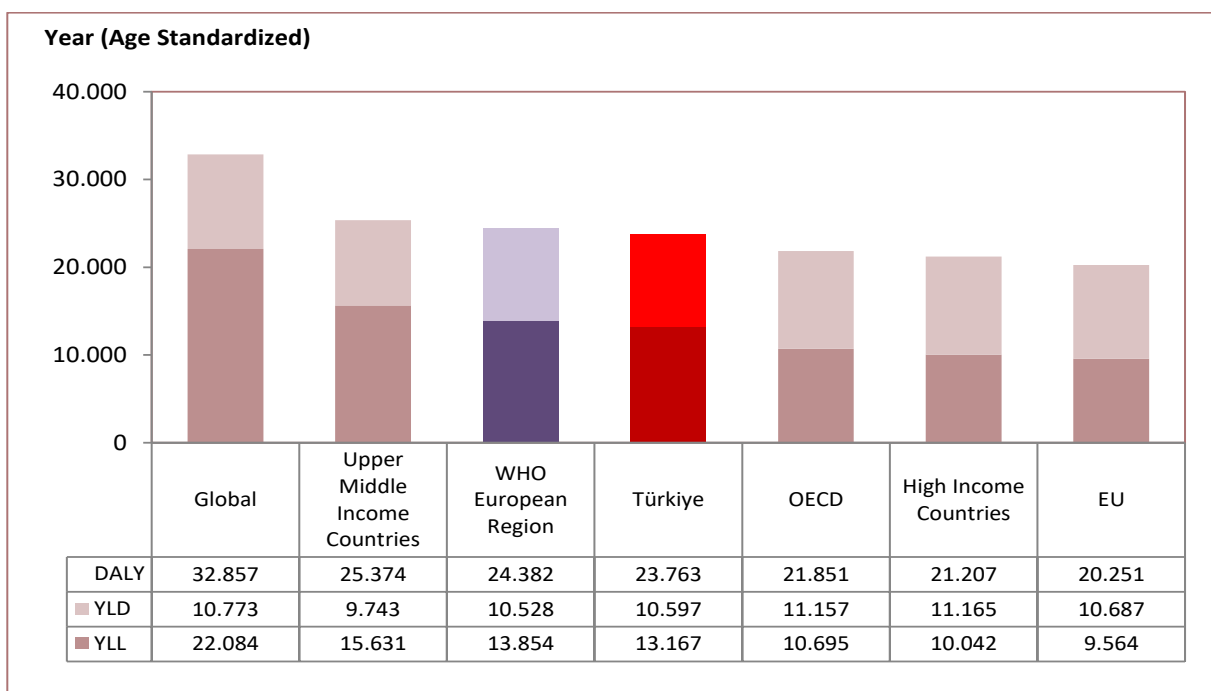


Figure 6.16. International Comparison of DALY by Major Disease Groups as Percentage, 2019



Source: IHME, Global Burden of Disease Study 2019

Figure 6.17. International Comparison of YLL, YLD and DALY per 100.000 Population, Age Standardized, 2019



Source: IHME, Global Burden of Disease Study 2019

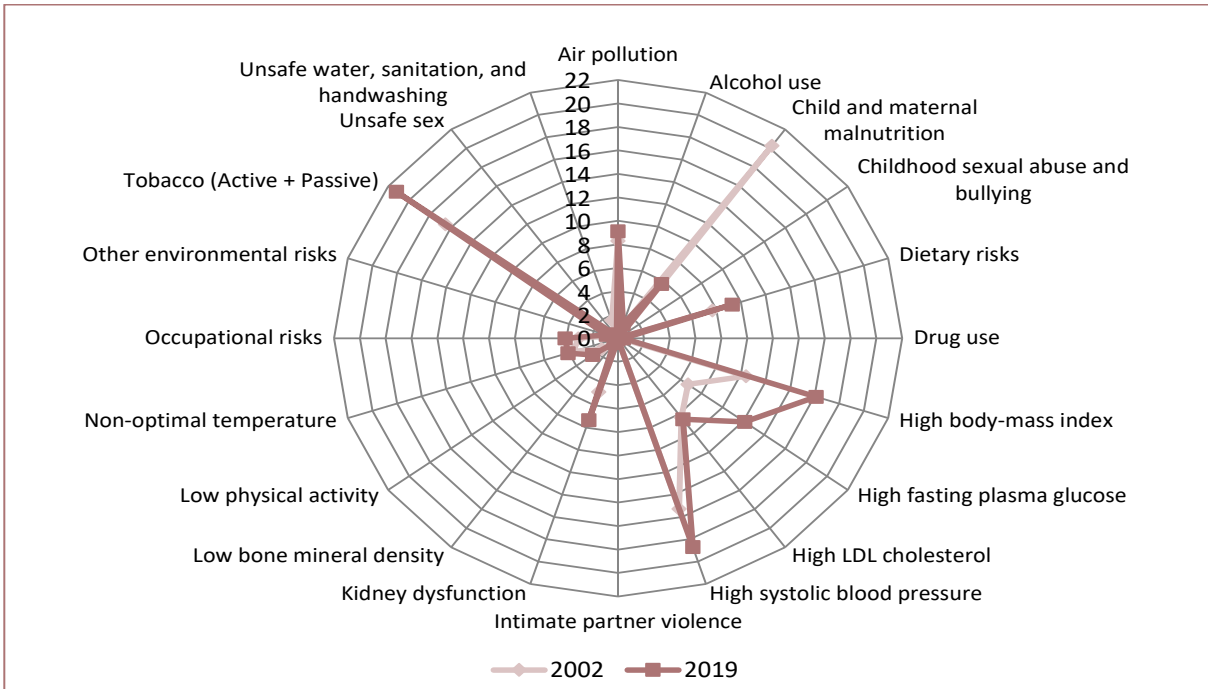
Note: To allow comparisons between countries and over time this metric is age-standardized.

Table 6.10. Attributable DALY per 100.000 Population for Selected Risk Factors by Sex, 2002, 2019

Risk Factors	2002			2019		
	Male	Female	Total	Male	Female	Total
Tobacco (Active + Passive)	4.998	1.534	3.283	5.211	1.564	3.407
High body-mass index	2.234	2.150	2.193	2.901	2.952	2.927
High systolic blood pressure	3.211	2.288	2.754	2.842	2.477	2.662
High fasting plasma glucose	1.485	1.312	1.400	2.249	2.168	2.209
Air pollution	1.845	1.151	1.502	1.673	1.078	1.379
Dietary risks	1.773	933	1.357	1.608	1.091	1.352
High LDL cholesterol	1.959	906	1.438	1.403	910	1.159
Kidney dysfunction	1.011	848	930	1.156	1.087	1.122
Child and maternal malnutrition	4.012	3.600	3.808	1.017	1.089	1.053
Occupational risks	1.674	324	1.006	1.604	330	973
Non-optimal temperature	678	518	599	562	474	519
Low physical activity	331	264	298	422	357	390
Alcohol use	404	104	255	384	91	239
Drug use	135	120	128	201	170	186
Unsafe water, sanitation, and handwashing	416	351	384	178	163	171
Other environmental risks	225	115	171	191	105	148
Low bone mineral density	78	74	76	128	140	134
Childhood sexual abuse and bullying	125	116	121	129	132	130
Intimate partner violence	-	202	100	-	206	102
Unsafe sex	12	83	47	21	94	57

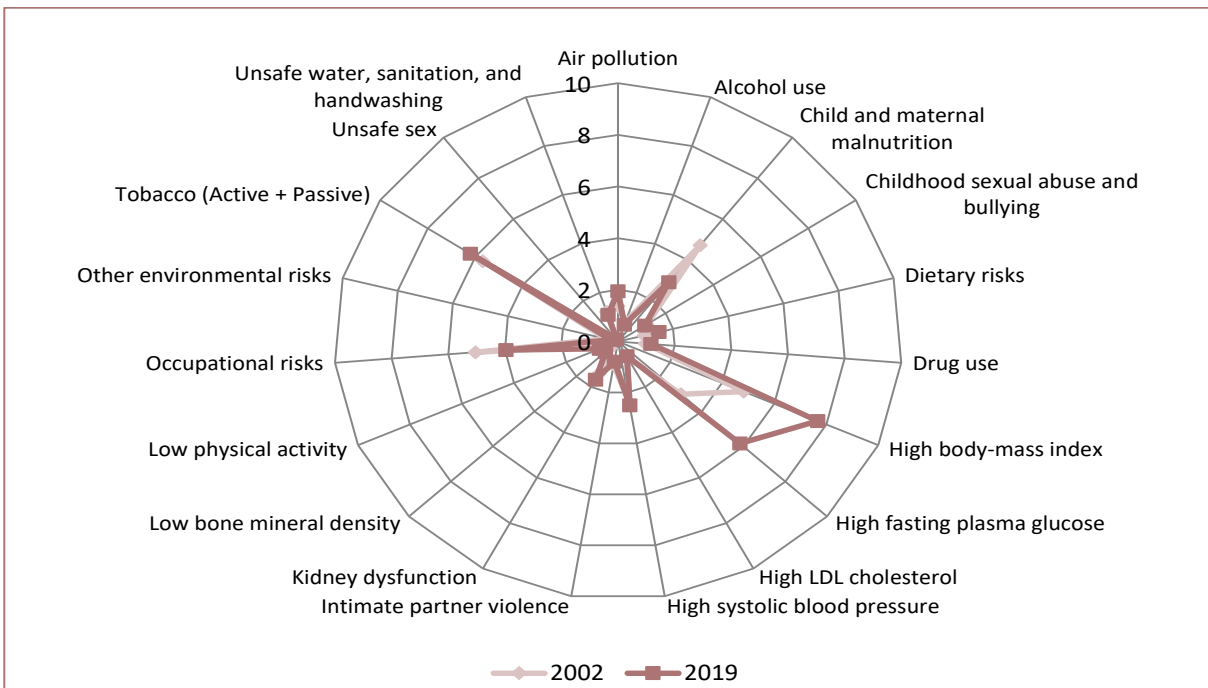
Source: IHME, Global Burden of Disease Study 2019

Figure 6.18. Share of Attributable YLL to Selected Risk Factors, (%), 2002, 2019



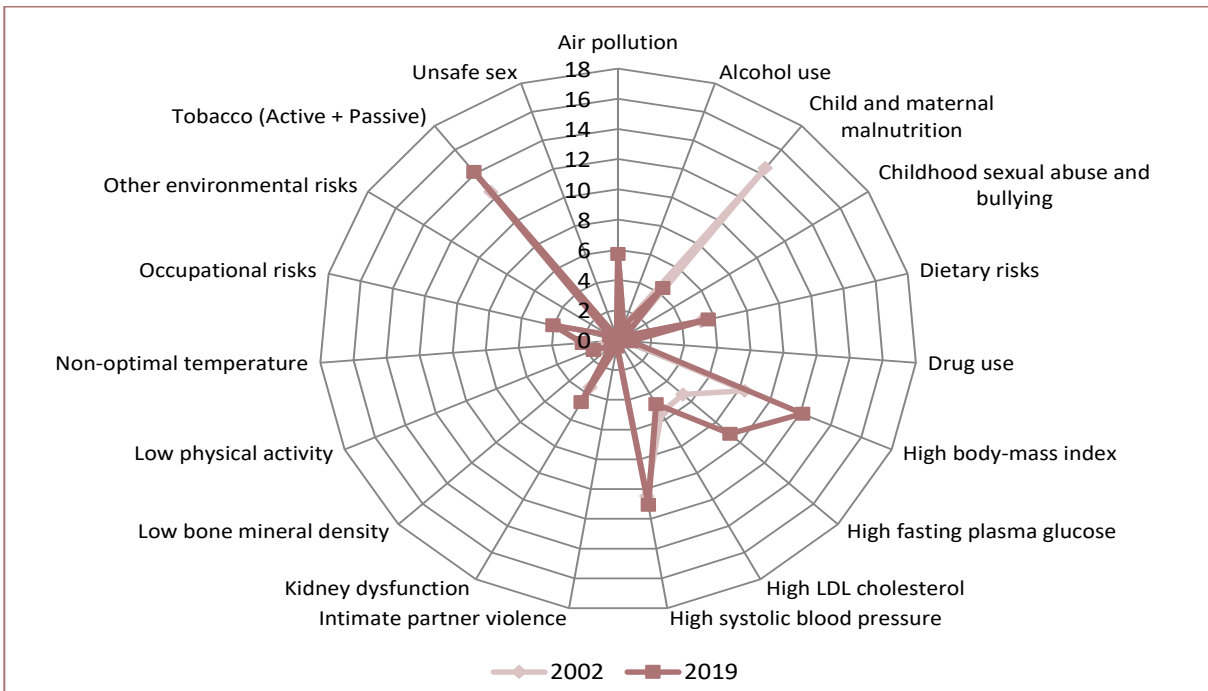
Source: IHME, Global Burden of Disease Study 2019

Figure 6.19. Share of Attributable YLD to Selected Risk Factors, (%), 2002, 2019



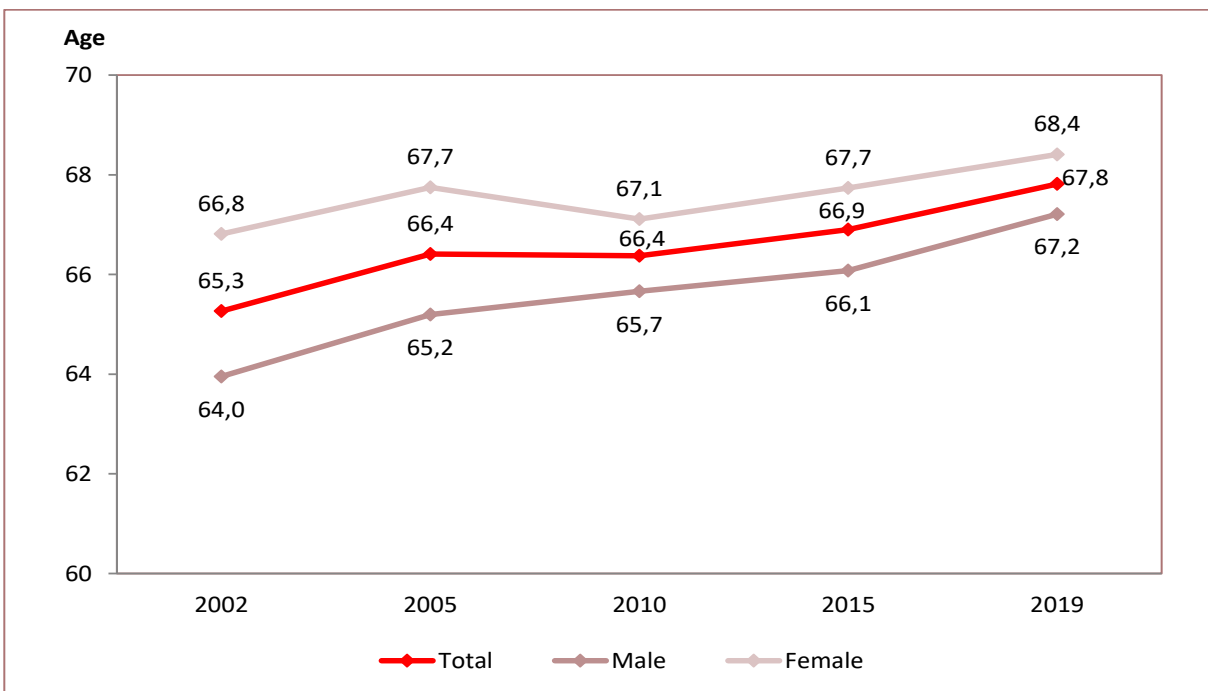
Source: IHME, Global Burden of Disease Study 2019

Figure 6.20. Share of Attributable DALY to Selected Risk Factors, (%), 2002, 2019



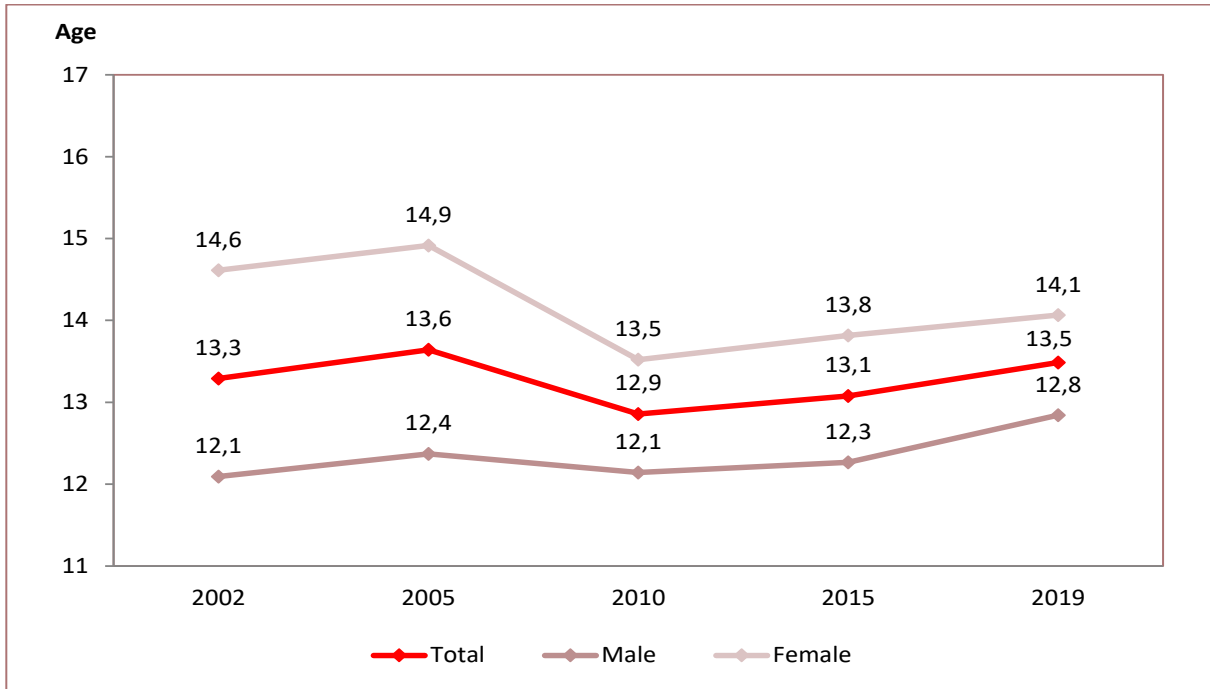
Source: IHME, Global Burden of Disease Study 2019

Figure 6.21. HALE at Birth by Years and Sex



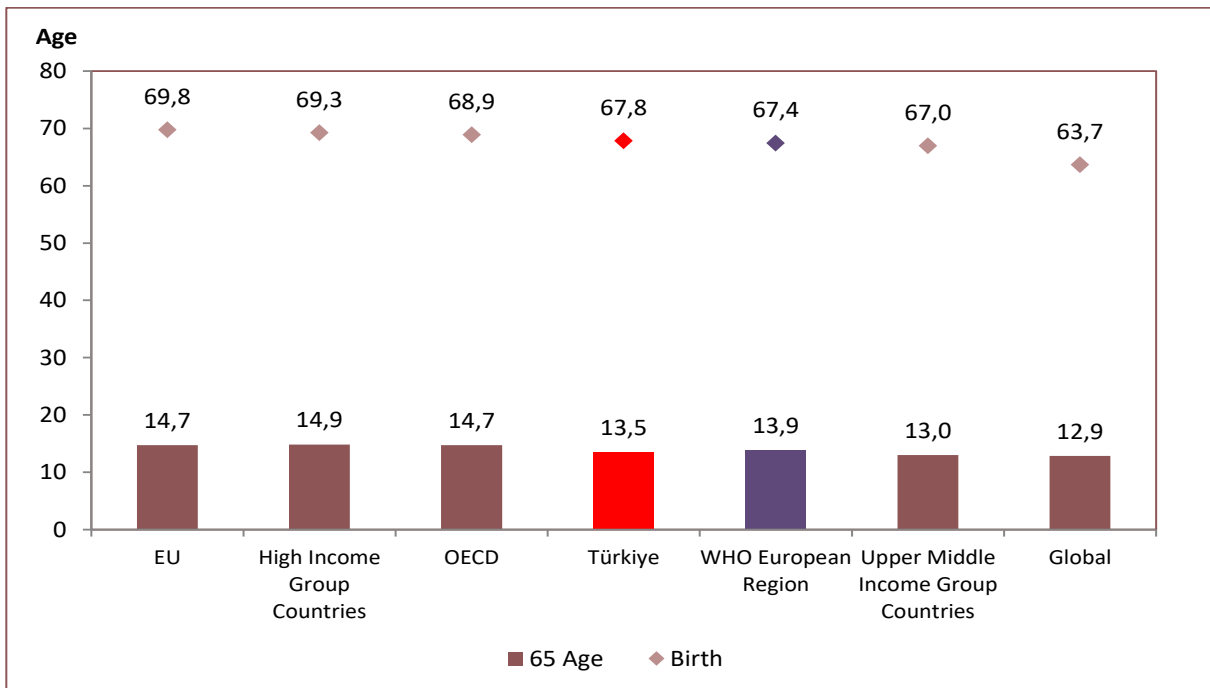
Source: IHME, Global Burden of Disease Study 2019

Figure 6.22. HALE at Age of 65 by Years and Sex



Source: IHME, Global Burden of Disease Study 2019

Figure 6.23. International Comparison of HALE at Birth and 65 Age, 2019



Source: IHME, Global Burden of Disease Study 2019

## 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;

$$\text{DALY} = \text{YLL (Mortality Burden)} + \text{YLD (Morbidity Burden)}$$

☑ **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.

☑ 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 2019

☑ Global Burden of Disease Study 2019 (GBD-2019) was carried out to analyze 286 causes of death, 369 diseases and injuries, and 87 risk factors in 204 countries. The aim is evaluate changes in health profile at country and global level.

☑ 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.

☑ Compared to GBD 2017, GBD 2019 yields higher DALY and YLD values in gynecological disorders due to changes in methodology. In this study, it was used a transformation of the data that better captures the prevalent cases in the community that do not require hospitalization. This explains the increasing in values of gynecological disorders. To see more information on this issue please visit following two links.

[http://www.healthdata.org/results/gbd\\_summaries/2019/gynecological-diseases-level-3-cause](http://www.healthdata.org/results/gbd_summaries/2019/gynecological-diseases-level-3-cause)

[http://www.healthdata.org/results/gbd\\_summaries/2019/other-gynecological-diseases-level-4-cause](http://www.healthdata.org/results/gbd_summaries/2019/other-gynecological-diseases-level-4-cause)

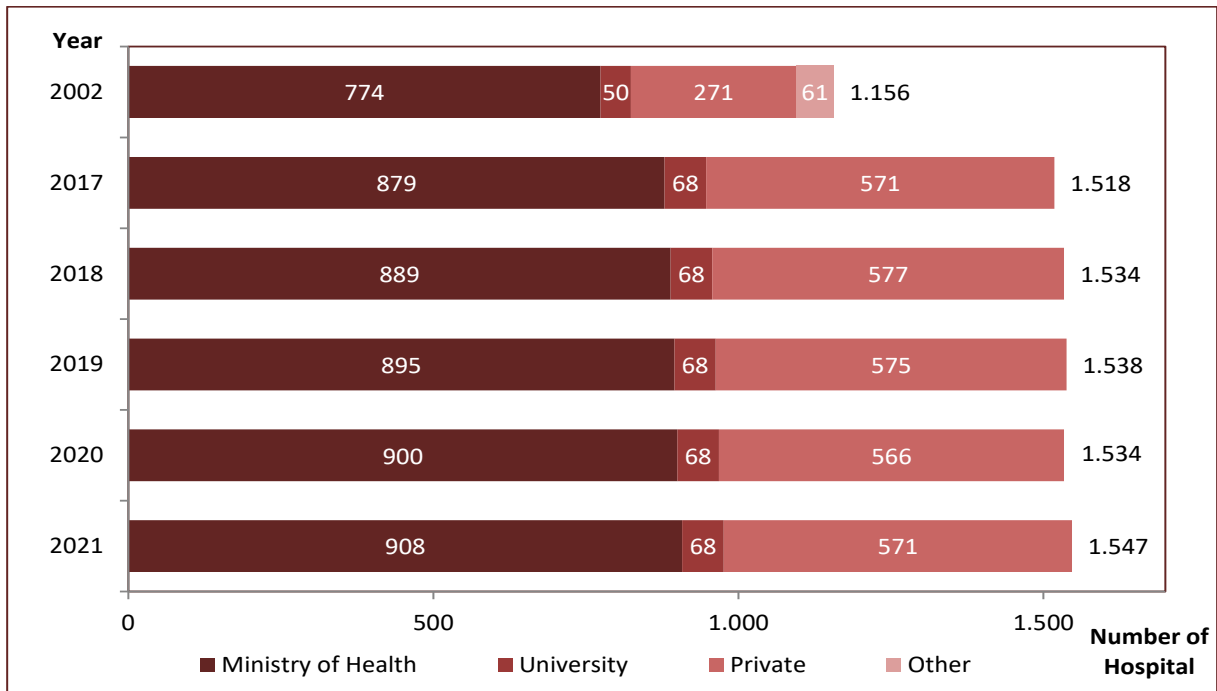
An abstract graphic on the left side of the page, consisting of a complex network of thin black lines connecting various nodes. The nodes are represented by small, semi-transparent circles in shades of dark red, black, and light pink. The background is a gradient from light pink at the top to a darker red at the bottom, with the network graphic appearing to be overlaid on this gradient.

# CHAPTER 7

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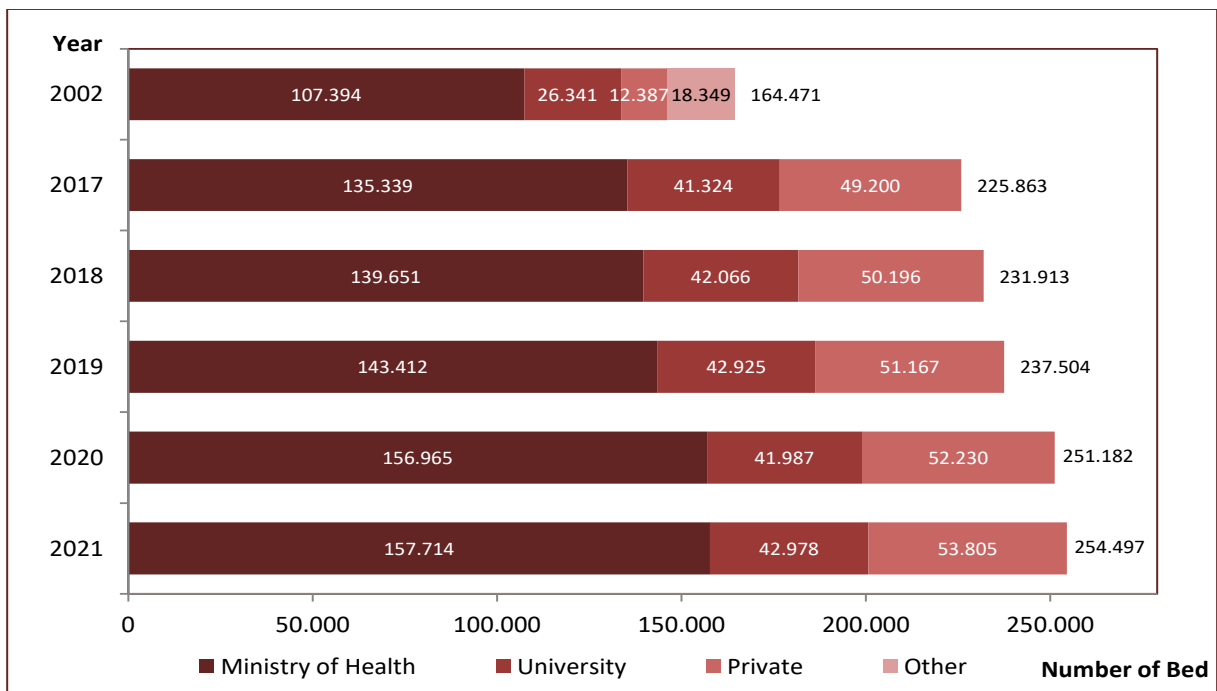
## Health Care Facilities and Infrastructures

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

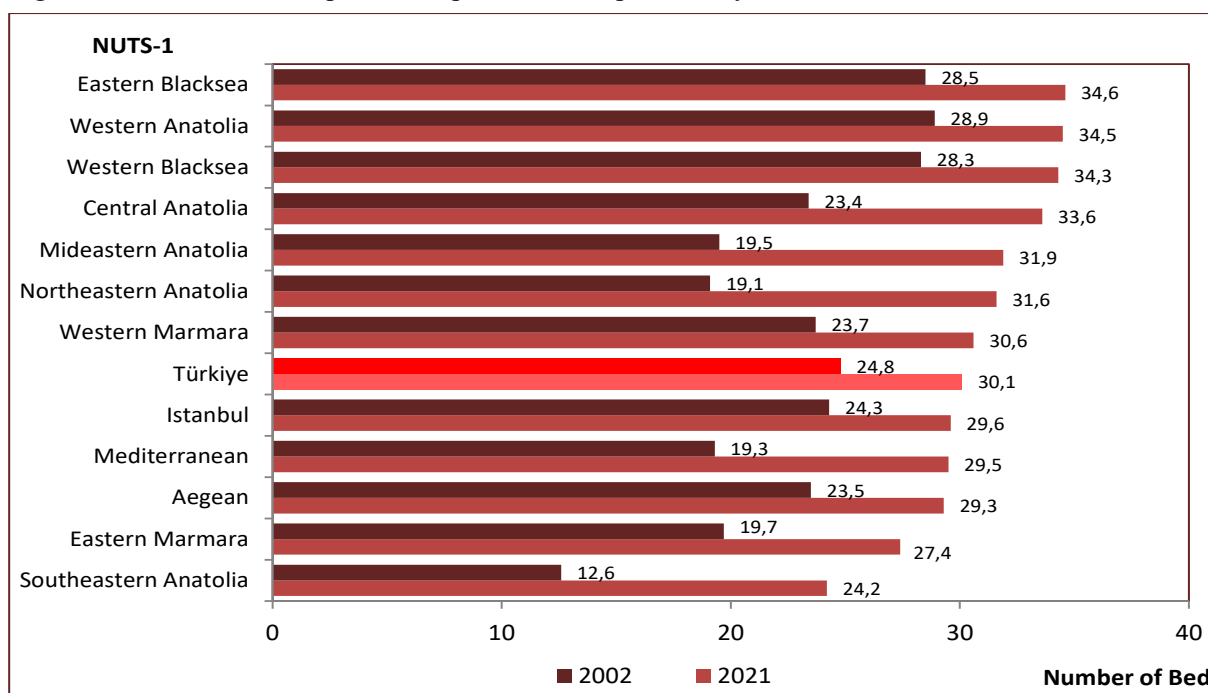


Table 7.1. Number of Hospitals and Beds by Branches, 2021

Branches	Hospital	Bed
<b>General Hospital</b>	<b>1.445</b>	<b>237.596</b>
Integrated District State Hospital	292	1.524
City Hospital	19	25.623
Municipal Hospital	2	333
General Training Hospital	130	88.277
Other General Hospital	1.002	121.839
Ophthalmology Hospital	25	293
Obstetric and Child Hospital	19	3.417
Physical Treatment and Rehabilitation Center	18	2.617
Psychiatry Hospital	10	3.830
Chest Diseases Hospital	10	3.076
Child Diseases Hospital	4	1.257
Cardiovascular Diseases Hospital	4	558
Oncology Hospital	3	842
Bone Diseases Hospital	3	436
Occupational Diseases Hospital	2	254
Hospital for Children with Leukemia	1	200
Spastic Children's Hospital and Rehab Center	1	54
Leprosy Hospital	1	34
Orthopedics and Traumatology Hospital	1	33
<b>Total</b>	<b>1.547</b>	<b>254.497</b>

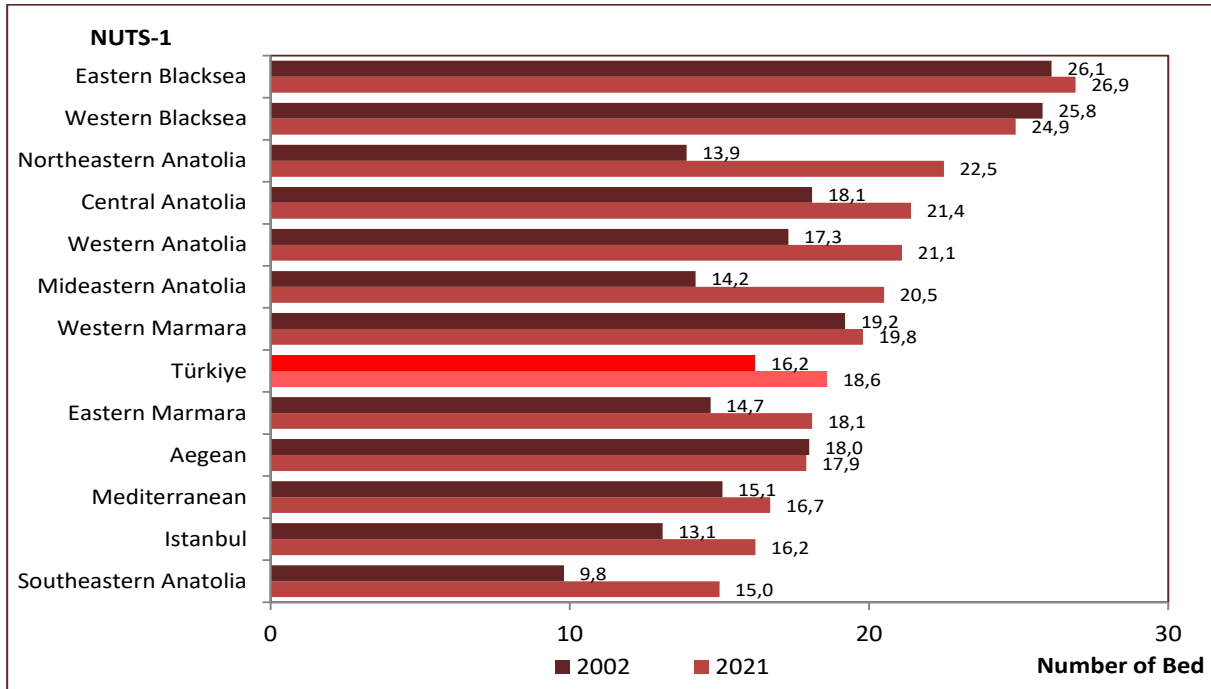
Source: General Directorate of Health Services

Figure 7.3. Number of Hospital Beds per 10.000 Population by NUTS-1, All Sectors, 2002, 2021



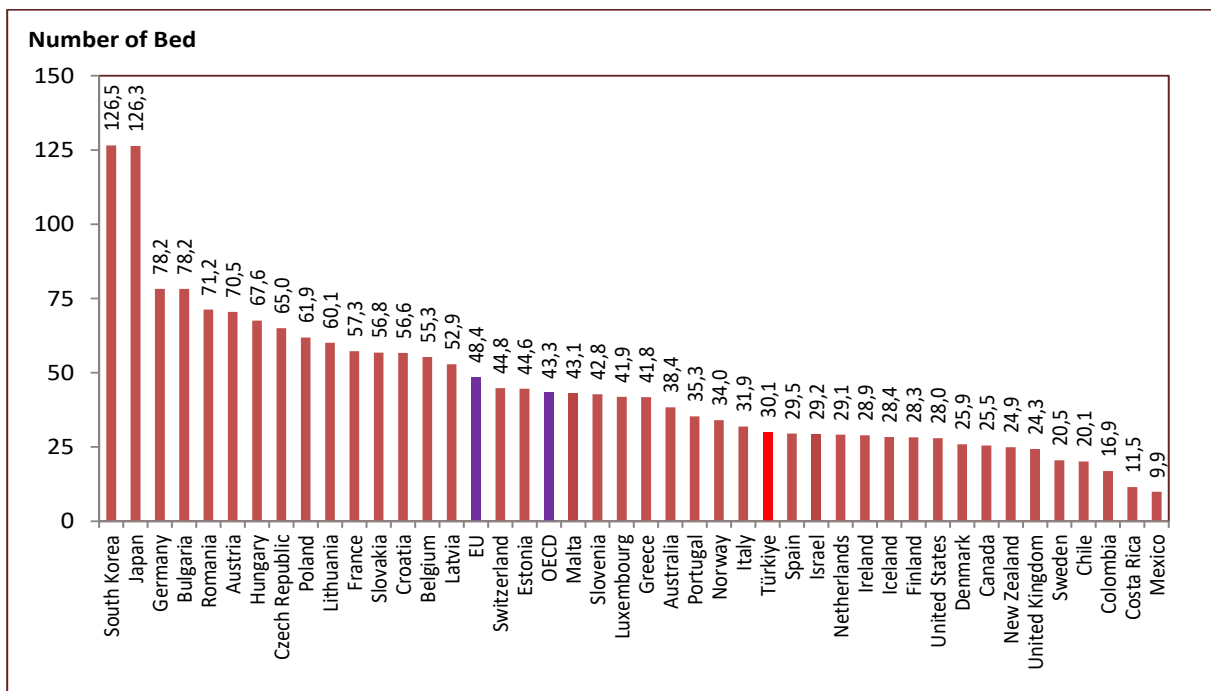
Source: General Directorate of Health Services

Figure 7.4. Number of Hospital Beds per 10.000 Population by NUTS-1, Ministry of Health, 2002, 2021



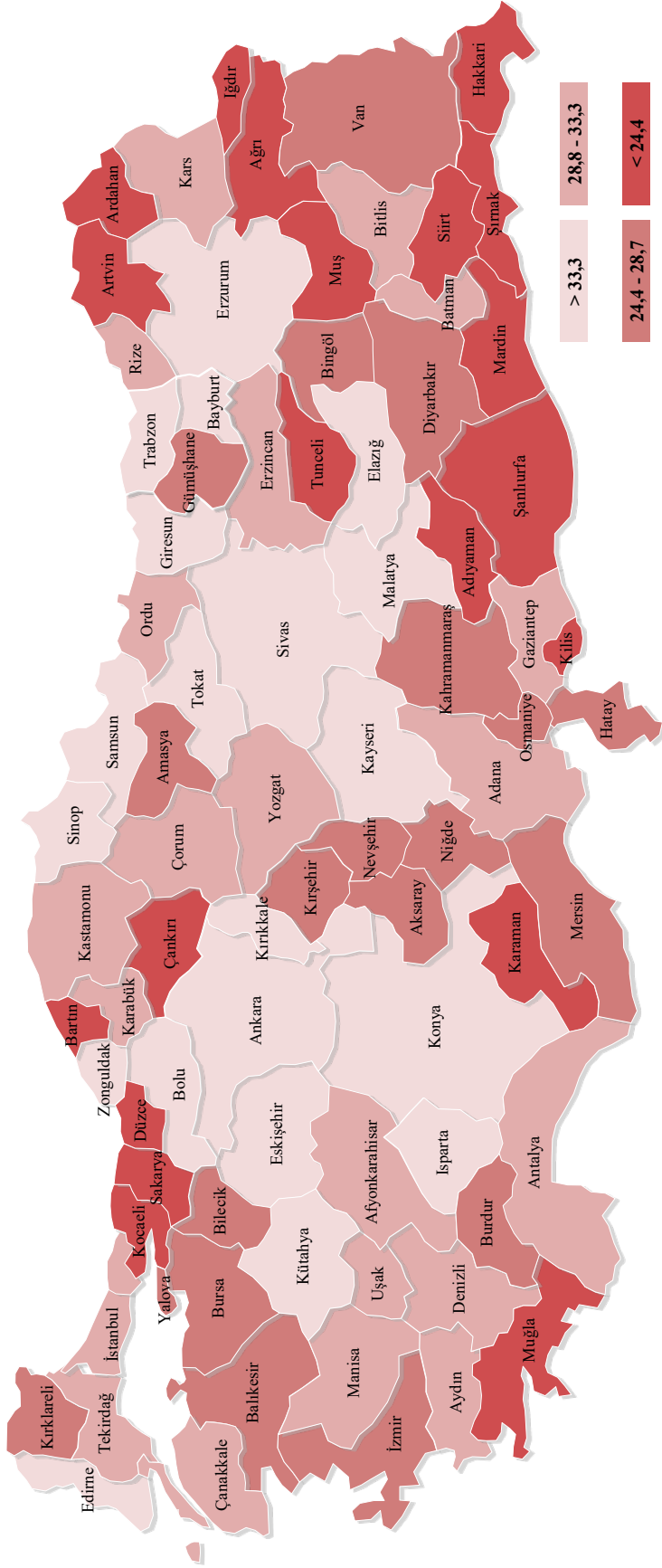
Source: General Directorate of Health Services

Figure 7.5. International Comparison of Number of Hospital Beds per 10.000 Population, 2020



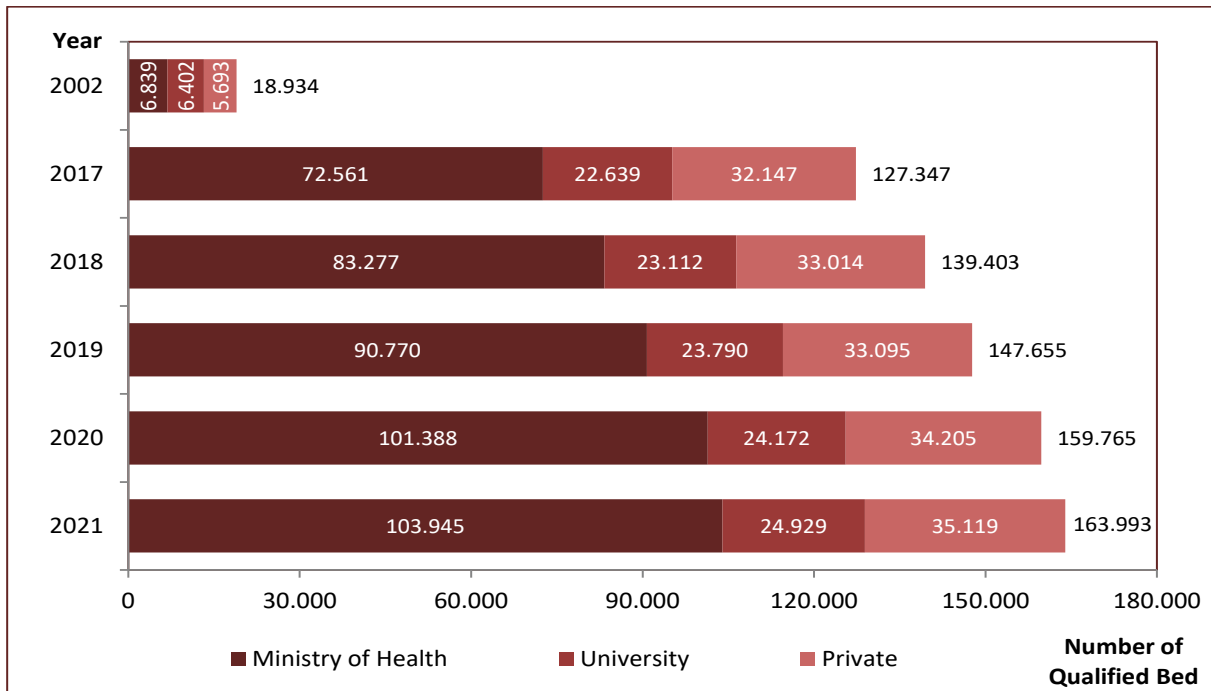
Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest.

Map 7.1. Number of Hospital Beds per 10.000 Population by Provinces, All Sectors, 2021



Source: General Directorate of Health Services

Figure 7.6. Number of Qualified Beds by Years and Sectors



Source: General Directorate of Health Services

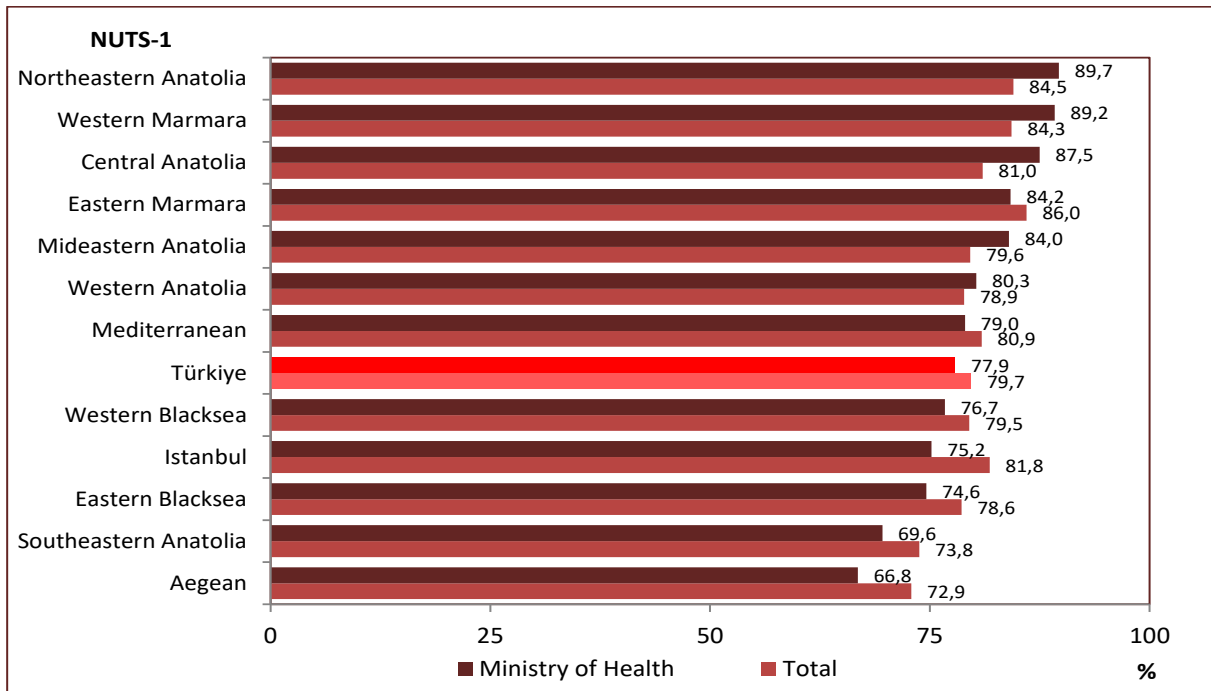
Table 7.2. Proportion of Qualified Beds Among Total Beds by Years and Sectors, (%)

Year	Ministry of Health	University	Private	Total
2002	6,4	24,6	19,1	11,7
2017	60,3	63,8	95,1	67,2
2018	67,4	64,2	96,5	71,9
2019	72,0	64,8	95,1	74,7
2020	76,2	68,8	96,8	78,5
2021	77,9	69,3	96,7	79,7

Source: General Directorate of Health Services

Note: Intensive care unit beds are not included.

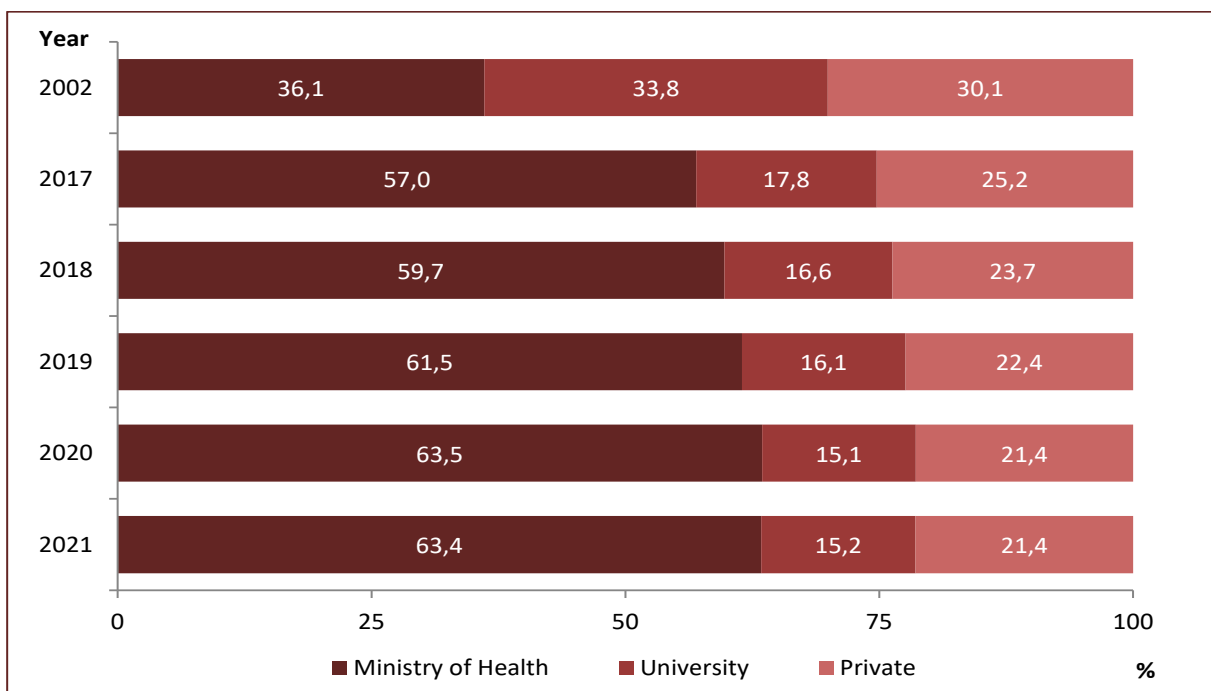
Figure 7.7. Proportion of Qualified Beds Among Total Beds, (%), All Sectors, Ministry of Health, 2021



Source: General Directorate of Health Services

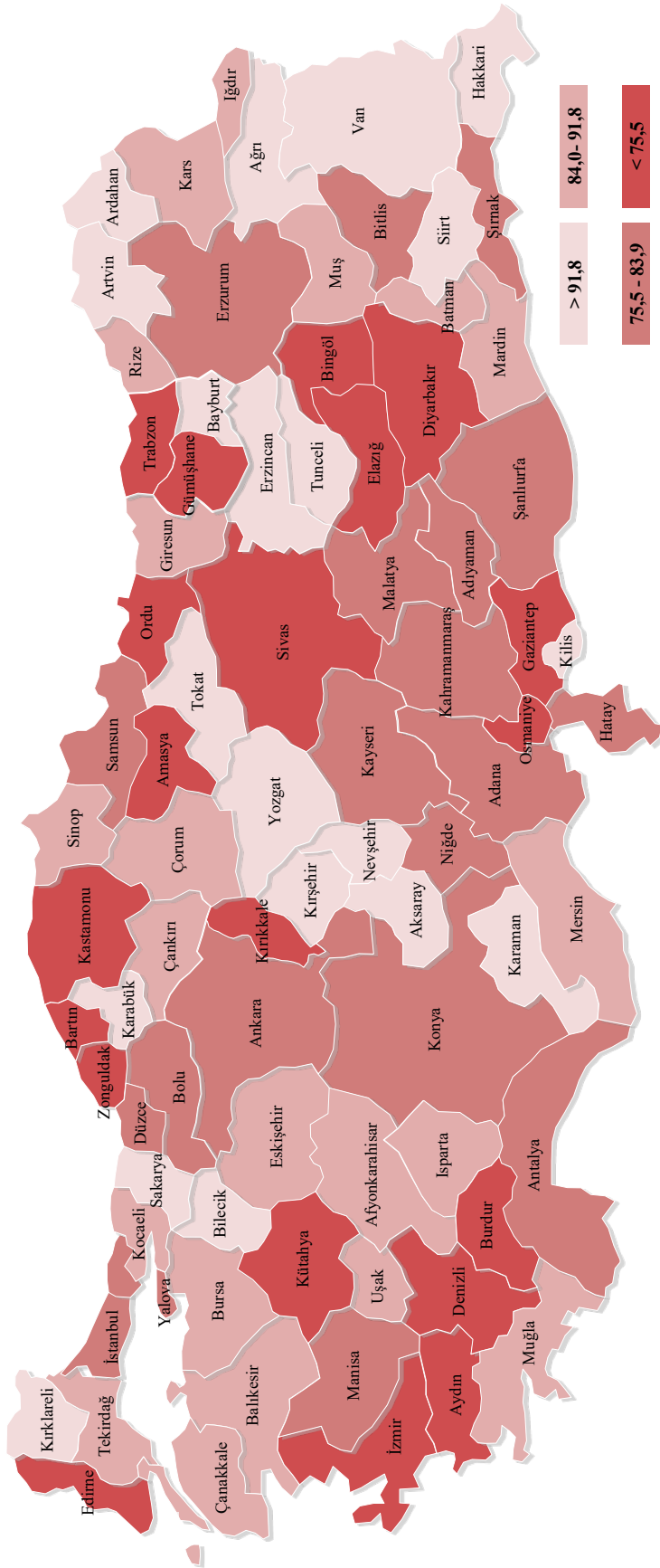
Note: Intensive care unit beds are not included.

Figure 7.8. Distribution of Qualified Beds by Years and Sectors, (%)



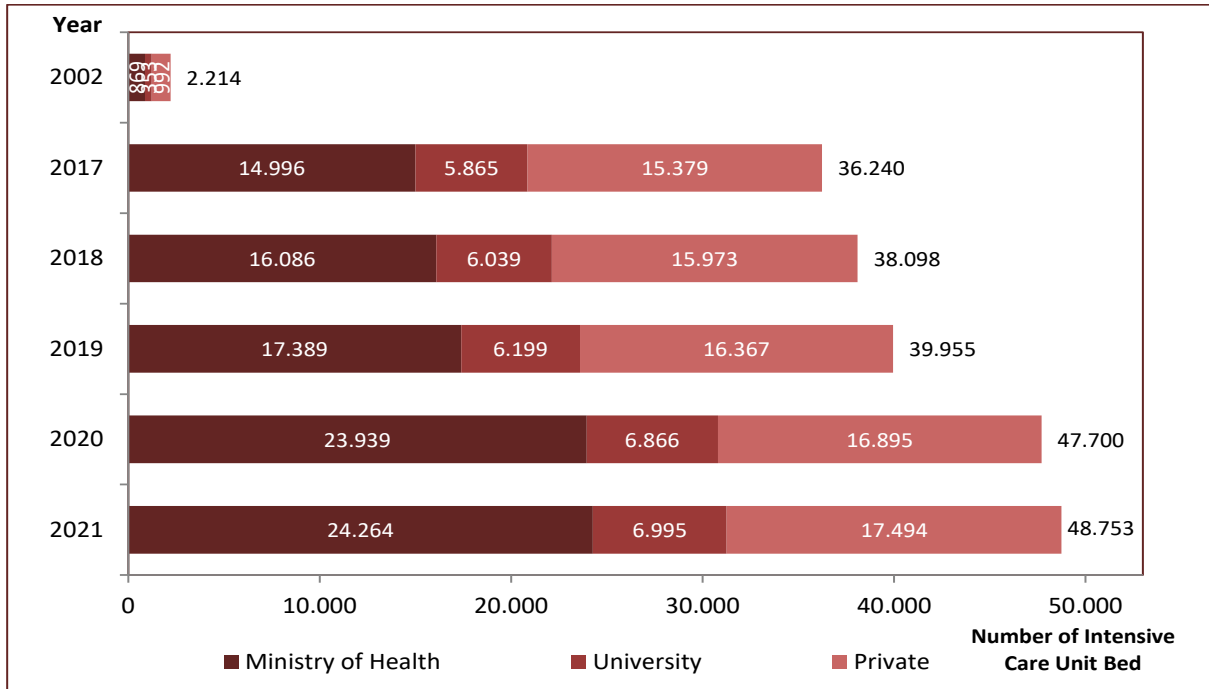
Source: General Directorate of Health Services

Map 7.2. Proportion of Qualified Beds Among Total Beds by Provinces, All Sectors, (%), 2021



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

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



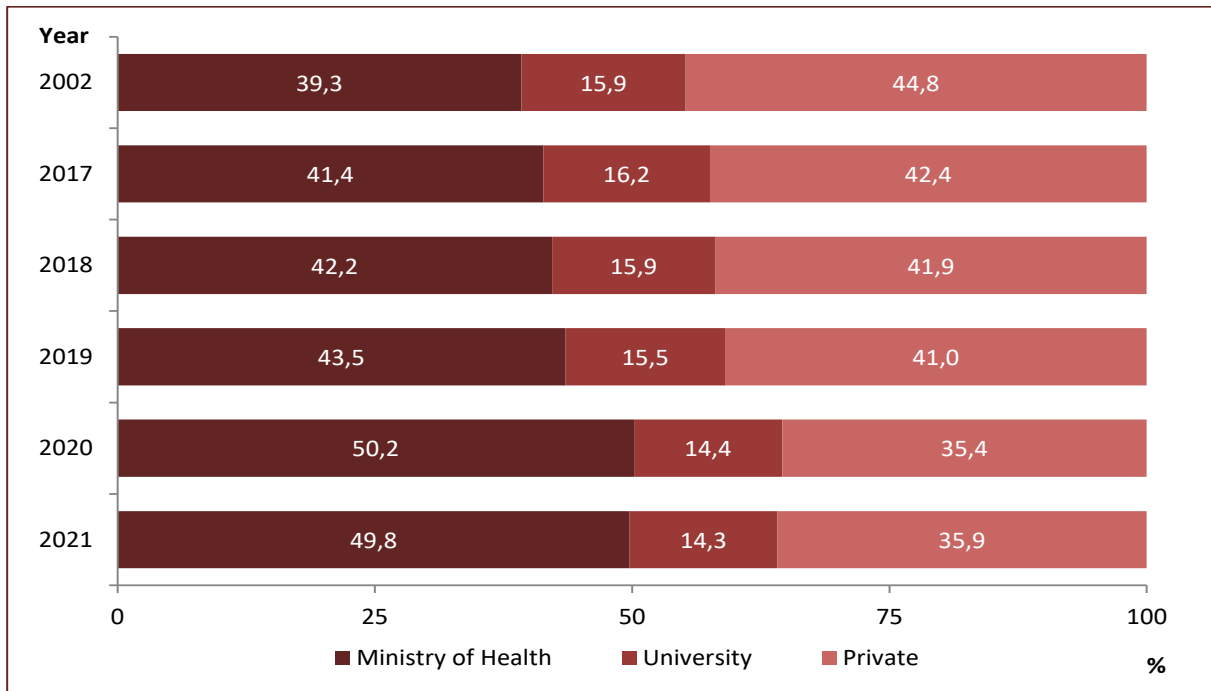
Source: General Directorate of Health Services

Table 7.3. Number and Distribution (%) of Intensive Care Unit Beds by Types and Sectors, 2021

	Ministry of Health		University		Private		Total	
	Number	%	Number	%	Number	%	Number	%
Adult	18.545	76,4	4.746	67,8	10.032	57,3	33.323	68,4
Child	1.286	5,3	661	9,4	188	1,1	2.135	4,4
Neonatal	4.433	18,3	1.588	22,7	7.274	41,6	13.295	27,3
<b>Total</b>	<b>24.264</b>	<b>100</b>	<b>6.995</b>	<b>100</b>	<b>17.494</b>	<b>100</b>	<b>48.753</b>	<b>100</b>

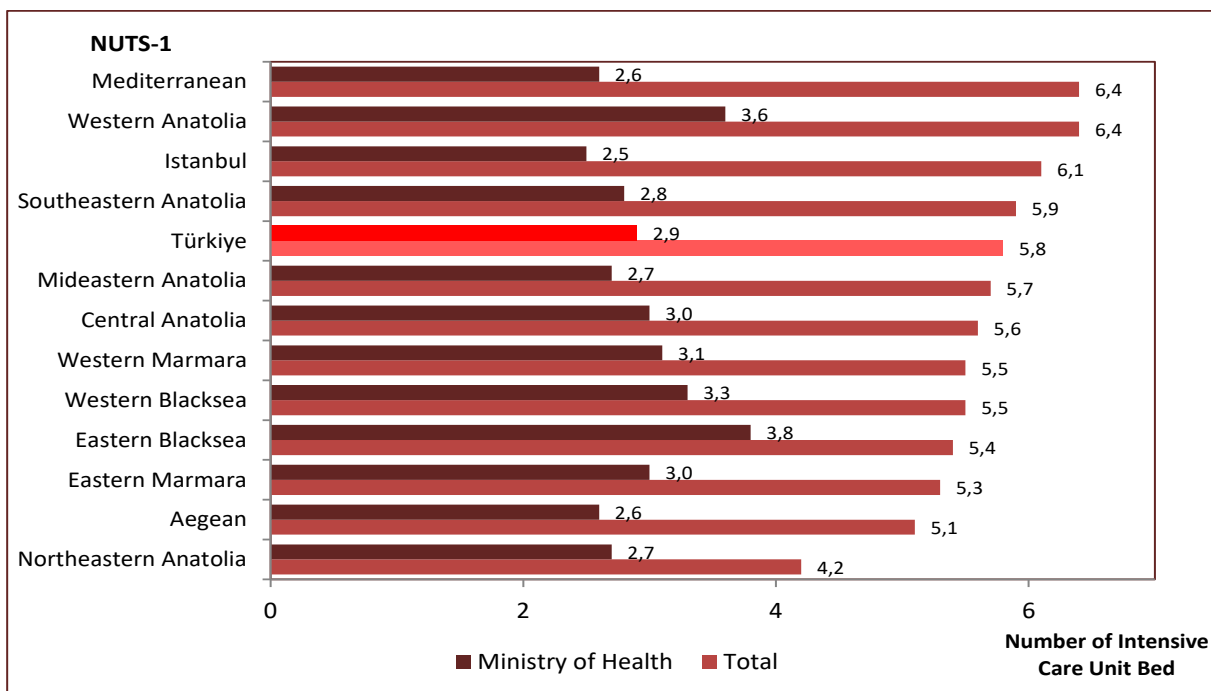
Source: General Directorate of Health Services

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



Source: General Directorate of Health Services

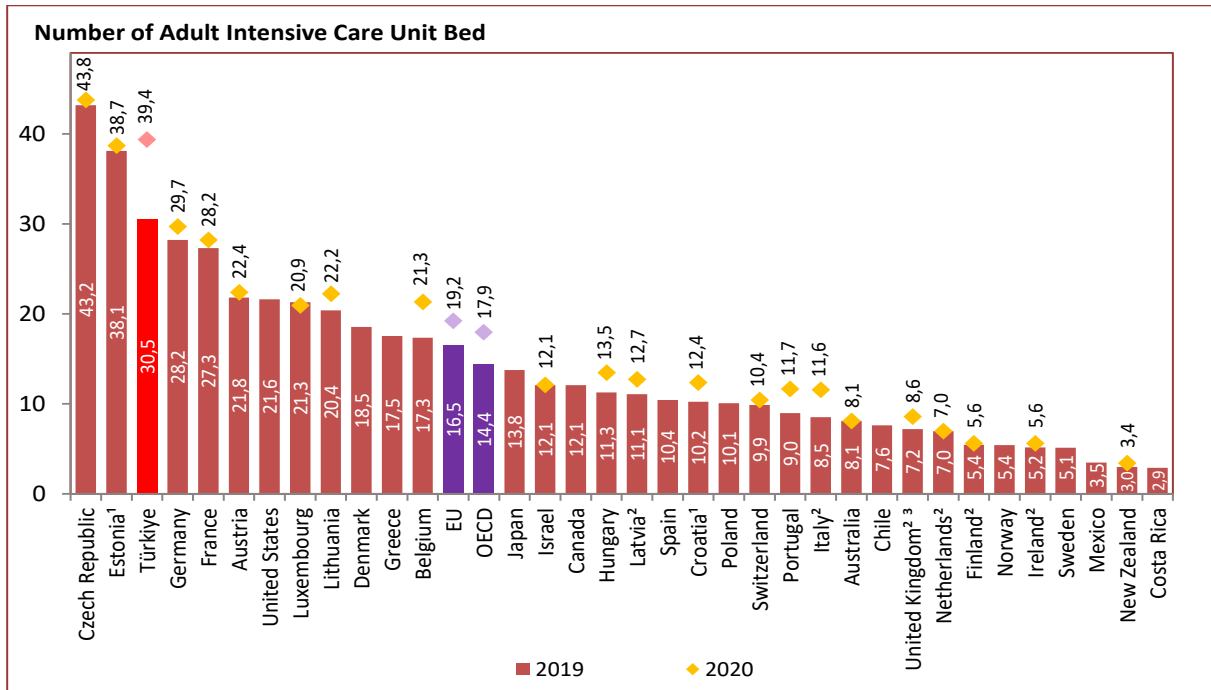
Figure 7.11. Number of Intensive Care Unit Beds per 10.000 Population by NUTS-1, All Sectors, Ministry of Health, 2021



Source: General Directorate of Health Services



Figure 7.12. International Comparison of Number of Adult Intensive Care Unit Beds per 100.000 Population, 2019, 2020



Source: General Directorate of Health Services, OECD Health at a Glance 2021, OECD Health at a Glance: Europe 2022

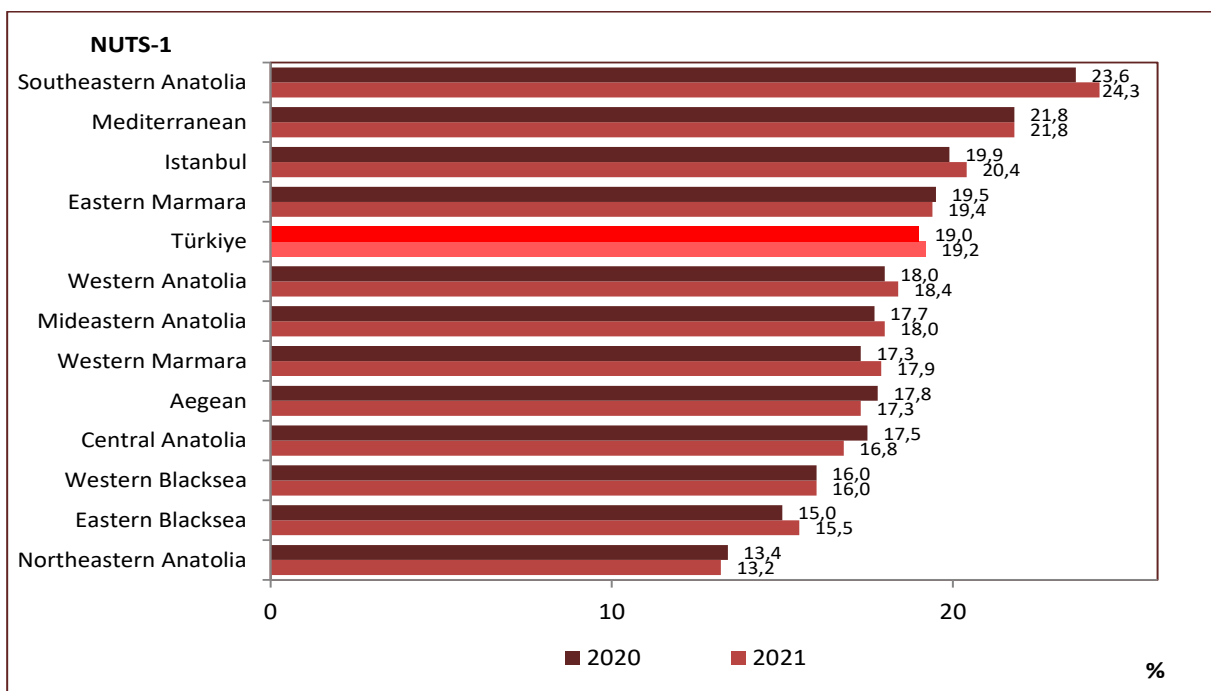
Note: Türkiye's data belong to the year 2019 and 2021.

<sup>1</sup> Neonatal and child intensive care units are included.

<sup>2</sup> Level 2 and Level 3 intensive care units are included.

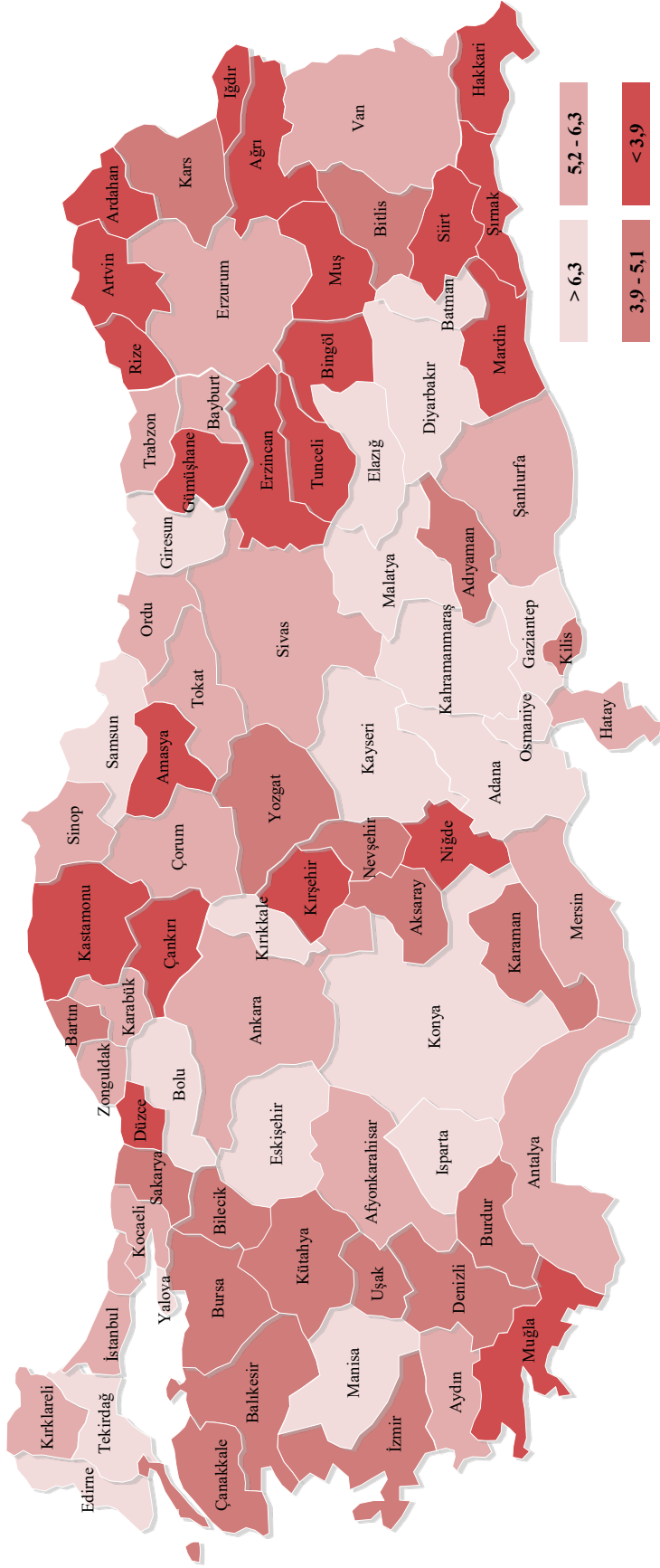
<sup>3</sup> Data only belongs to England.

Figure 7.13. Proportion of Intensive Care Unit Beds to All Beds by NUTS-1, All Sectors, (%), 2020, 2021



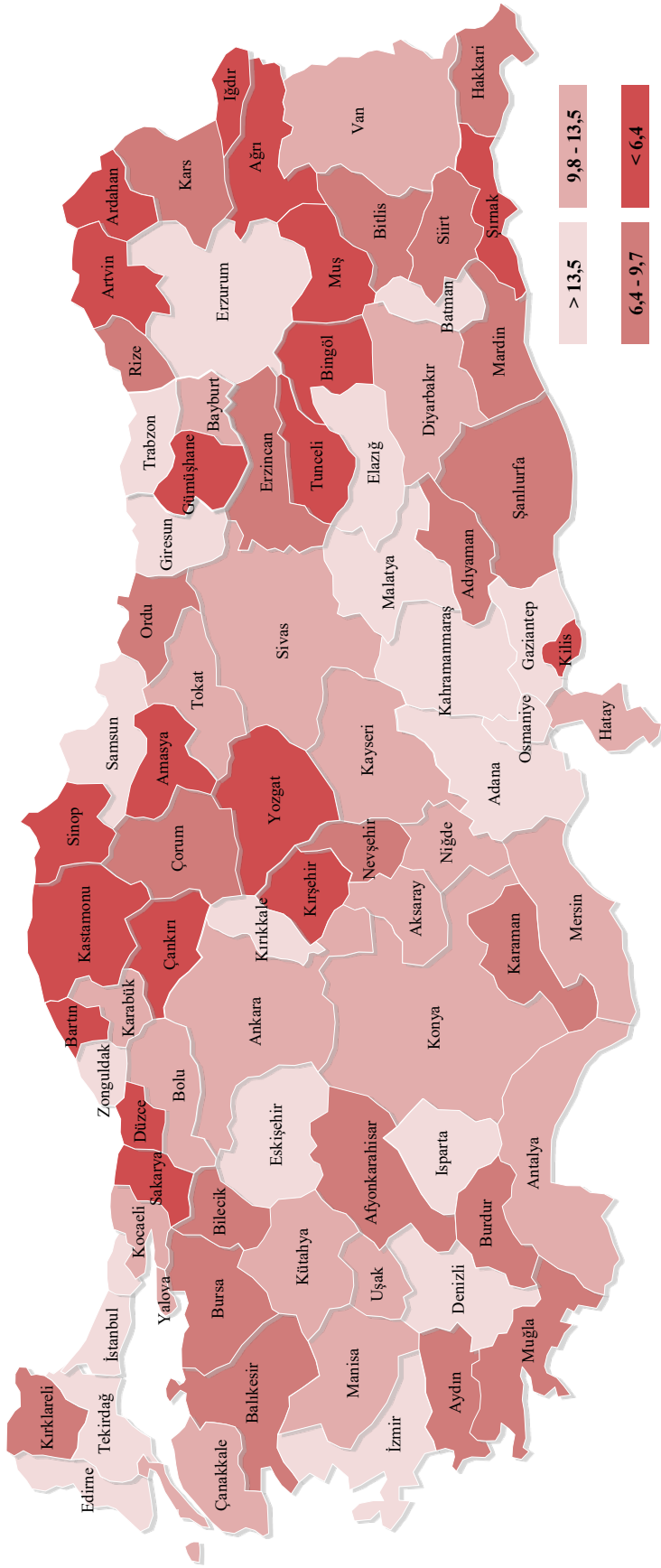
Source: General Directorate of Health Services

Map 7.3. Number of Intensive Care Unit Beds per 10.000 Population by Provinces, All Sectors, 2021



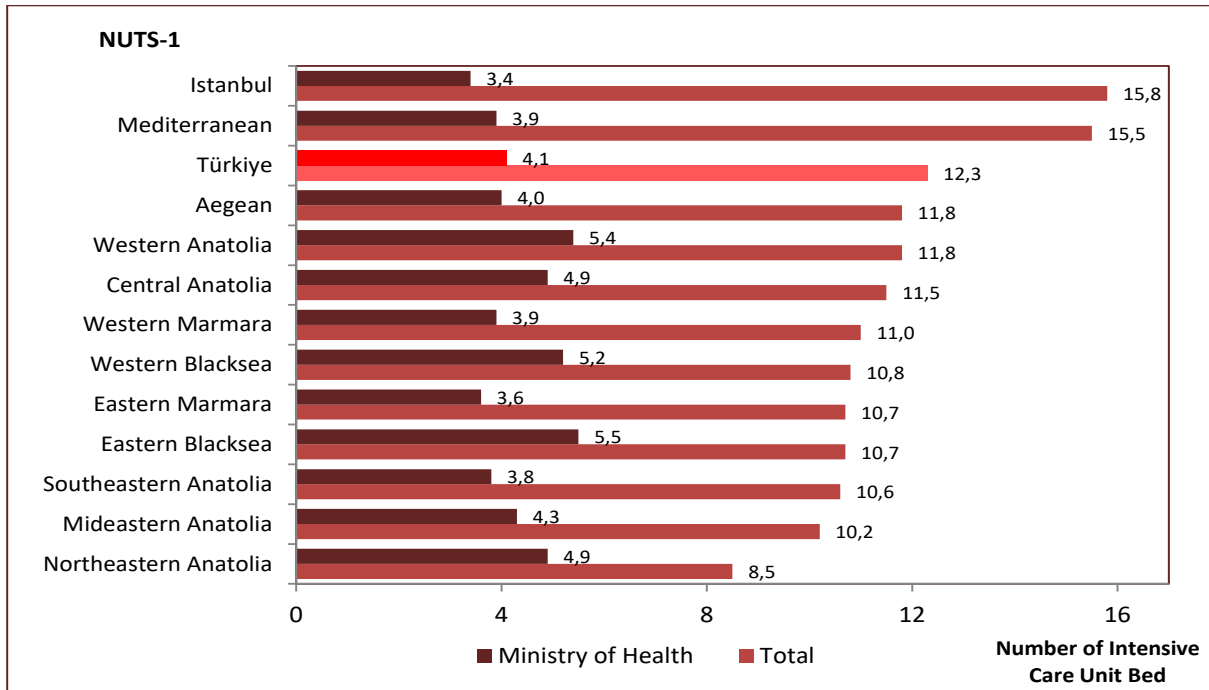
Source: General Directorate of Health Services

Map 7.4. Number of Neonatal Intensive Care Unit Beds per 1.000 Live Births by Provinces, All Sectors, 2021



Source: General Directorate of Health Services, TURKSTAT

Figure 7.14. Number of Neonatal Intensive Care Unit Beds per 1.000 Live Births by NUTS-1, All Sectors, Ministry of Health, 2021



Source: General Directorate of Health Services, TURKSTAT

Table 7.4. Infrastructure of Operating Services in Hospitals by Sectors, 2021

	Ministry of Health	University	Private	Total
Surgery	937	170	833	1.940
Operation Theatre	3.739	1.067	2.267	7.073
Operation Table	3.798	1.086	2.247	7.131

Source: General Directorate of Health Services

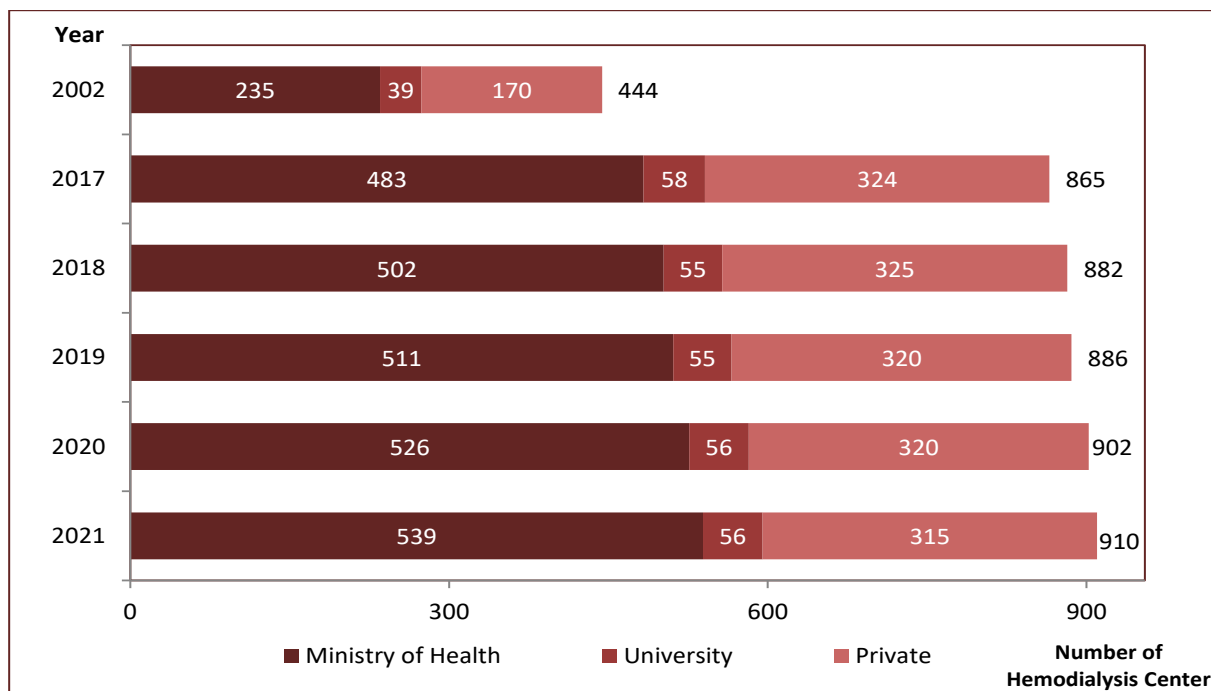
Table 7.5. Indicators Regarding to Health Care Facilities Actively Providing Health Care Services on 31.12.2021 by Sectors

Indicators	Ministry of Health	University	Private	Total
Number of Hospitals	909	68	564	1.541
Number of Hospital Beds	159.310	44.157	53.486	256.953
Number of Hospital Beds per 10.000 Population	18,8	5,2	6,3	30,3
Number of Qualified Beds	105.052	24.936	35.512	165.500
Proportion of Qualified Beds Among Total Beds, (%)*	77,8	67,1	98,4	79,5
Number of Adult Intensive Care Unit Beds	18.545	4.746	10.015	33.306
Number of Child Intensive Care Unit Beds	1.286	661	188	2.135
Number of Neonatal Intensive Care Unit Beds	4.433	1.588	7.197	13.218
Total Number of Intensive Care Unit Beds	24.264	6.995	17.400	48.659
Proportion of Intensive Care Unit Beds to All Beds, (%)	15,2	15,8	32,5	18,9
Total Number of Intensive Care Unit Beds per 10.000 Population	2,9	0,8	2,1	5,7
Surgery	939	170	835	1.944
Operation Theatre	4.469	1.215	2.352	8.036
Operation Table	4.444	1.179	2.342	7.965
Private Outpatient Clinic	-	-	307	307
Specialty Medical Center	-	-	604	604

Source: General Directorate of Health Services

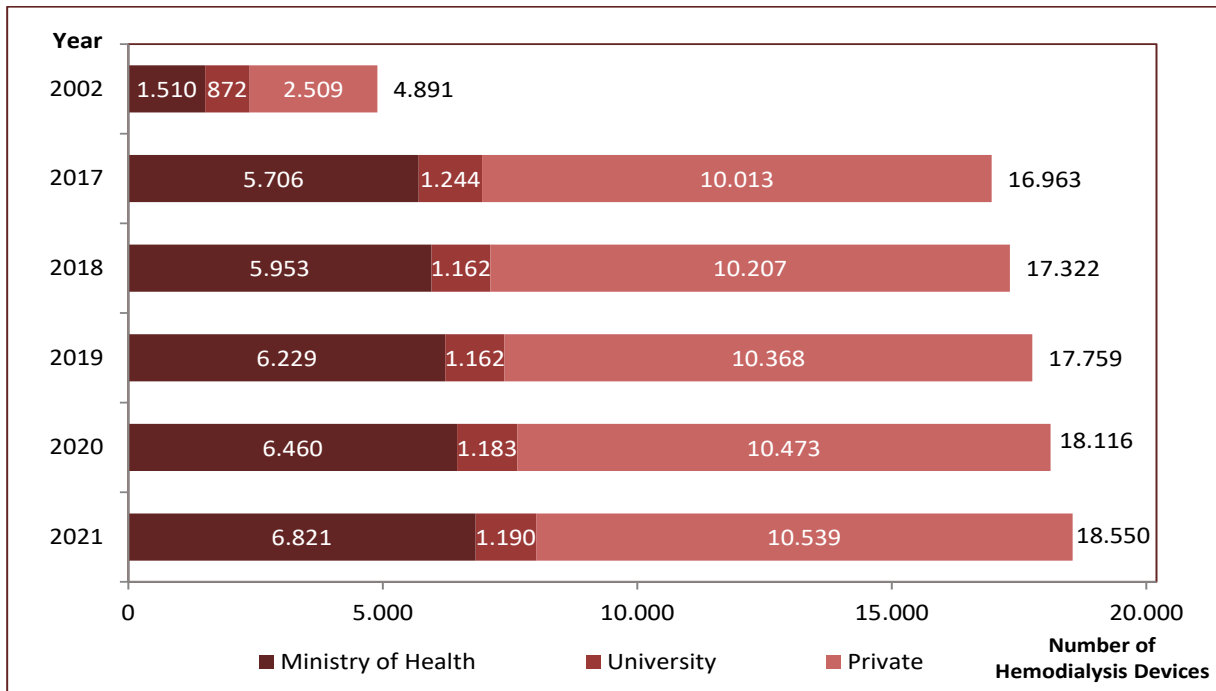
\*Intensive care unit beds are not included.

Figure 7.15. Number of Hemodialysis Centers by Years and Sectors



Source: General Directorate of Health Services

Figure 7.16. Number of Hemodialysis Devices by Years and Sectors



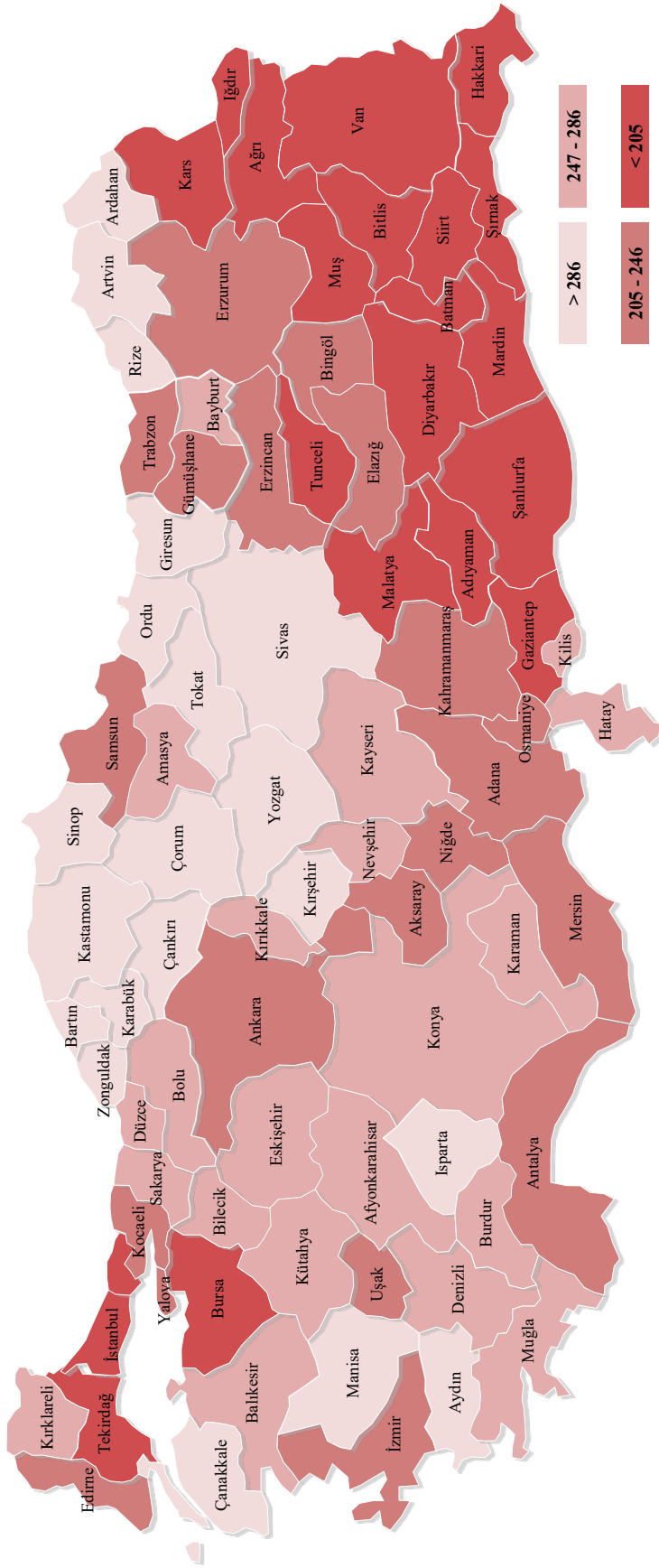
Source: General Directorate of Health Services

Table 7.6. Number of Hemodialysis Devices per 1.000.000 Population by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Western Blacksea	159,4	17,4	125,1	301,9
Central Anatolia	109,5	17,0	157,7	284,3
Eastern Blacksea	178,6	4,8	95,1	278,5
Aegean	90,3	12,3	167,7	270,4
Western Marmara	105,7	6,8	123,3	235,7
Mediterranean	80,4	20,8	129,5	230,7
Western Anatolia	53,8	33,4	138,1	225,4
Eastern Marmara	79,7	11,5	133,4	224,6
<b>Türkiye</b>	<b>80,6</b>	<b>14,1</b>	<b>124,5</b>	<b>219,1</b>
Northeastern Anatolia	155,7	11,5	21,5	188,7
Istanbul	25,3	6,0	152,8	184,0
Mideastern Anatolia	95,7	20,3	46,2	162,2
Southeastern Anatolia	73,2	7,5	50,5	131,2

Source: General Directorate of Health Services

Map 7.5. Number of Hemodialysis Devices per 1.000.000 Population by Provinces, All Sectors, 2021



Source: General Directorate of Health Services

Table 7.7. Number of Devices in Hospitals by Years

	2002	2017	2018	2019	2020	2021
MRI	58	884	915	902	939	960
CT	323	1.186	1.211	1.213	1.248	1.271
Ultrasound	1.005	5.635	5.846	6.098	6.080	6.276
Doppler Ultrasound	681	4.892	5.557	6.383	6.538	6.828
ECHO	259	2.269	2.520	2.714	2.823	2.850
Mammography	647*	947	966	961	982	964

Source: General Directorate of Health Services

\*The number of mammography devices belongs to the year 2008.

Table 7.8. Number of Devices in Hospitals by Sectors, 2021

	Ministry of Health	University	Private	Total
MRI	375	111	474	960
CT	583	146	542	1.271
Ultrasound	2.810	1.036	2.430	6.276
Doppler Ultrasound	4.350	667	1.811	6.828
ECHO	1.720	337	793	2.850
Mammography	396	78	490	964

Source: General Directorate of Health Services

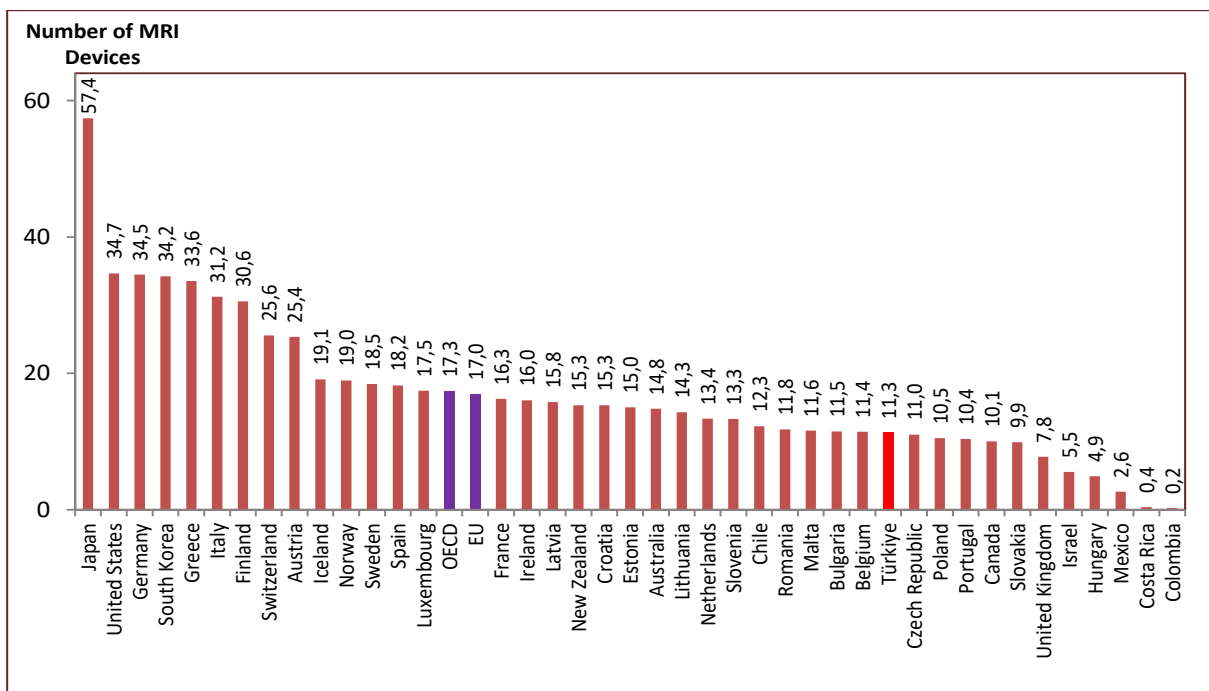


Table 7.9. Number of MRI Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2021

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

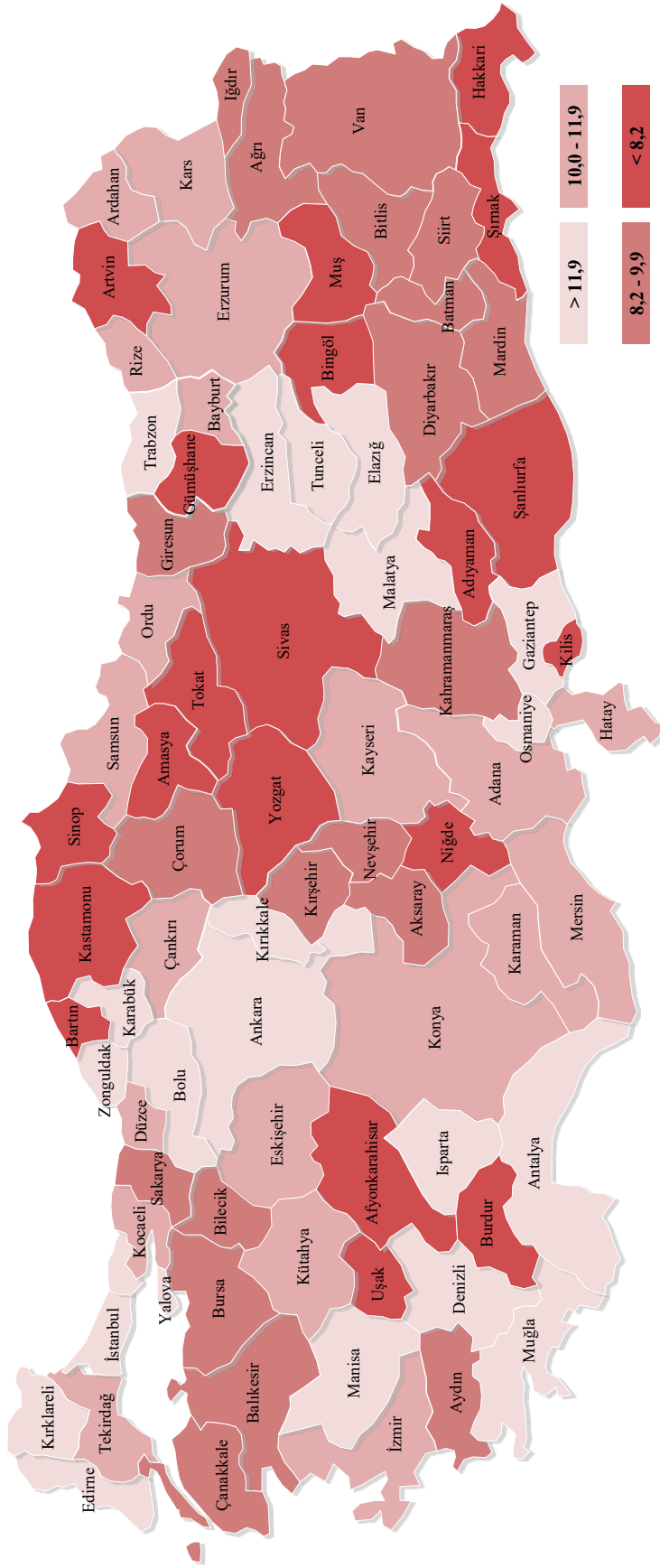
Source: General Directorate of Health Services

Figure 7.17. International Comparison of Number of MRI Devices per 1.000.000 Population, 2020



Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest.

Map 7.6. Number of MRI Devices in Hospitals per 1.000.000 Population by Provinces, All Sectors, 2021



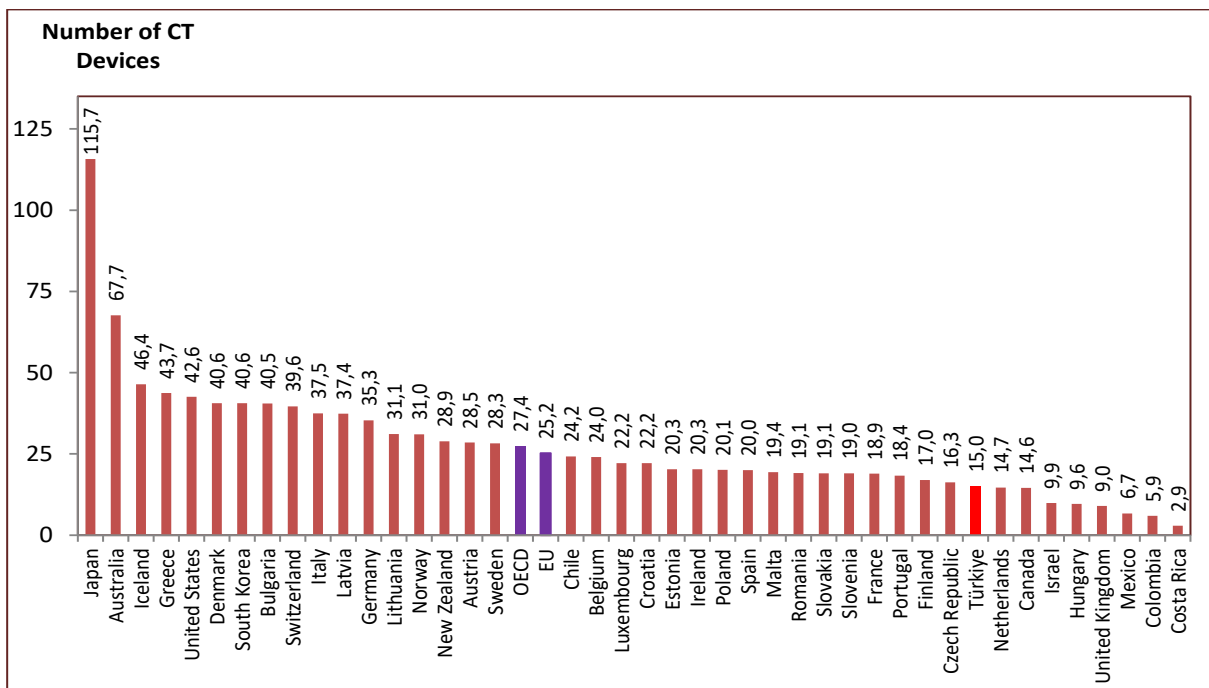
Source: General Directorate of Health Services

Table 7.10. Number of CT Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	5,6	1,8	9,7	17,0
Western Anatolia	7,7	3,5	5,7	16,9
Western Marmara	8,4	1,9	5,9	16,2
Mediterranean	6,1	1,9	8,2	16,2
Eastern Blacksea	10,8	0,7	4,5	16,0
<b>Türkiye</b>	<b>6,9</b>	<b>1,7</b>	<b>6,4</b>	<b>15,0</b>
Western Blacksea	9,2	1,9	3,9	15,0
Northeastern Anatolia	9,2	2,3	3,2	14,7
Mideastern Anatolia	7,1	1,5	5,6	14,2
Aegean	7,0	1,2	6,0	14,2
Central Anatolia	6,6	1,9	4,4	12,9
Eastern Marmara	6,9	1,2	4,8	12,9
Southeastern Anatolia	5,9	0,9	5,2	11,9

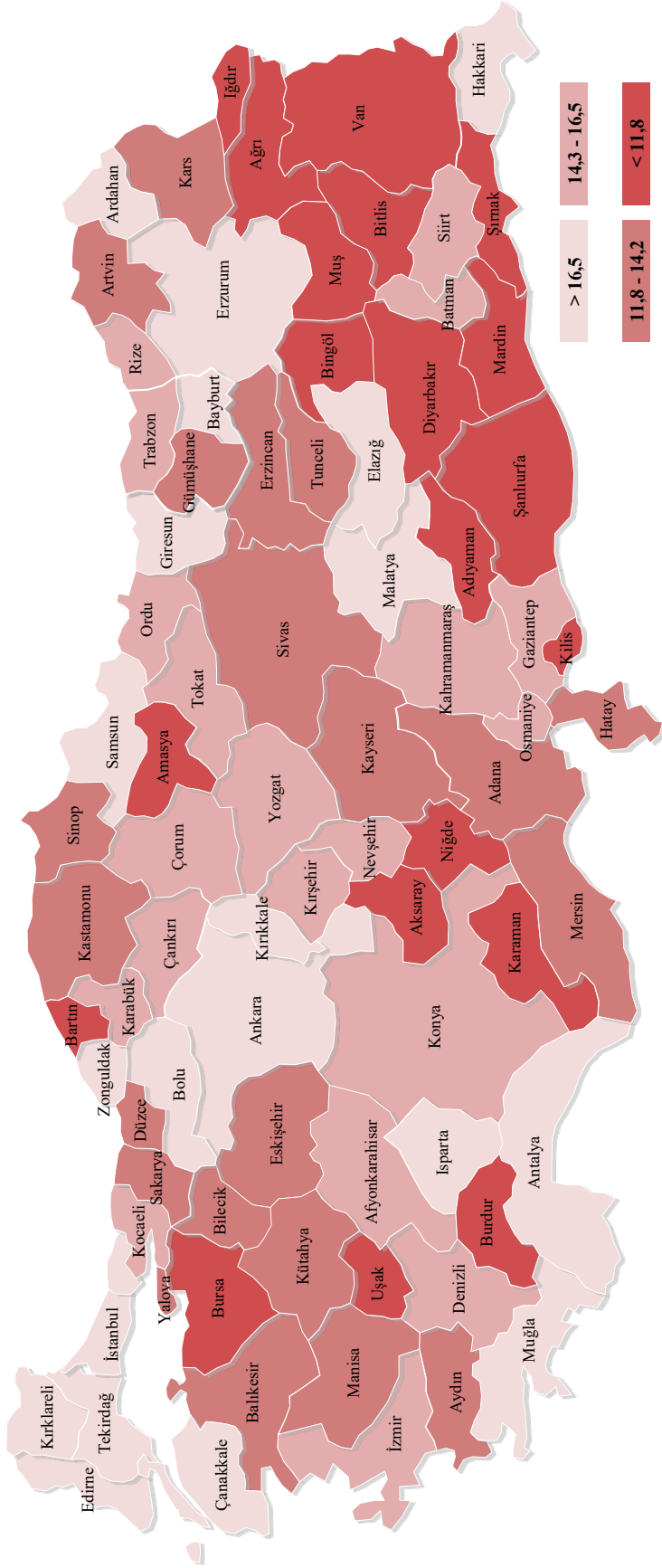
Source: General Directorate of Health Services

Figure 7.18. International Comparison of Number of CT Devices per 1.000.000 Population, 2020



Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest.

Map 7.7. Number of CT Devices in Hospitals per 1.000.000 Population by Provinces, All Sectors, 2021



Source: General Directorate of Health Services

Table 7.11. Number of Ultrasound Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Southeastern Anatolia	51,8	10,4	25,0	87,2
Aegean	39,1	21,0	23,8	83,9
Istanbul	23,7	8,5	47,8	80,0
Western Anatolia	32,7	21,4	22,7	76,8
<b>Türkiye</b>	<b>33,2</b>	<b>12,2</b>	<b>28,7</b>	<b>74,1</b>
Northeastern Anatolia	56,3	10,1	7,3	73,7
Eastern Blacksea	38,2	14,5	20,8	73,5
Mediterranean	22,9	13,3	34,9	71,1
Western Blacksea	41,8	11,1	16,7	69,6
Central Anatolia	33,8	8,8	25,1	67,7
Mideastern Anatolia	43,4	8,1	13,5	65,0
Western Marmara	28,4	10,5	19,5	58,4
Eastern Marmara	21,4	4,5	28,6	54,5

Source: General Directorate of Health Services

Table 7.12. Number of Doppler Ultrasound Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	60,7	9,7	42,5	112,9
Western Anatolia	70,9	16,7	14,7	102,3
Central Anatolia	50,1	14,1	23,9	88,1
<b>Türkiye</b>	<b>51,4</b>	<b>7,9</b>	<b>21,4</b>	<b>80,6</b>
Eastern Marmara	53,9	4,7	18,5	77,1
Western Marmara	51,1	7,8	13,5	72,4
Aegean	43,2	9,9	18,8	72,0
Mediterranean	48,0	4,5	18,6	71,2
Western Blacksea	45,4	9,2	13,9	68,6
Northeastern Anatolia	50,8	9,6	6,4	66,9
Eastern Blacksea	55,7	0,7	10,4	66,8
Southeastern Anatolia	37,9	1,3	15,9	55,0
Mideastern Anatolia	36,3	4,1	13,7	54,1

Source: General Directorate of Health Services

Table 7.13. Number of ECHO Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	23,0	4,4	16,4	43,8
Central Anatolia	22,6	5,1	8,5	36,3
Northeastern Anatolia	26,1	6,9	1,4	34,4
Western Anatolia	16,5	8,6	8,6	33,7
<b>Türkiye</b>	<b>20,3</b>	<b>4,0</b>	<b>9,4</b>	<b>33,7</b>
Aegean	20,9	3,9	8,6	33,4
Western Blacksea	23,6	3,6	6,0	33,2
Eastern Blacksea	26,0	0,7	6,3	33,0
Eastern Marmara	19,0	2,4	10,1	31,5
Mediterranean	18,8	3,2	9,3	31,3
Western Marmara	20,0	3,5	6,2	29,7
Mideastern Anatolia	20,0	2,8	5,8	28,7
Southeastern Anatolia	16,0	2,2	5,9	24,0

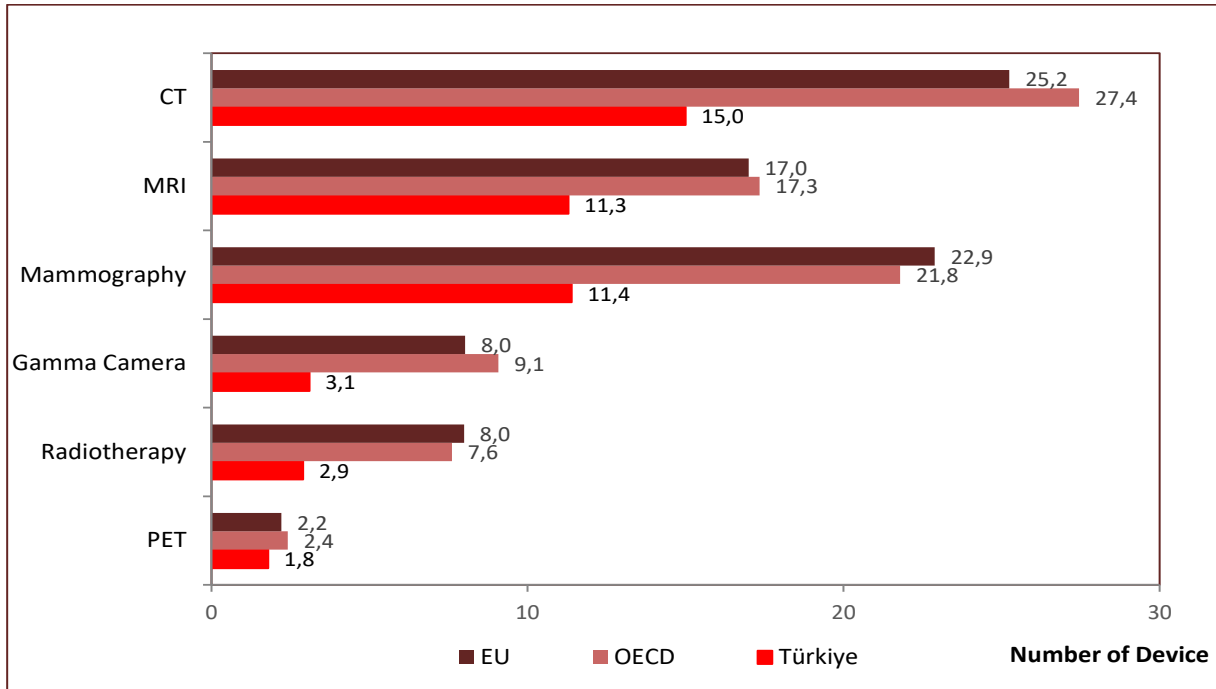
Source: General Directorate of Health Services

Table 7.14. Number of Mammography Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	3,3	1,3	9,4	14,0
Western Anatolia	5,4	1,7	5,3	12,4
Western Marmara	5,9	1,1	5,4	12,4
Mediterranean	4,4	0,9	6,7	12,0
Aegean	5,7	0,8	5,2	11,8
Eastern Blacksea	7,1	0,4	4,1	11,5
<b>Türkiye</b>	<b>4,7</b>	<b>0,9</b>	<b>5,8</b>	<b>11,4</b>
Western Blacksea	6,2	0,9	3,6	10,7
Eastern Marmara	5,0	0,7	4,9	10,6
Central Anatolia	4,4	0,7	4,6	9,7
Mideastern Anatolia	3,8	0,8	4,1	8,6
Southeastern Anatolia	3,6	0,3	4,3	8,3
Northeastern Anatolia	4,6	0,5	1,8	6,9

Source: General Directorate of Health Services

Figure 7.19. International Comparison of Number of Devices per 1.000.000 Population, 2020



Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 Note: Türkiye's data belongs to the year 2021. OECD and EU data belong to the year 2020 or nearest.

Table 7.15. Number of Specialty Medical Center and Private Outpatient Clinic by NUTS-1, 2021

NUTS-1	Specialty Medical Center	Private Outpatient Clinic
Istanbul	233	113
Western Marmara	14	3
Aegean	103	49
Eastern Marmara	52	11
Western Anatolia	81	35
Mediterranean	61	32
Central Anatolia	9	4
Western Blacksea	17	3
Eastern Blacksea	8	4
Northeastern Anatolia	3	0
Mideastern Anatolia	10	0
Southeastern Anatolia	31	2
<b>Türkiye</b>	<b>622</b>	<b>256</b>

Source: General Directorate of Health Services

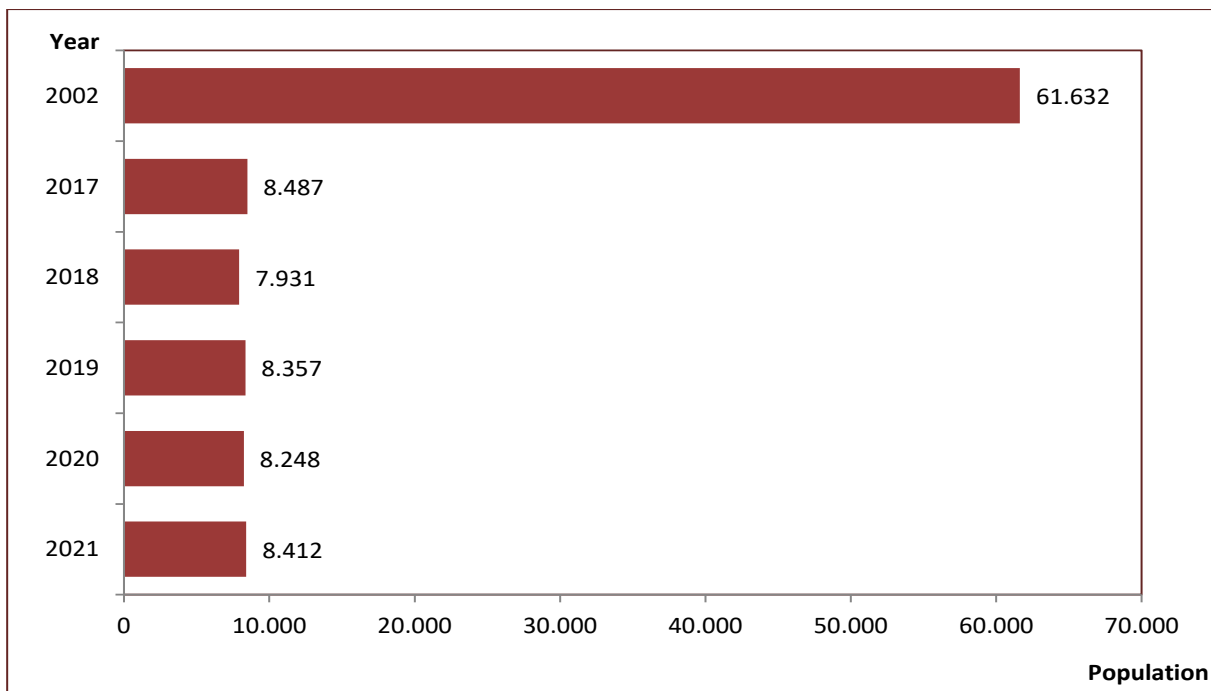
Table 7.16. Number of the Institution Providing Oral and Dental Health Care Services by Sectors, 2021

	Ministry of Health		University		Private		Total	
	Institution	Unit	Institution	Unit	Institution	Unit	Institution	Unit
Oral and Dental Health Center	133	4.485	-	-	103	1.076	236	5.561
Dental Hospital	28	2.003	-	-	3	82	31	2.085
Dental Training Hospital	6	536	60	6.317	-	-	66	6.853
Dental Polyclinic (Hospital)	788	3.043	12	91	209	503	1.009	3.637
Dental Polyclinic	-	-	-	-	3.067	12.649	3.067	12.649
<b>Total</b>	<b>955</b>	<b>10.067</b>	<b>72</b>	<b>6.408</b>	<b>3.382</b>	<b>14.310</b>	<b>4.409</b>	<b>30.785</b>

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 Polyclinic (Hospital).

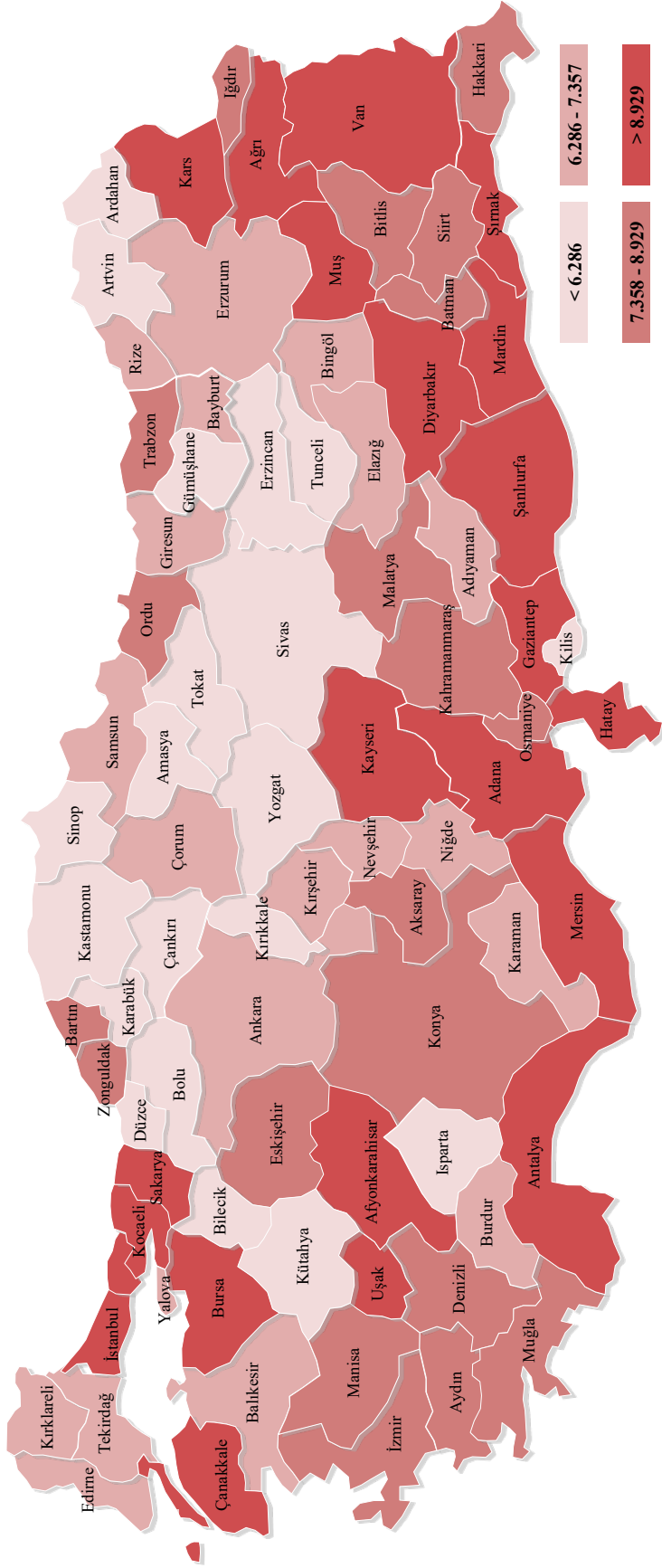
Figure 7.20. Population per Dental Unit by Years, Ministry of Health



Source: General Directorate of Health Services

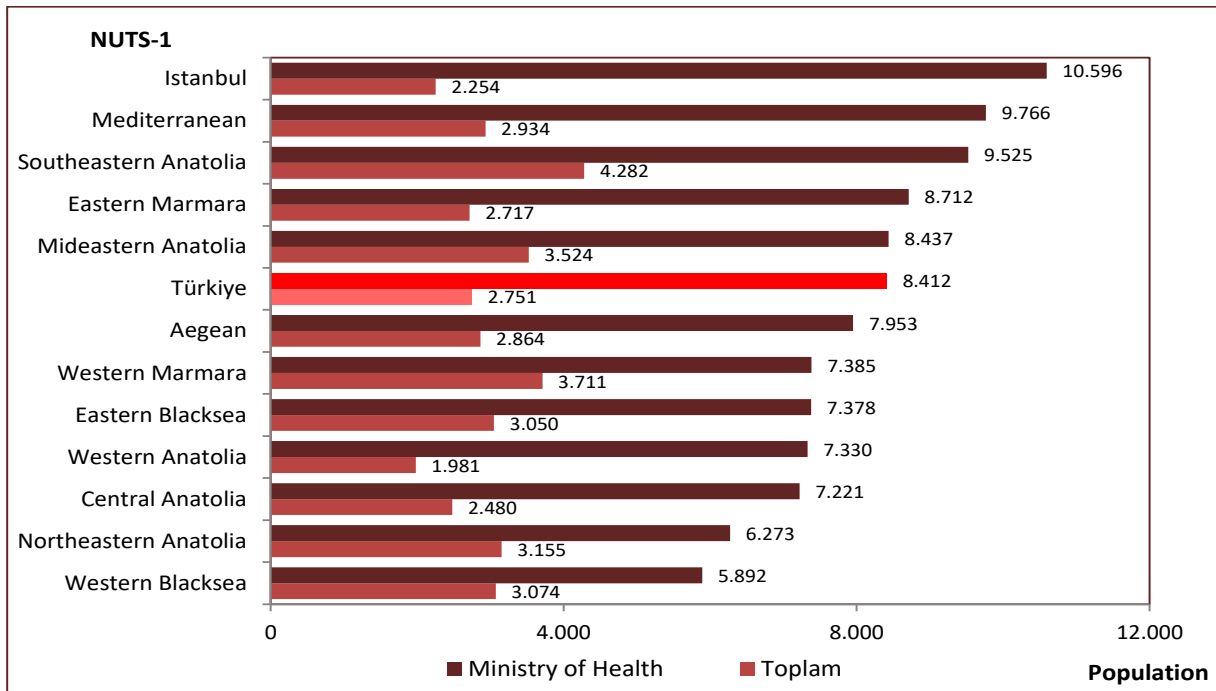


Map 7.8. Population per Dental Unit by Provinces, Ministry of Health, 2021



Source: General Directorate of Health Services

Figure 7.21. Population per Dental Unit by NUTS-1, All Sectors, Ministry of Health, 2021



Source: General Directorate of Health Services

Table 7.17. Indicators Regarding to Institution Actively Provide Oral and Dental Health Care Services on 31.12.2021 by Sectors

	Ministry of Health		University		Private		Total	
	Institution	Unit	Institution	Unit	Institution	Unit	Institution	Unit
Oral and Dental Health Center	133	4.485	-	-	105	1123	238	5.608
Dental Hospital	28	2.003	-	-	3	82	31	2.085
Dental Training Hospital	6	536	63	6.355	-	-	69	6.891
Dental Polyclinic (Hospital)	818	3.115	13	92	219	516	1.050	3.723
Dental Polyclinic	-	-	-	-	3.166	13.221	3.166	13.221
<b>Total</b>	<b>985</b>	<b>10.139</b>	<b>76</b>	<b>6.447</b>	<b>3.493</b>	<b>14.942</b>	<b>4.554</b>	<b>31.528</b>

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 Polyclinic (Hospital).

Table 7.18. Primary Health Care Facilities by Years, Ministry of Health

	2002	2017	2018	2019	2020	2021
Health Center	5.055	-	-	-	-	-
Family Medicine Unit	-	25.198	26.252	26.476	26.594	26.928
Family Health Center	-	7.774	7.979	7.997	8.015	8.057
Community Health Center	-	972	776	778	779	778*
Health House	2.899	5.320	5.259	5.078	5.027	4.983
Child, Adolescent, Women and Reproductive Health Unit (CEKUS)	298	177	172	167	166	96
Tuberculosis Control Dispensary	277	177	173	174	173	173
Cancer Early Diagnosis, Screening and Training Centers (KETEM)	84	164	175	178	175	336**
E2-E3 Integrated District State Hospitals	-	189	196	200	198	200
Number of Public Health Laboratories	-	83	83	83	84	84

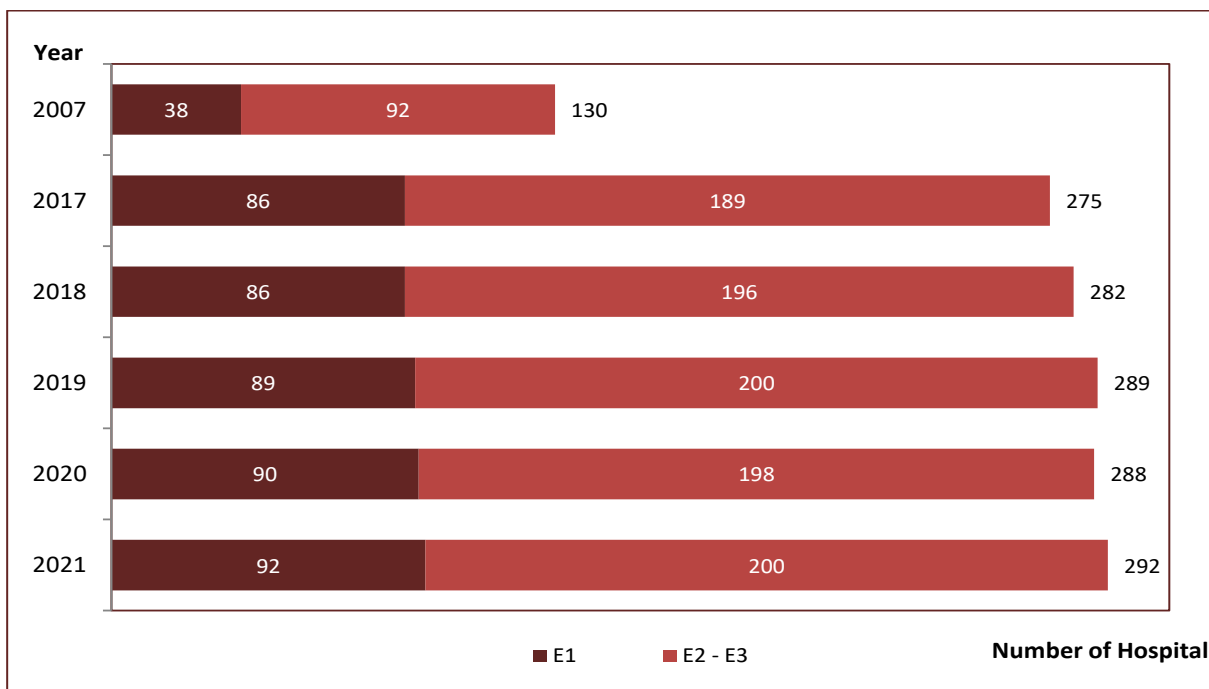
Source: General Directorate of Public Health, General Directorate of Health Services

\* In districts with a population of 30.000 or more, 429 District Health Directorates, which provide the same services, included the number of Community Health Centers.

\*\*The number of KETEM includes 89 independent KETEM registered in the CKYS, 42 mobile vehicles and 205 KETEM operating in Healthy Life Centers (HLC).

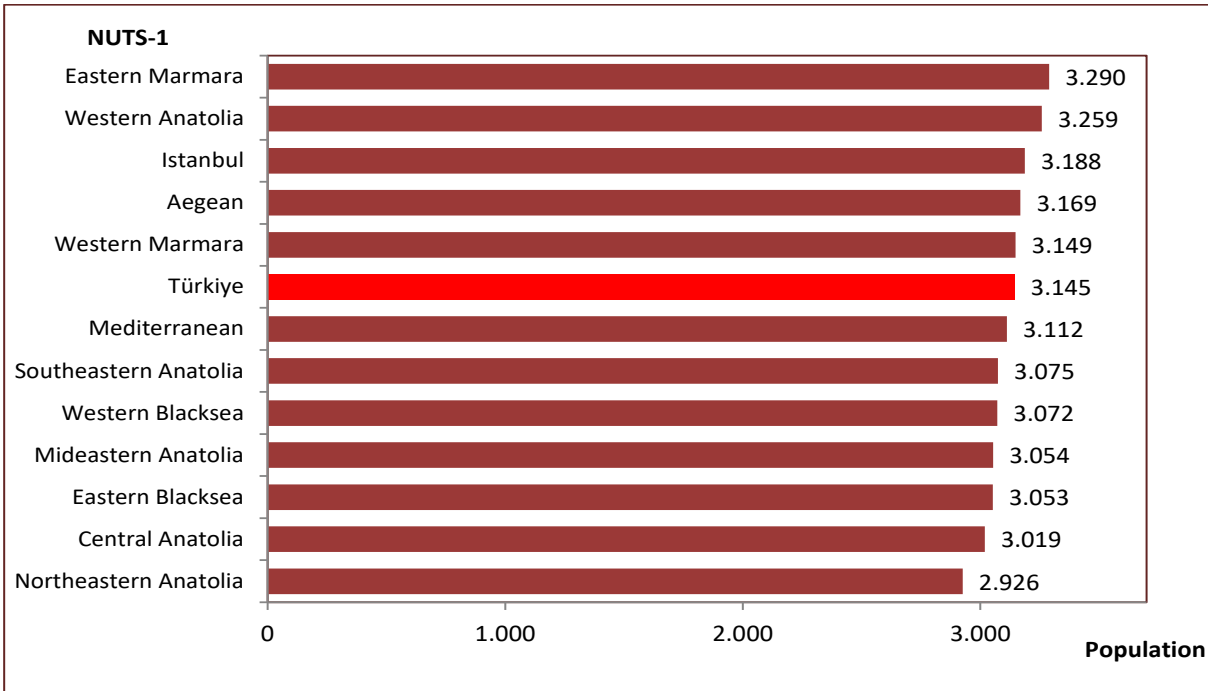
Note: In addition to the 96 independent CEKUS Units registered in the CKYS in 2021, there are 216 ÇEKUS Units serving within the HLC.

Figure 7.22. Number of Integrated District State Hospitals by Years



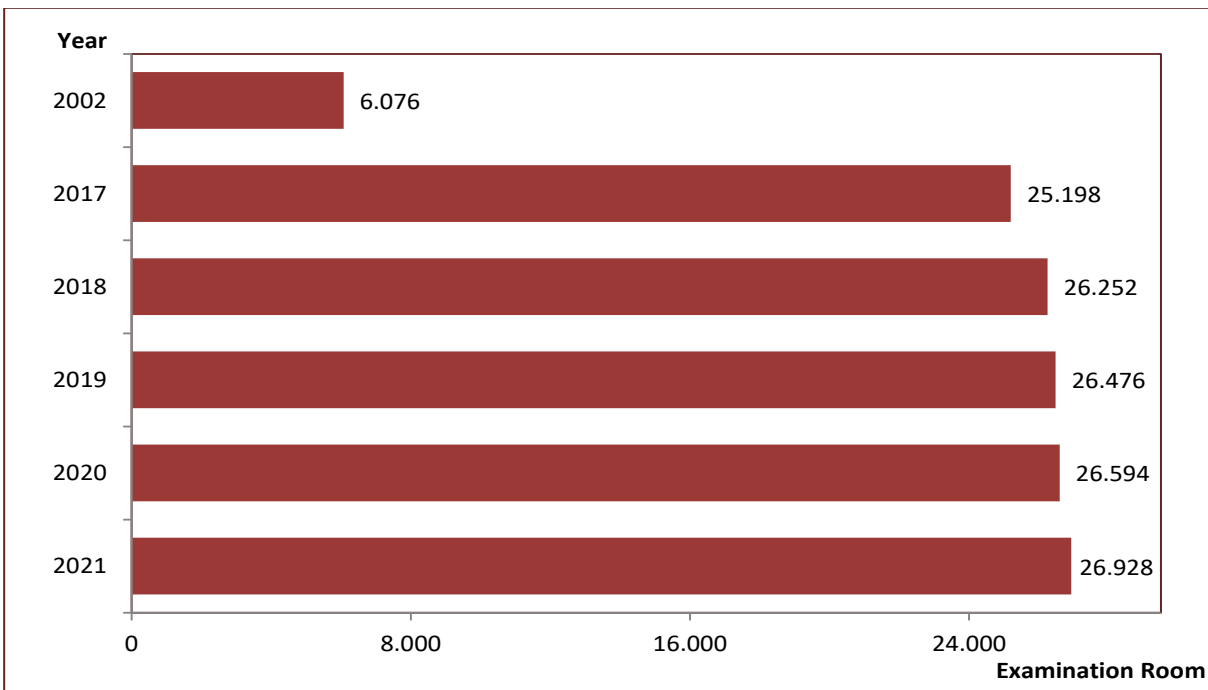
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 7.23. Population per Family Medicine Unit by NUTS-1, 2021



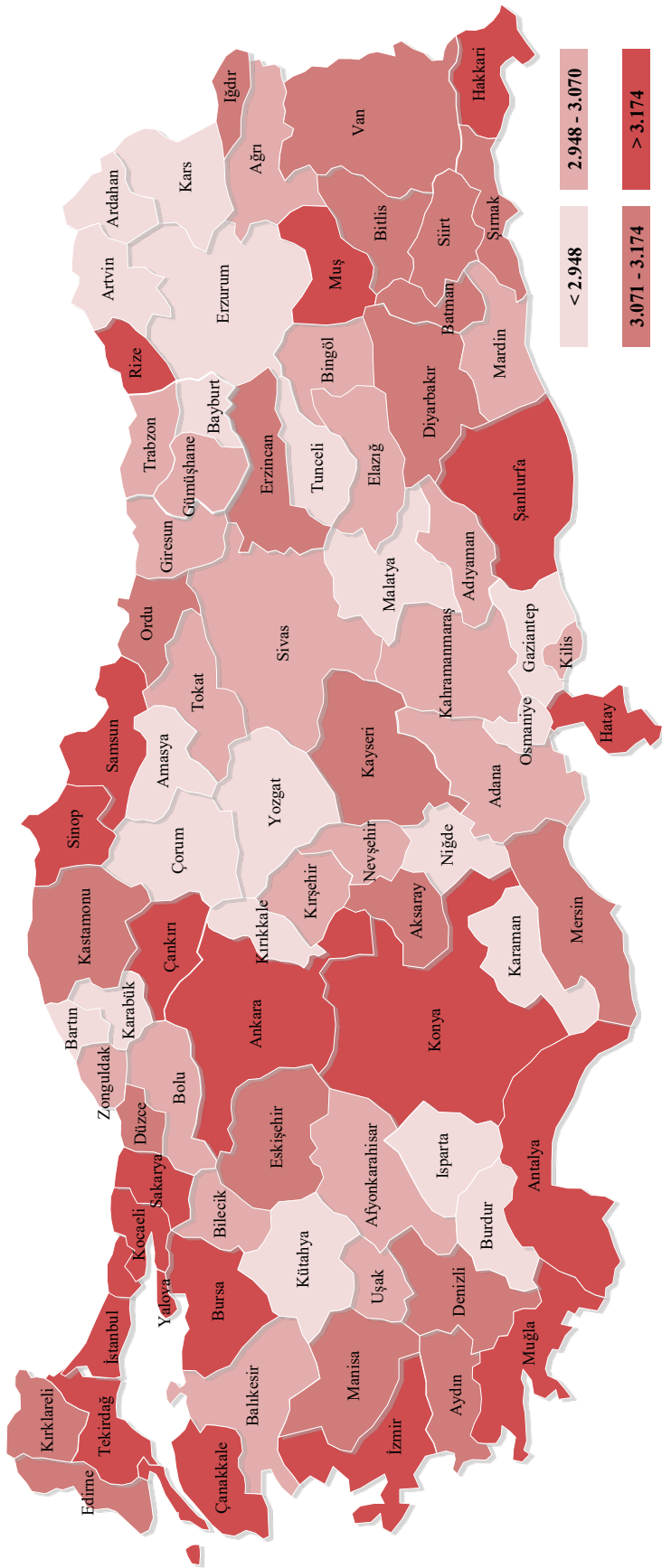
Source: General Directorate of Public Health

Figure 7.24. Number of Family Health Center Medical Examination Room by Years



Source: General Directorate of Public Health

Map 7.9. Population per Family Medicine Unit by Provinces, 2021



Source: General Directorate of Public Health

Table 7.19. Some Health Indicators by Provinces, 2021

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 Bed per 10.000 Population	Number of Family Medicine Unit	Population per Family Medicine Unit
Adana	32	7.532	33,3	4.522	1.637	76,7	7,2	746	3.034
Adıyaman	12	1.375	21,8	889	311	83,6	4,9	214	2.954
Afyonkarahisar	22	2.324	31,2	1.693	386	87,4	5,2	247	3.013
Ağrı	9	883	16,8	737	117	96,2	2,2	171	3.068
Amasya	7	835	24,9	521	124	73,3	3,7	114	2.942
Ankara	84	19.250	33,5	11.927	3.578	76,1	6,2	1.745	3.294
Antalya	46	7.627	29,1	5.128	1.457	83,1	5,6	786	3.333
Artvin	8	363	21,4	303	42	94,4	2,5	59	2.874
Aydın	23	3.507	30,9	1.989	601	68,4	5,3	364	3.115
Balıkesir	25	3.385	27,1	2.389	558	84,5	4,5	414	3.021
Bilecik	8	600	26,3	485	88	94,7	3,9	75	3.044
Bingöl	8	760	26,8	492	86	73,0	3,0	96	2.949
Bitlis	8	1.065	30,2	676	171	75,6	4,9	111	3.174
Bolu	11	1.465	45,8	1.018	211	81,2	6,6	105	3.048
Burdur	8	770	28,1	496	108	74,9	3,9	97	2.822
Bursa	42	8.379	26,6	5.698	1.615	84,2	5,1	962	3.272
Çanakkale	14	1.779	31,9	1.361	276	90,6	5,0	173	3.221
Çankırı	9	475	24,2	371	53	87,9	2,7	60	3.275
Çorum	16	1.714	32,6	1.279	291	89,9	5,5	187	2.814
Denizli	23	3.233	30,8	1.777	538	65,9	5,1	336	3.128
Diyarbakır	28	4.910	27,4	2.270	1.186	61,0	6,6	566	3.165
Edirne	11	1.936	47,0	1.027	270	61,6	6,6	133	3.099
Elazığ	13	3.164	53,8	1.808	526	68,5	8,9	199	2.955
Erzincan	10	710	29,9	608	82	96,8	3,5	75	3.165
Erzurum	21	3.638	48,1	2.395	472	75,6	6,2	272	2.783
Eskişehir	15	3.655	40,7	2.587	673	86,8	7,5	283	3.174
Gaziantep	33	6.656	31,2	3.442	1.626	68,4	7,6	747	2.852
Giresun	18	1.740	38,7	1.315	307	91,8	6,8	151	2.981
Gümüşhane	6	389	25,9	176	41	50,6	2,7	49	3.064
Hakkari	5	428	15,4	349	69	97,2	2,5	82	3.393
Hatay	24	4.497	26,9	2.775	996	79,3	6,0	509	3.282
Isparta	15	2.113	47,4	1.450	468	88,1	10,5	160	2.785
Mersin	26	5.058	26,7	3.502	1.046	87,3	5,5	613	3.085
İstanbul	234	46.960	29,6	30.558	9.587	81,8	6,1	4.969	3.188
İzmir	63	12.329	27,9	6.660	2.205	65,8	5,0	1.364	3.245
Kars	8	809	28,8	627	117	90,6	4,2	97	2.898
Kastamonu	17	1.121	29,8	694	121	69,4	3,2	119	3.156
Kayseri	27	4.928	34,4	3.152	1.003	80,3	7,0	463	3.098
Kırklareli	10	1.013	27,7	814	192	99,1	5,2	116	3.158
Kırşehir	6	600	24,7	503	82	97,1	3,4	82	2.963
Kocaeli	29	4.893	24,1	3.283	1.078	86,1	5,3	596	3.412

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

\*Intensive care unit beds are not included.

Table 7.19. Some Health Indicators by Provinces, 2021 - 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 Bed per 10.000 Population	Number of Family Medicine Unit	Population per Family Medicine Unit
Konya	45	8.767	38,5	6.016	1.570	83,6	6,9	704	3.234
Kütahya	14	1.984	34,3	1.258	284	74,0	4,9	197	2.937
Malatya	19	3.214	39,7	1.959	618	75,5	7,6	280	2.888
Manisa	28	4.801	33,0	3.143	963	81,9	6,6	460	3.167
Kahramanmaraş	19	3.162	27,0	1.778	940	80,0	8,0	397	2.950
Mardin	12	1.446	16,8	943	324	84,0	3,8	281	3.070
Muğla	22	2.232	21,9	1.615	328	84,8	3,2	310	3.294
Muş	7	770	19,0	588	105	88,4	2,6	126	3.216
Nevşehir	10	857	27,8	701	140	97,8	4,5	103	2.990
Niğde	8	928	25,5	598	137	75,6	3,8	127	2.864
Ordu	18	2.294	30,1	1.358	452	73,7	5,9	243	3.131
Rize	11	1.110	32,1	885	113	88,8	3,3	103	3.356
Sakarya	18	2.338	22,0	1.815	446	95,9	4,2	317	3.347
Samsun	26	5.317	38,8	3.669	934	83,7	6,8	418	3.281
Siirt	8	783	23,6	617	125	93,8	3,8	106	3.132
Sinop	7	785	35,9	591	126	89,7	5,8	67	3.260
Sivas	20	2.930	46,1	1.820	402	72,0	6,3	210	3.029
Tekirdağ	20	3.223	28,9	2.251	737	90,5	6,6	339	3.284
Tokat	15	2.299	38,2	1.853	320	93,6	5,3	201	2.998
Trabzon	22	3.417	41,8	2.147	491	73,4	6,0	277	2.948
Tunceli	6	150	17,9	124	25	99,2	3,0	31	2.698
Şanlıurfa	20	4.216	19,7	2.286	1.224	76,4	5,7	660	3.247
Uşak	8	1.235	33,1	939	183	89,3	4,9	125	2.985
Van	15	3.030	26,6	2.213	663	93,5	5,8	365	3.126
Yozgat	16	1.210	28,9	999	177	96,7	4,2	143	2.927
Zonguldak	12	2.311	39,2	1.008	373	52,0	6,3	193	3.055
Aksaray	10	1.114	26,0	850	195	92,5	4,5	139	3.087
Bayburt	1	320	37,6	256	47	93,8	5,5	31	2.743
Karaman	6	589	22,8	463	125	99,8	4,8	93	2.783
Kırıkkale	7	1.239	44,9	684	180	64,6	6,5	94	2.936
Batman	12	1.827	29,2	1.227	433	88,0	6,9	198	3.163
Şırnak	7	728	13,3	516	112	83,8	2,0	175	3.123
Bartın	3	432	21,4	154	90	45,0	4,5	74	2.726
Ardahan	3	215	22,6	184	26	97,4	2,7	36	2.637
İğdır	4	313	15,4	242	49	91,7	2,4	64	3.174
Yalova	7	733	25,2	448	195	83,3	6,7	82	3.549
Karabük	6	726	29,1	551	131	92,6	5,3	86	2.899
Kilis	2	337	23,1	256	74	97,3	5,1	48	3.038
Osmaniye	10	1.348	24,4	662	358	66,9	6,5	191	2.895
Düzce	9	899	22,4	580	143	76,7	3,6	127	3.157
Türkiye	1.547	254.497	30,1	163.993	48.753	79,7	5,8	26.928	3.145

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

\*Intensive care unit beds are not included.

## Explanations for Chapter 7

- ☑ Except for the tables regarding to the actively hospitals on 31.12.2021 (Table 7.5 and Table 7.17), the data about the institutions which served in the year (including those closed) were used in the tables, figures where the infrastructure and services of the hospitals are provided.
- ☑ 4-point Likert scale was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the scale intervals.
- ☑ The value of the provinces was rounded up to the closest whole number while making Map 7.5, Map 7.8 and Map 7.9 in the chapter. The value of the provinces was rounded up to 1 decimal place while making Map 7.1, Map 7.2, Map 7.3, Map 7.4, Map 7.6 and Map 7.7 in in the chapter. These whole numbers were considered while creating 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 be changed due to TURKSTAT's population revision.
- ☑ 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.
- ☑ According to the Circular "Staging Health Service Providers" published by the Ministry of Health, General Directorate of Health Services on 31/05/2019, E2-E3 Integrated District State Hospitals were defined as primary health care institutions and E1 Integrated District State Hospitals as secondary health institutions.
- ☑ Integrated District State Hospitals, which serve as primary health care institutions throughout the year, were included in the calculations in tables, figures and maps of the Ministry of Health hospitals.
- ☑ Tables and figures 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 in a room. 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 Türkiye contains the number of devices in the hospital.
- ☑ The data for family health centers examination rooms belong to health center for 2002, and family health centers for 2017-2021.





# CHAPTER 8

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## 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	2017	2018	2019	2020	2021
Health Center	69.103.517	-	-	-	-	-
Family Medicine	-	228.098.527	258.436.607	278.043.149	247.273.830	239.053.780
Tuberculosis Control Dispensary	2.012.458	1.391.817	1.332.580	1.256.364	769.343	788.679
CEKUS Unit*	2.980.481	646.856	366.095	309.984	153.890	123.859
Other Examinations Made by CHCs*	-	4.496.425	4.821.348	3.959.746	1.767.606	1.826.891
Private Outpatient Clinics	731.132	501.993	539.593	629.221	435.764	598.356
E2-E3 Integrated District State Hospitals	-	3.356.809	3.577.348	3.903.402	2.719.502	3.133.755
<b>Primary Health Care Facilities Total</b>	<b>74.827.588</b>	<b>238.492.427</b>	<b>269.073.571</b>	<b>288.101.866</b>	<b>253.119.935</b>	<b>245.525.320</b>
Specialty Medical Centers	9.824.802	18.912.829	19.055.722	18.298.592	14.527.627	15.672.466
<b>Hospitals**</b>	<b>124.313.659</b>	<b>461.519.553</b>	<b>494.385.911</b>	<b>506.503.164</b>	<b>332.613.569</b>	<b>414.454.404</b>
Ministry of Health	109.793.128	350.347.005	377.045.707	387.622.848	239.981.820	305.040.174
University	8.823.361	38.963.933	42.665.139	46.211.148	31.725.506	40.102.992
Private	5.697.170	72.208.615	74.675.065	72.669.168	60.906.243	69.311.238
<b>Secondary and Tertiary Health Care Total</b>	<b>134.138.461</b>	<b>480.432.382</b>	<b>513.441.633</b>	<b>524.801.756</b>	<b>347.141.196</b>	<b>430.126.870</b>
<b>Total</b>	<b>208.966.049</b>	<b>718.924.809</b>	<b>782.515.204</b>	<b>812.903.622</b>	<b>600.261.131</b>	<b>675.652.190</b>

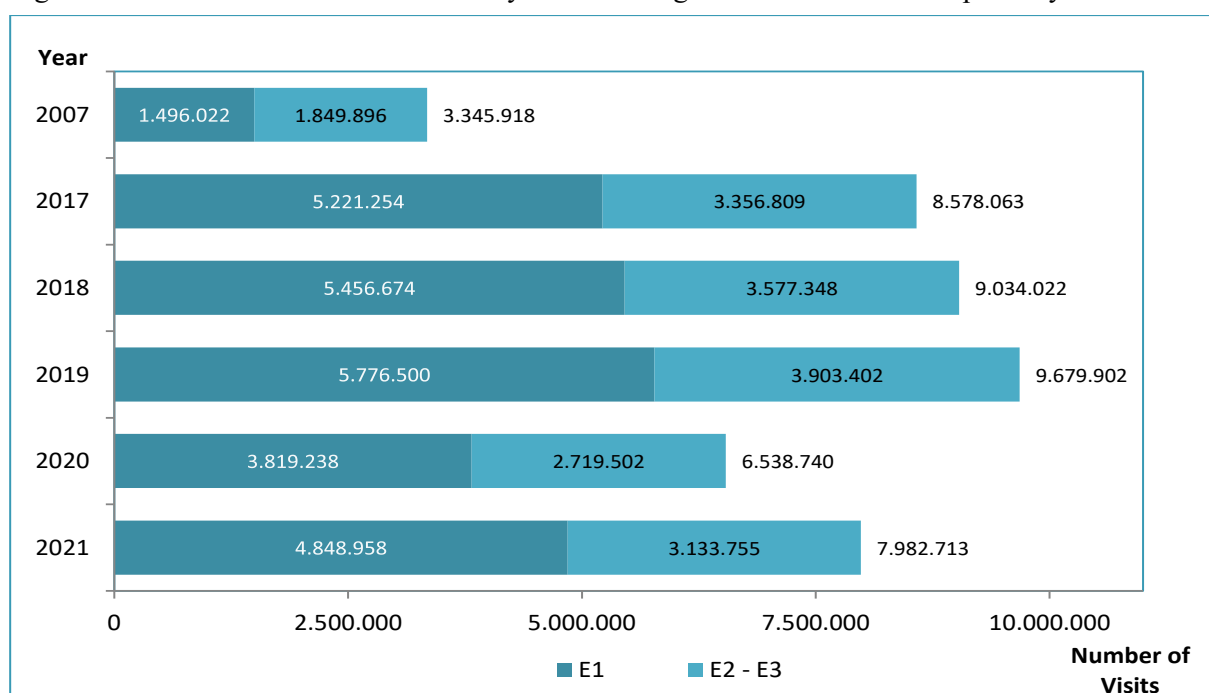
Source: General Directorate of Public Health, General Directorate of Health Services

\* Consultancy service visits were not included in the number of visits to the physician.

\*\* The number of visits to E2-E3 Integrated District State Hospitals, which belongs to primary health care, is not included in the number of visits to Secondary and Tertiary Health Care Total. The number of visits to Secondary and Tertiary Health Care Total contains the number of E1 Integrated District State Hospitals.

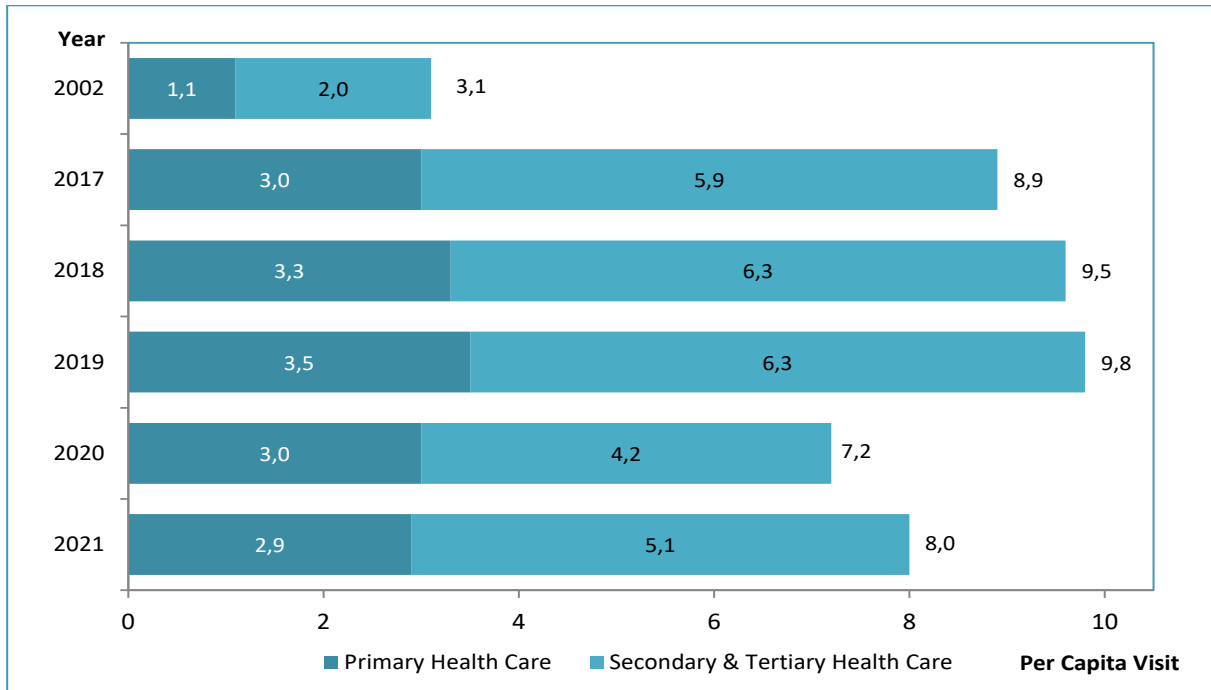
Note: The number of visits to a dentist is not included.

Figure 8.1. Total Number of Visits to a Physician in Integrated District State Hospitals by Years



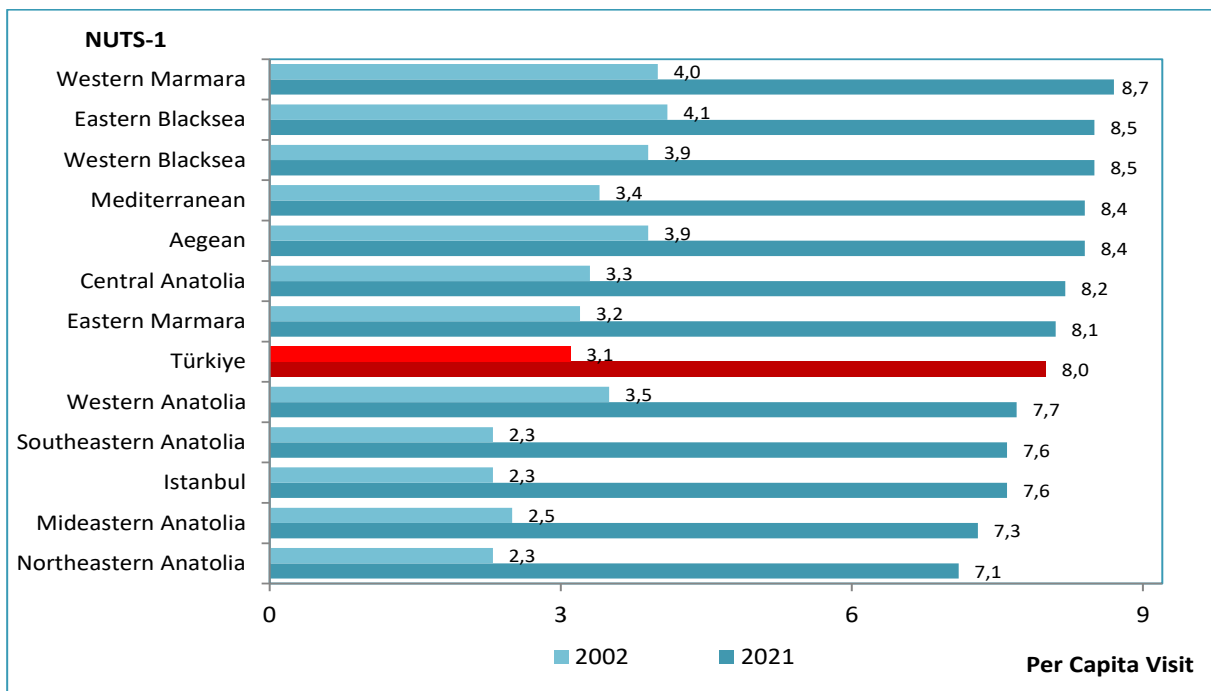
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.2. 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

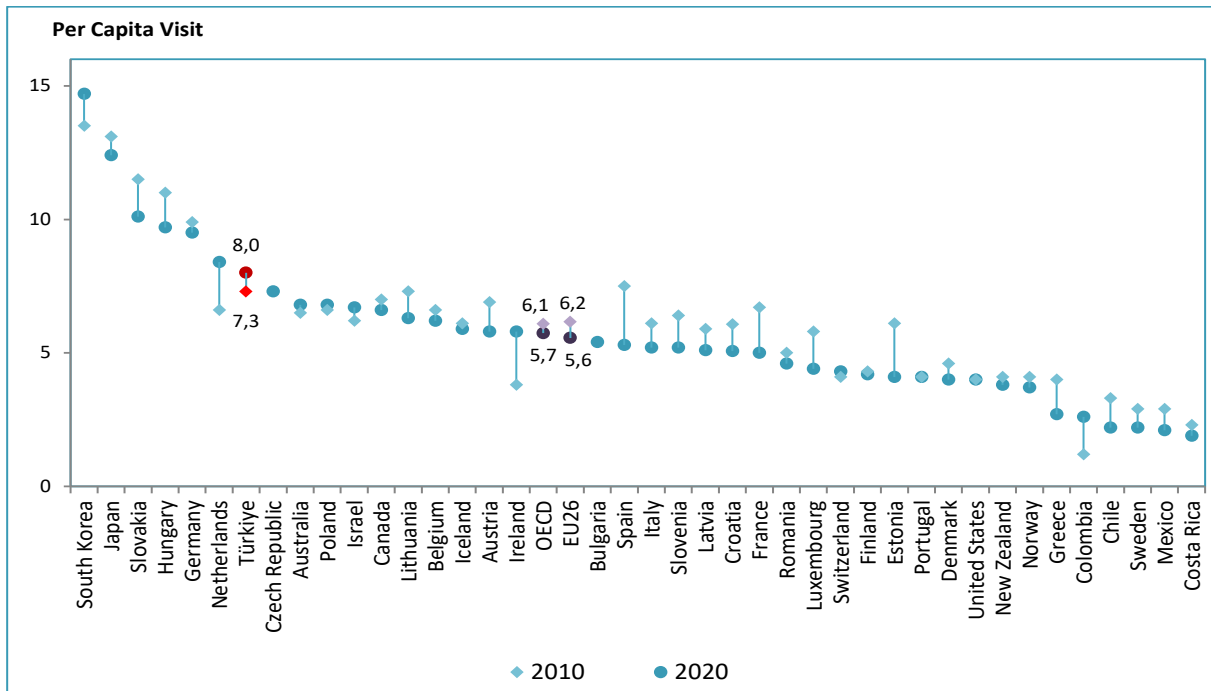
Figure 8.3. Per Capita Visits to a Physician in Health Care Facilities by NUTS-1, All Sectors, 2002, 2021



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



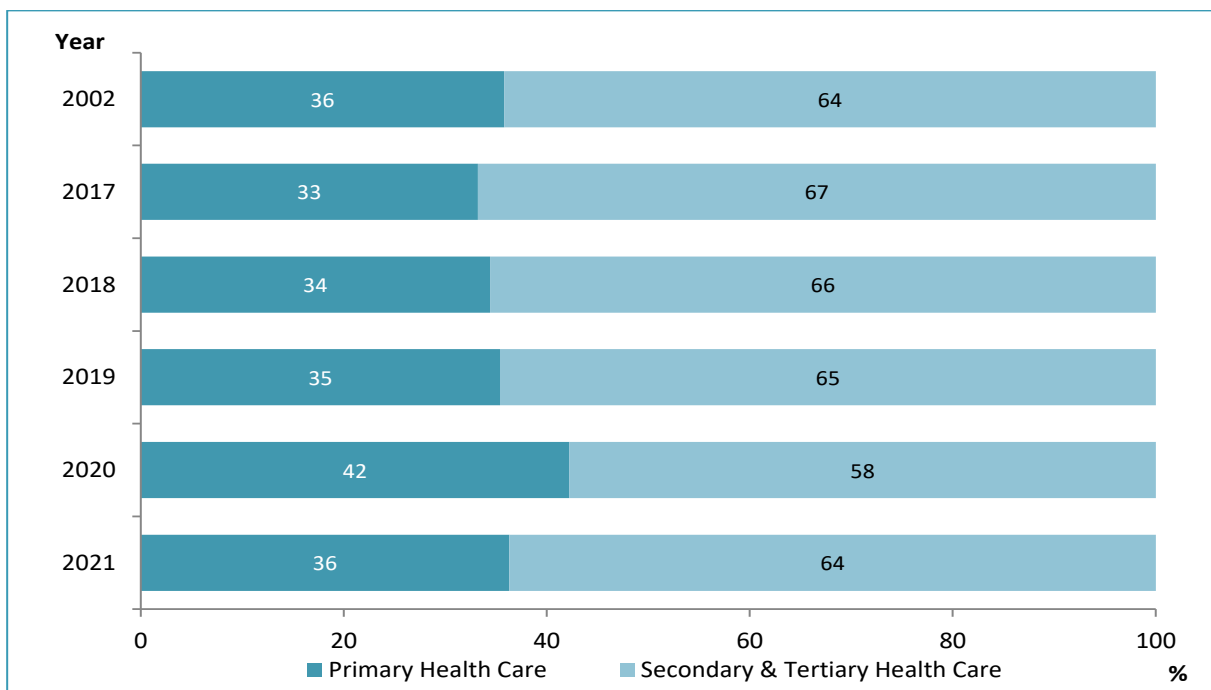
Figure 8.4. International Comparison of per Capita Visits to a Physician, 2010, 2020



Source: General Directorate of Public Health, General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database

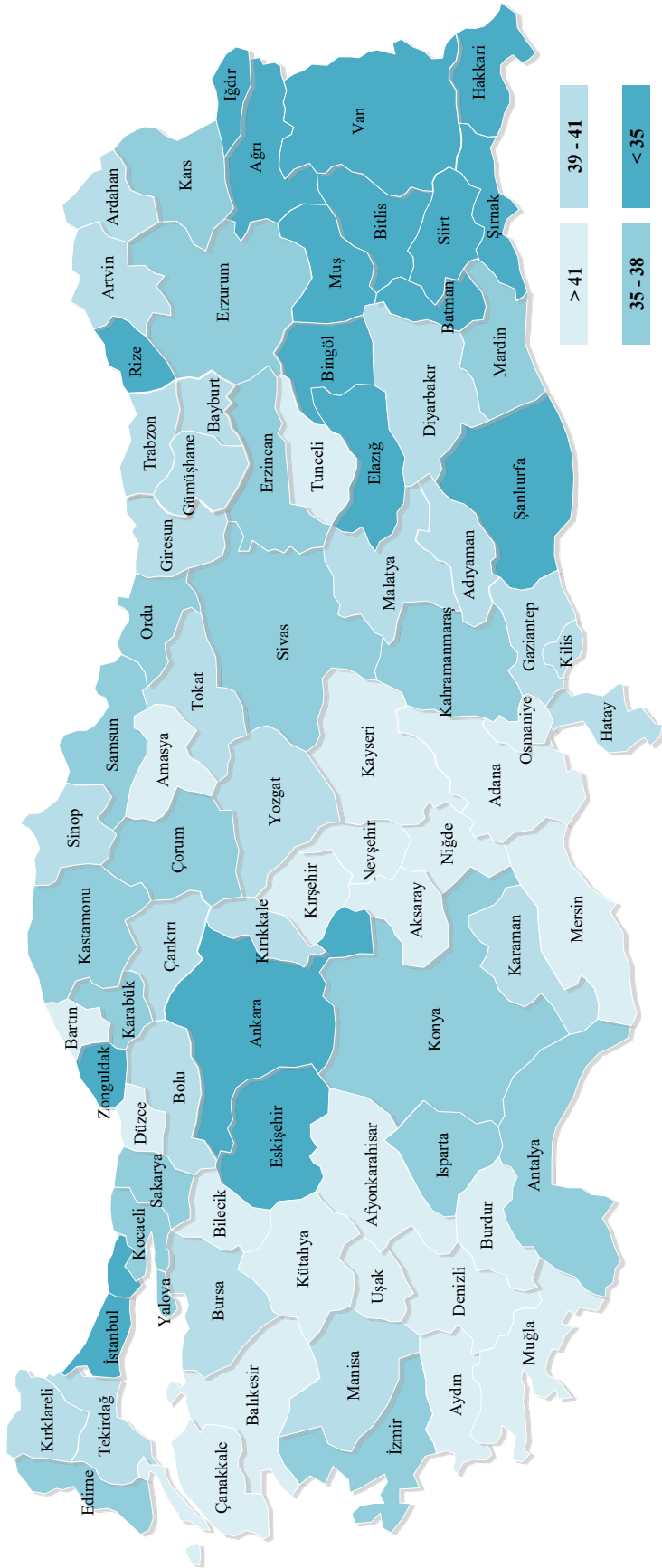
Note: Türkiye's data belong to the year 2010 and 2021.

Figure 8.5. Ratio of Total Number of Visits to a Physician in Health Care Facilities by Years, All Sectors, (%)



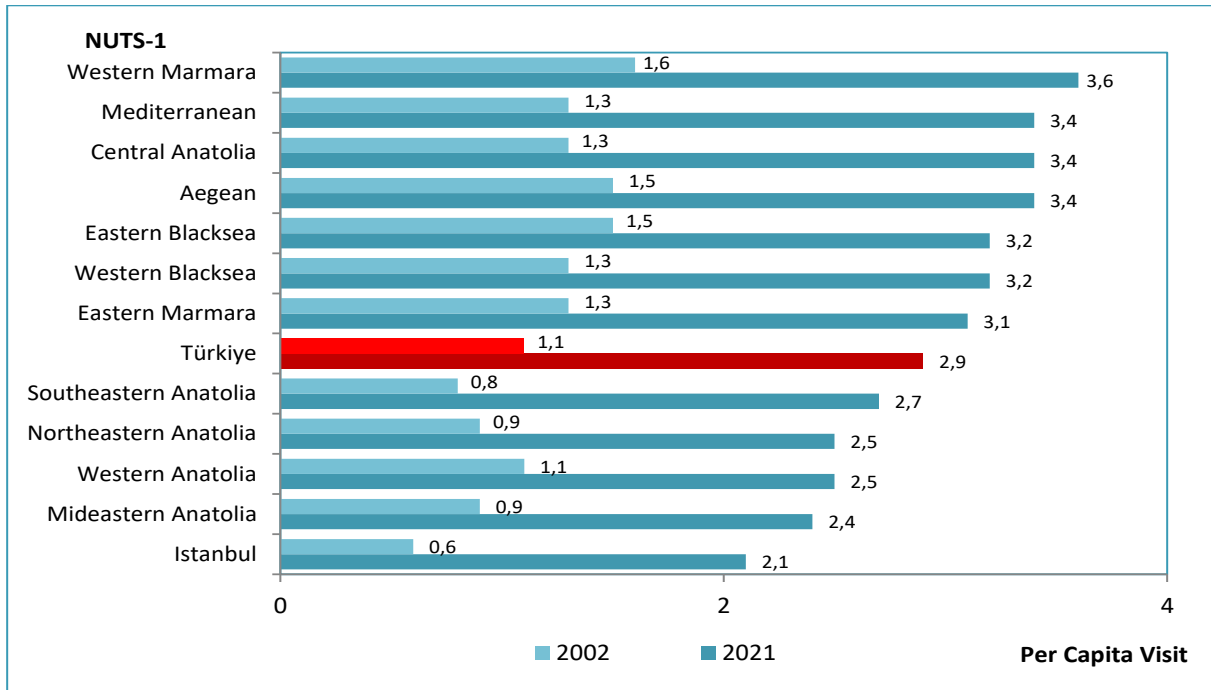
Source: General Directorate of Public Health, General Directorate of Health Services

Map 8.2. Proportion of Visits to a Physician at Primary Health Care Facilities to All Sectors by Provinces, (%), 2021



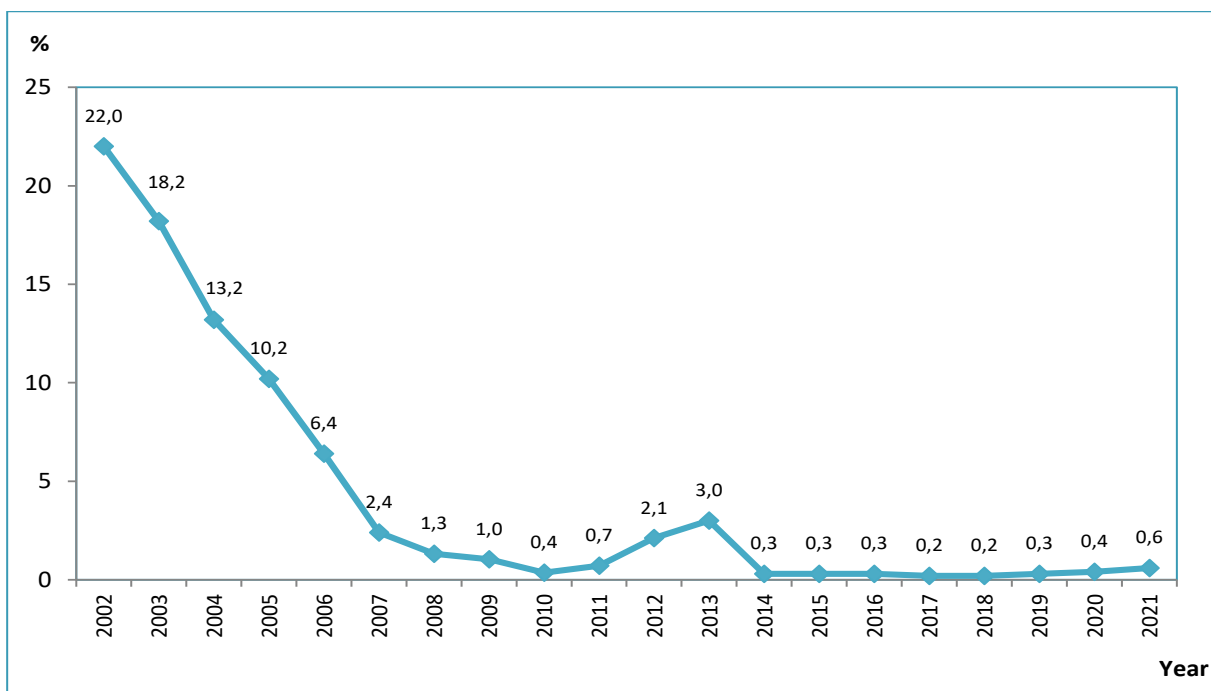
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.6. Per Capita Visits to a Physician at Primary Health Care Facilities by NUTS-1, All Sectors, 2002, 2021



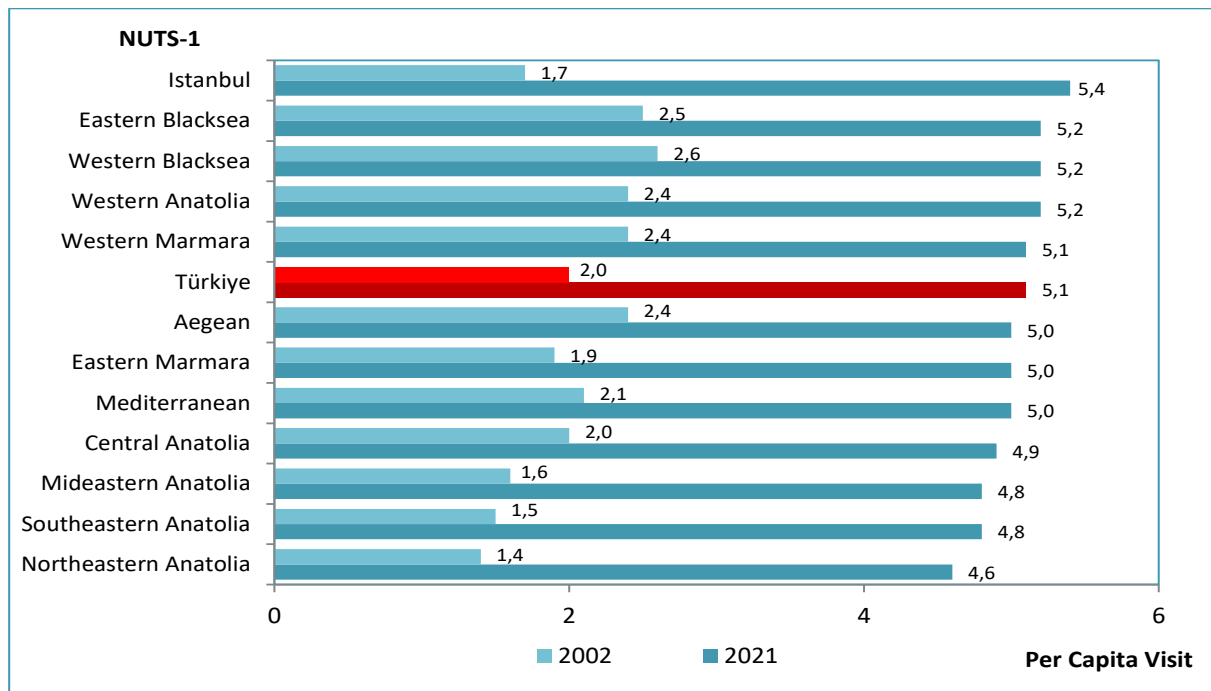
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.7. Referrals from the Family Medicine Unit by Years, MoH, (%)



Source: General Directorate of Public Health

Figure 8.8. Per Capita Visits to a Physician at Secondary and Tertiary Health Care Facilities by NUTS-1, All Sectors, 2002, 2021



Source: General Directorate of Health Services

Table 8.2. Per Capita Hospital Visits by Years and Sectors

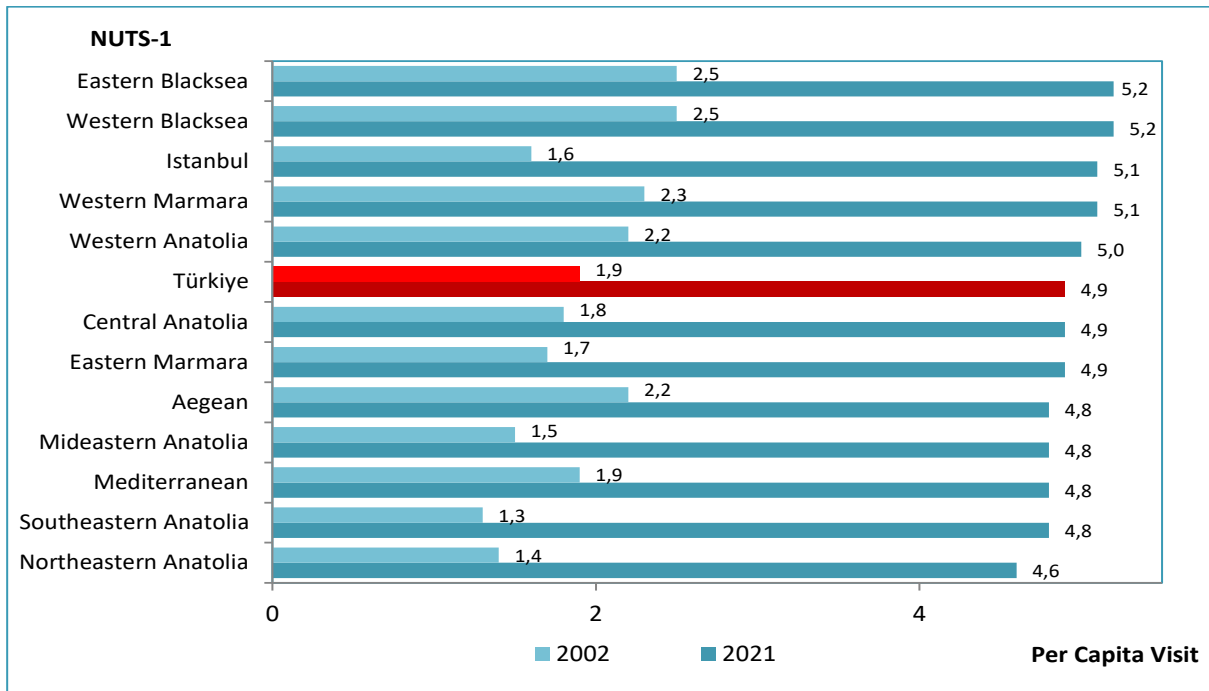
	2002	2017	2018	2019	2020	2021
Ministry of Health	1,7	4,4	4,6	4,7	2,9	3,6
University	0,1	0,5	0,5	0,6	0,4	0,5
Private	0,1	0,9	0,9	0,9	0,7	0,8
Total	1,9	5,8	6,1	6,1	4,0	4,9

Source: General Directorate of Health Services

Note: The number of visits to E1, E2 and E3 Integrated District State Hospitals is included in the number of visits to a physician.



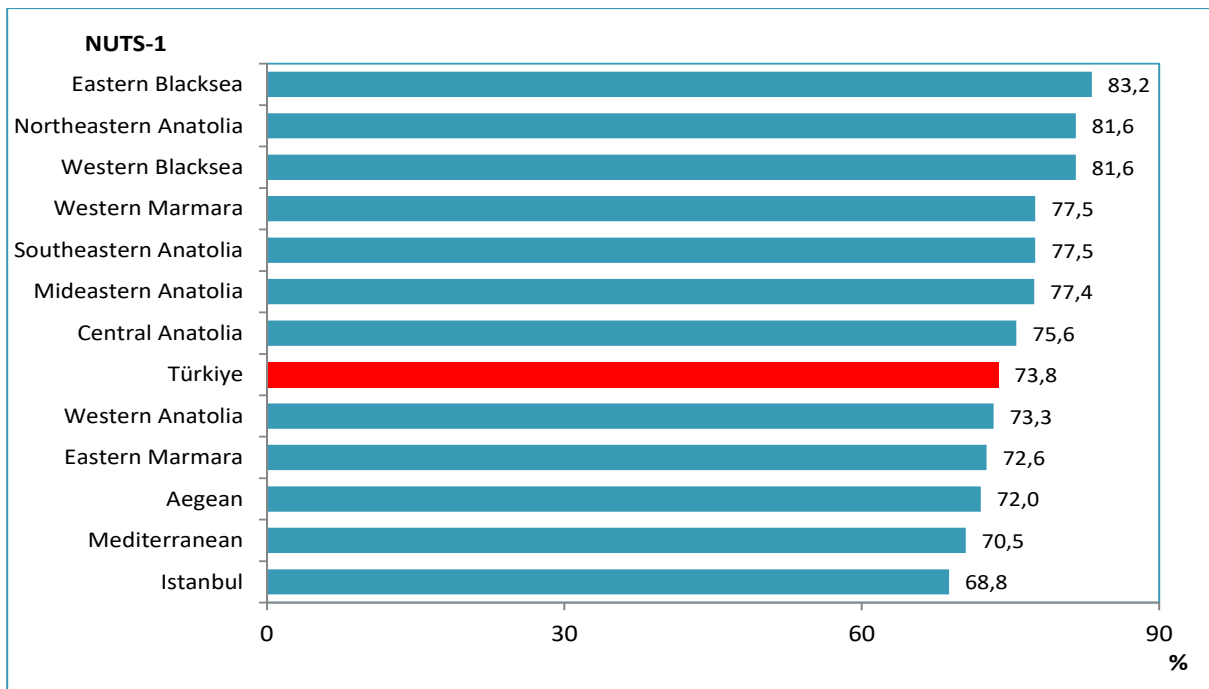
Figure 8.9. Per Capita Visits to Hospitals by NUTS-1, All Sectors, 2002, 2021



Source: General Directorate of Health Services

Note: The number of visits to E1, E2 and E3 Integrated District State Hospitals is included in the number of visits to a physician.

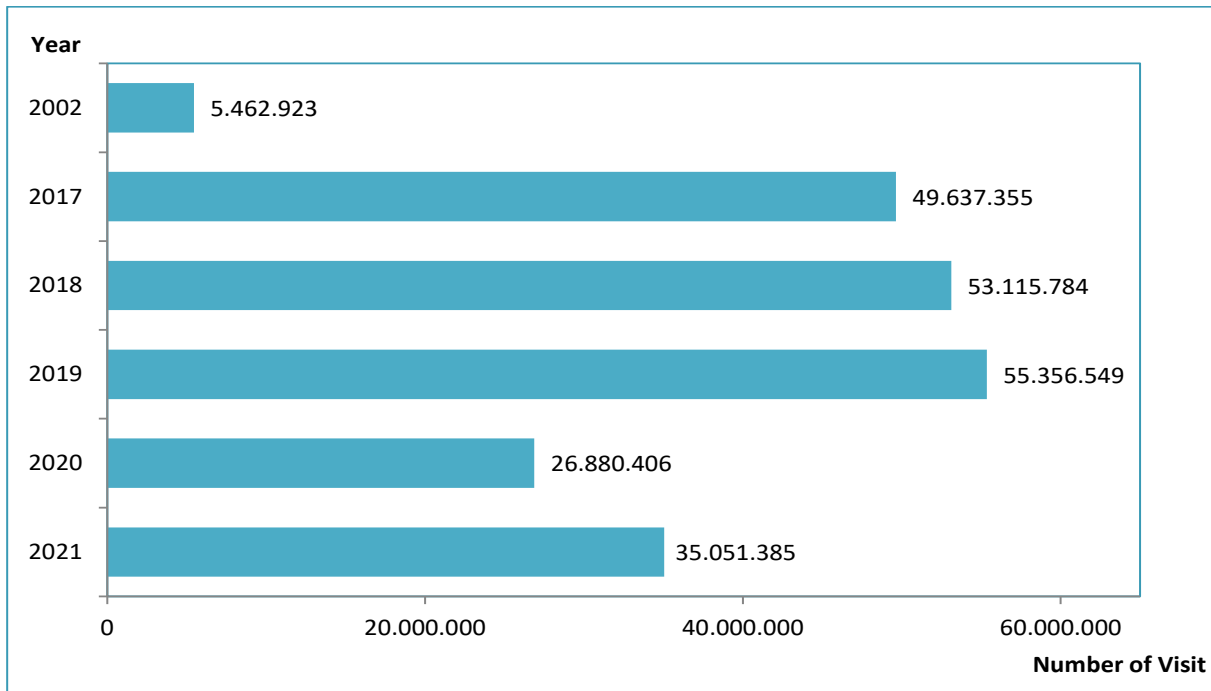
Figure 8.10. Proportion of Visits to MoH Hospitals to All Sectors by NUTS-1, (%), 2021



Source: General Directorate of Health Services

Note: The number of visits to E1, E2 and E3 Integrated District State Hospitals is included in the number of visits to a physician.

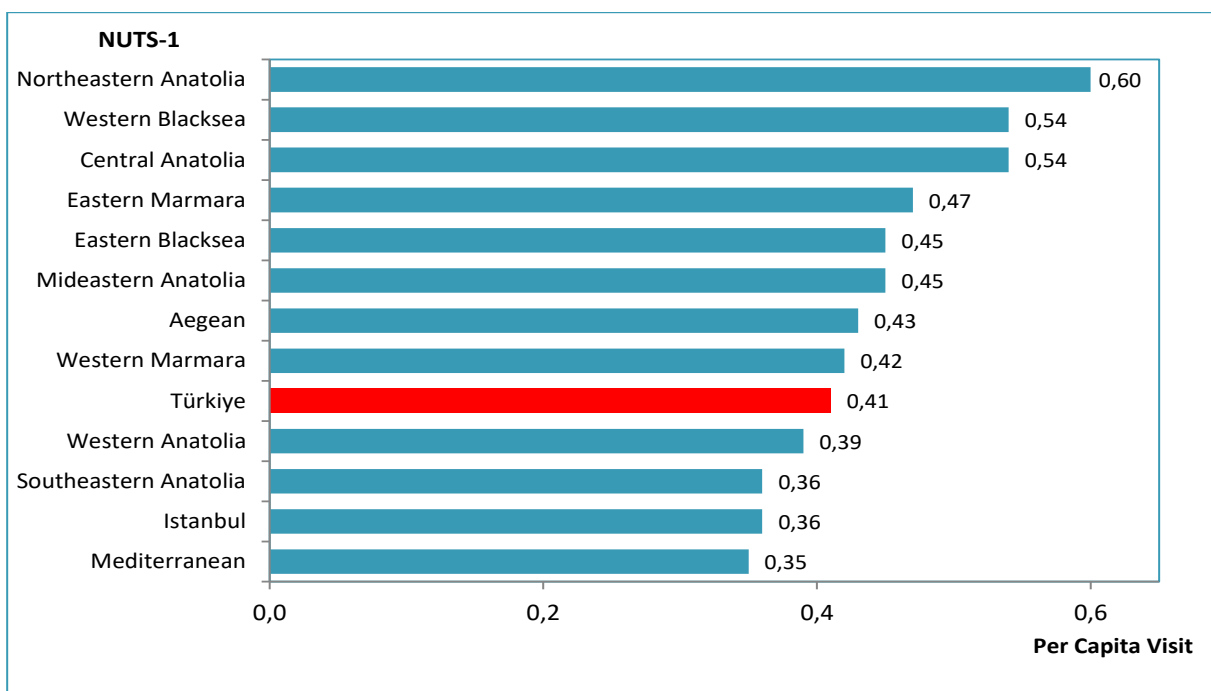
Figure 8.11. Number of Visits to Dentists by Years, All Sectors



Source: General Directorate of Health Services

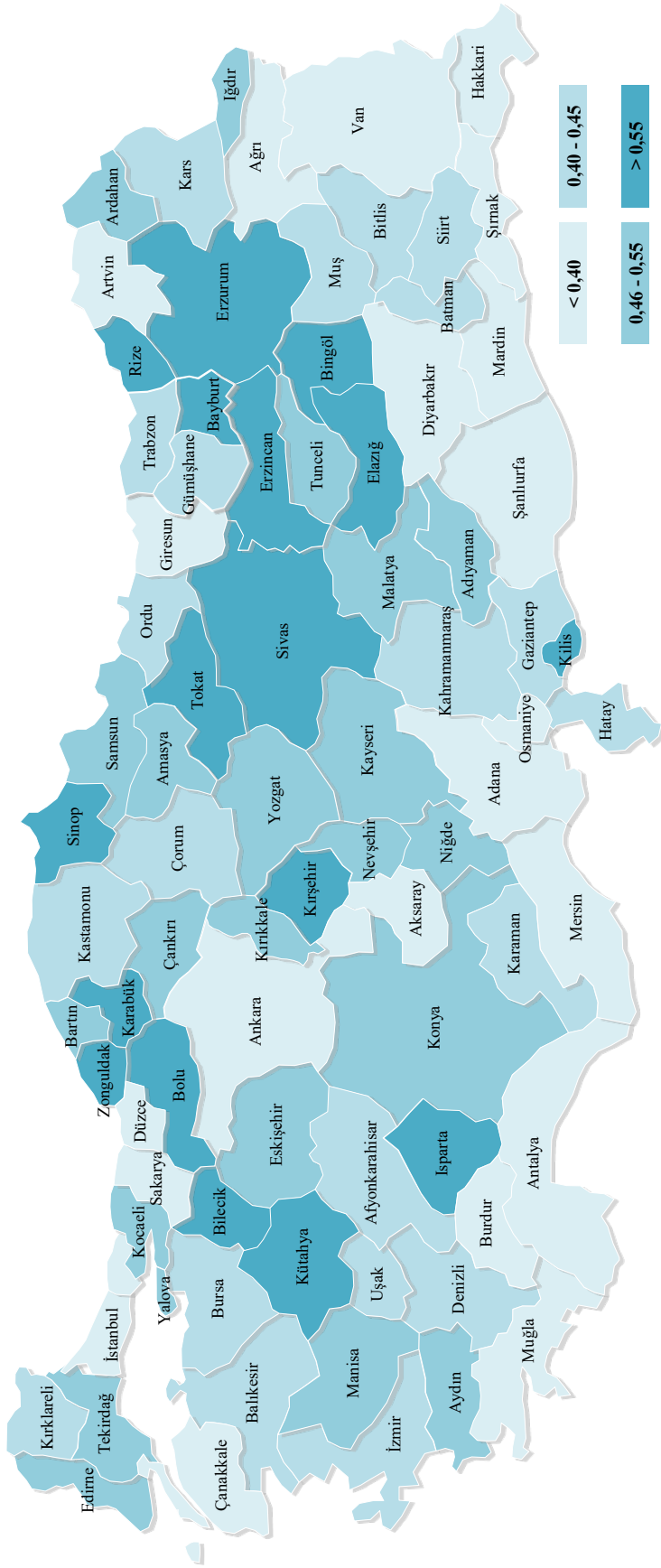
Note: In 2002, only the values of the Ministry of Health were published.

Figure 8.12. Per Capita Visits to a Dentist by NUTS-1, All Sectors, 2021



Source: General Directorate of Health Services

Map 8.3. Per Capita Visits to a Dentist by Provinces, All Sectors, 2021



Source: General Directorate of Health Services

Table 8.3. Number of Inpatients by Years and Sectors

	2002	2017	2018	2019	2020	2021
Ministry of Health	4.169.779	7.606.159	7.675.972	7.742.707	5.517.337	6.110.494
University	781.990	1.982.410	1.955.983	2.072.720	1.546.362	1.859.399
Private	556.494	4.120.734	4.019.422	3.990.922	3.556.818	3.815.599
Total	5.508.263	13.709.303	13.651.377	13.806.349	10.620.517	11.785.492

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, (%), 2021

NUTS-1	Ministry of Health	Total	Proportion of MoH (%)
Eastern Blacksea	271.695	442.533	61,4
Western Blacksea	387.452	659.269	58,8
Northeastern Anatolia	167.232	293.637	57,0
Southeastern Anatolia	725.335	1.275.981	56,8
Mideastern Anatolia	328.751	584.828	56,2
Eastern Marmara	609.778	1.136.218	53,7
Central Anatolia	319.154	598.439	53,3
Western Marmara	257.566	491.613	52,4
<b>Türkiye</b>	<b>6.110.494</b>	<b>11.785.492</b>	<b>51,8</b>
Western Anatolia	603.446	1.191.482	50,6
Aegean	719.321	1.424.132	50,5
Mediterranean	819.223	1.641.669	49,9
Istanbul	901.541	2.045.691	44,1

Source: General Directorate of Health Services

Table 8.5. Number of Surgical Operations by Years and Sectors

	2002	2017	2018	2019	2020	2021
Ministry of Health	1.072.417	2.590.538	2.766.914	2.796.484	1.613.841	2.191.281
University	307.108	815.076	903.002	948.936	708.994	939.861
Private	218.837	1.525.685	1.531.822	1.478.395	1.399.383	1.572.952
Total	1.598.362	4.931.299	5.201.738	5.223.815	3.722.218	4.704.094

Source: General Directorate of Health Services

Table 8.6. Number and Distribution (%) of Surgical Operations by Surgical Operation Groups and Sectors, 2021

	A		B		C		Total	
	Number	%	Number	%	Number	%	Number	%
Ministry of Health	263.967	43,8	754.433	45,5	1.172.881	48,0	2.191.281	46,6
University	148.216	24,6	373.474	22,5	418.171	17,1	939.861	20,0
Private	190.180	31,6	530.777	32,0	851.995	34,9	1.572.952	33,4
Total	602.363	100	1.658.684	100	2.443.047	100	4.704.094	100

Source: General Directorate of Health Services

Table 8.7. Number of Surgical Operations per 1.000 Population by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Western Anatolia	29,8	20,6	18,3	68,7
Mediterranean	28,2	13,8	19,4	61,4
Aegean	25,9	12,3	21,0	59,2
Istanbul	25,6	6,4	26,2	58,2
<b>Türkiye</b>	<b>25,9</b>	<b>11,1</b>	<b>18,6</b>	<b>55,6</b>
Eastern Marmara	25,3	7,7	20,9	53,9
Western Blacksea	28,6	11,5	12,2	52,3
Eastern Blacksea	30,4	9,8	10,5	50,7
Central Anatolia	23,8	12,5	13,6	50,0
Southeastern Anatolia	23,1	7,2	17,8	48,0
Western Marmara	23,8	8,3	12,4	44,6
Mideastern Anatolia	20,9	14,2	8,3	43,4
Northeastern Anatolia	20,8	15,9	4,8	41,4

Source: General Directorate of Health Services

Table 8.8. Number of Surgical Operations per 1.000 Population by Surgical Operation Groups and NUTS-1, 2021

NUTS-1	A	B	C	Total
Western Anatolia	10,9	24,5	33,3	68,7
Mediterranean	7,1	21,9	32,4	61,4
Aegean	7,5	21,3	30,4	59,2
Istanbul	9,9	19,4	28,9	58,2
<b>Türkiye</b>	<b>7,1</b>	<b>19,6</b>	<b>28,9</b>	<b>55,6</b>
Eastern Marmara	6,9	20,2	26,8	53,9
Western Blacksea	6,0	20,2	26,0	52,3
Eastern Blacksea	6,1	18,6	26,0	50,7
Central Anatolia	4,4	18,3	27,3	50,0
Southeastern Anatolia	3,8	15,0	29,2	48,0
Western Marmara	5,4	16,2	22,9	44,6
Mideastern Anatolia	3,7	15,2	24,5	43,4
Northeastern Anatolia	3,4	15,4	22,7	41,4

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, (%), 2021

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

Source: General Directorate of Health Services

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

	2002	2017	2018	2019	2020	2021
Ministry of Health	23.770.910	34.065.595	34.651.119	35.229.409	28.641.582	30.370.013
University	6.713.945	11.072.754	10.664.127	10.935.287	8.839.894	9.971.722
Private	1.730.661	11.032.616	11.326.789	11.336.841	10.686.986	11.400.432
Total	32.215.516	56.170.965	56.642.035	57.501.537	48.168.462	51.742.167

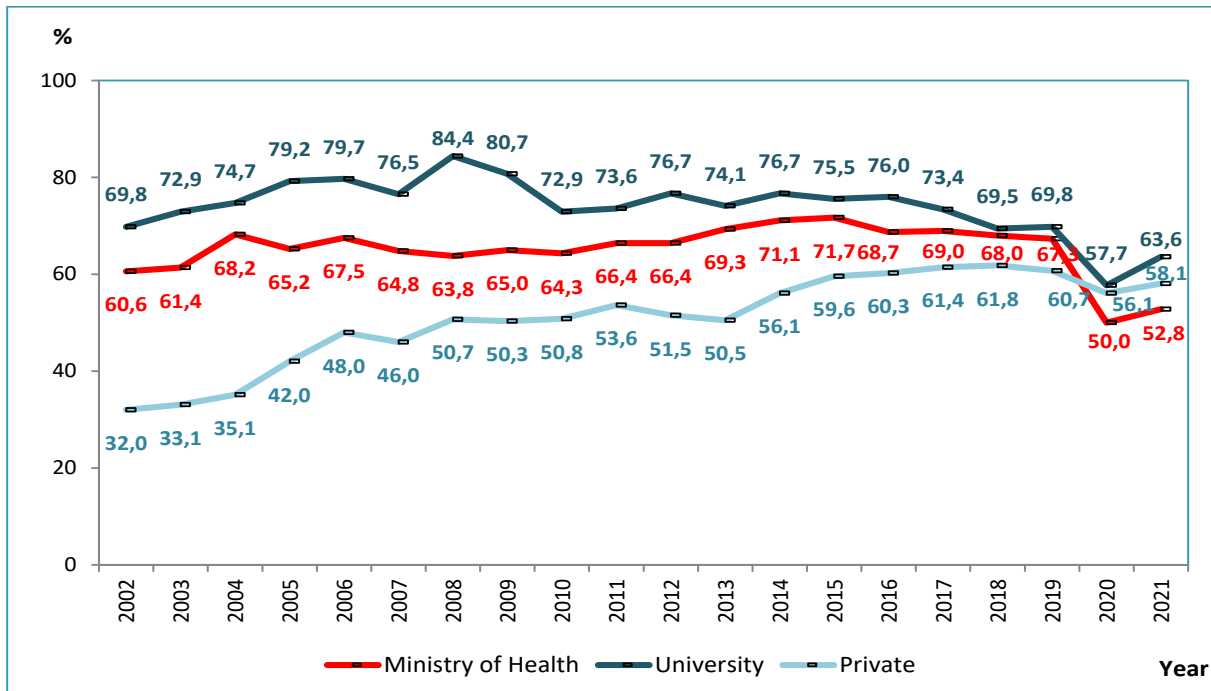
Source: General Directorate of Health Services

Table 8.11. Number of Bed Days in the Hospitals by Years and NUTS-1, MoH

NUTS-1	2017	2018	2019	2020	2021
Northeastern Anatolia	1.018.924	980.317	925.009	794.021	787.829
Eastern Blacksea	1.684.076	1.672.992	1.635.099	1.224.149	1.265.054
Mideastern Anatolia	1.675.644	1.679.189	1.604.379	1.238.498	1.292.507
Western Marmara	1.550.077	1.637.772	1.710.701	1.261.414	1.301.791
Central Anatolia	1.625.812	1.602.884	1.713.997	1.387.365	1.523.187
Western Blacksea	2.607.858	2.607.776	2.578.487	1.999.970	2.078.034
Southeastern Anatolia	3.218.118	3.193.814	3.189.167	2.615.307	2.663.314
Eastern Marmara	3.580.443	3.512.920	3.601.247	3.148.507	3.265.924
Aegean	4.643.888	4.685.574	4.782.204	3.470.915	3.503.569
Mediterranean	4.111.620	4.325.346	4.487.463	3.366.733	3.562.370
Western Anatolia	3.751.417	3.859.502	3.836.014	3.366.852	3.635.198
Istanbul	4.597.718	4.893.033	5.165.642	4.767.851	5.491.236
Türkiye	34.065.595	34.651.119	35.229.409	28.641.582	30.370.013

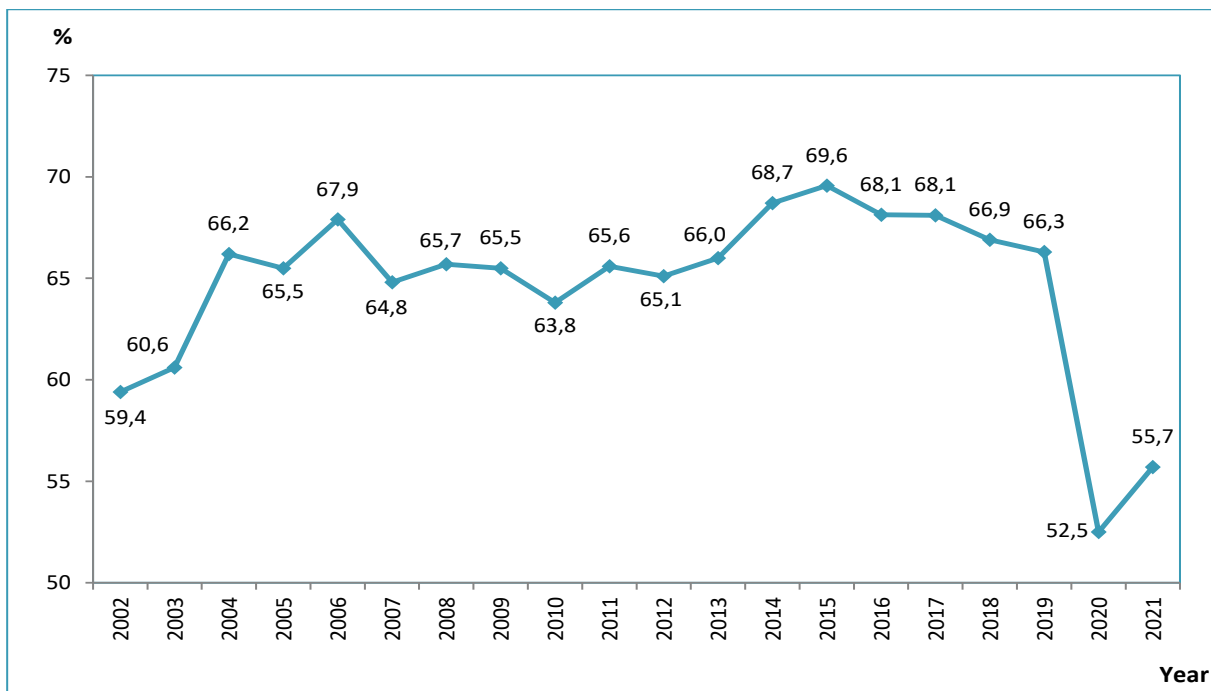
Source: General Directorate of Health Services

Figure 8.13. Bed Occupancy Rate by Years and Sectors, (%)



Source: General Directorate of Health Services

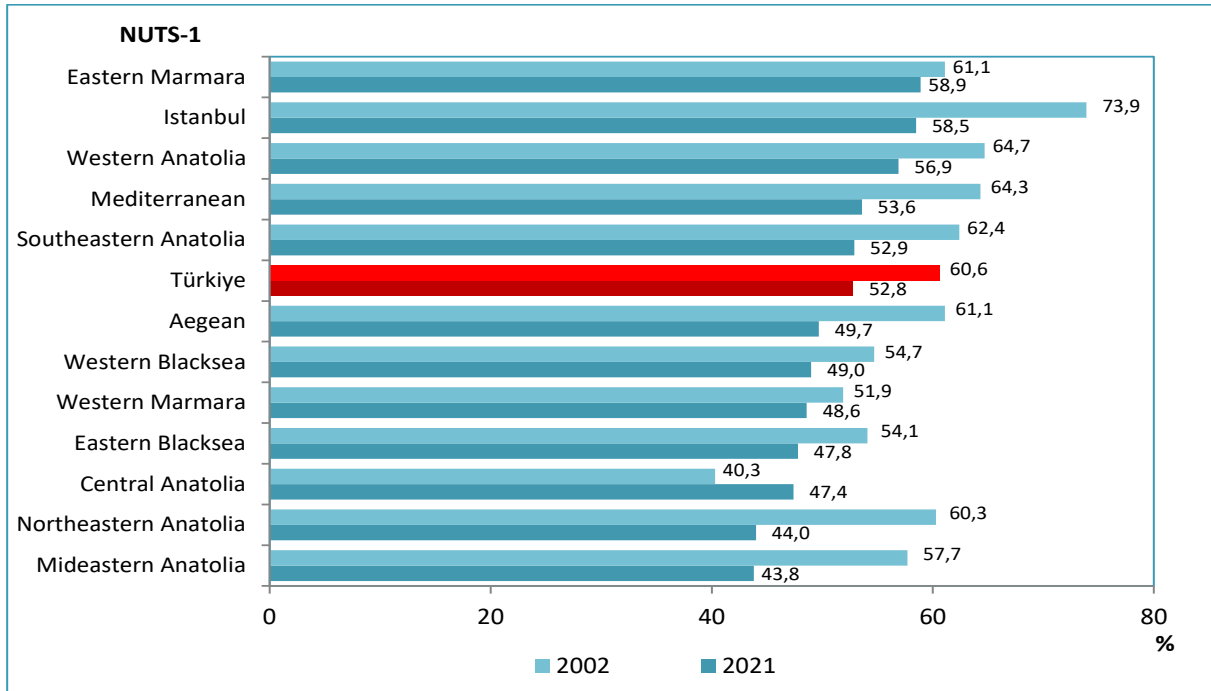
Figure 8.14. Bed Occupancy Rate in Hospitals by Years, All Sectors, (%)



Source: General Directorate of Health Services

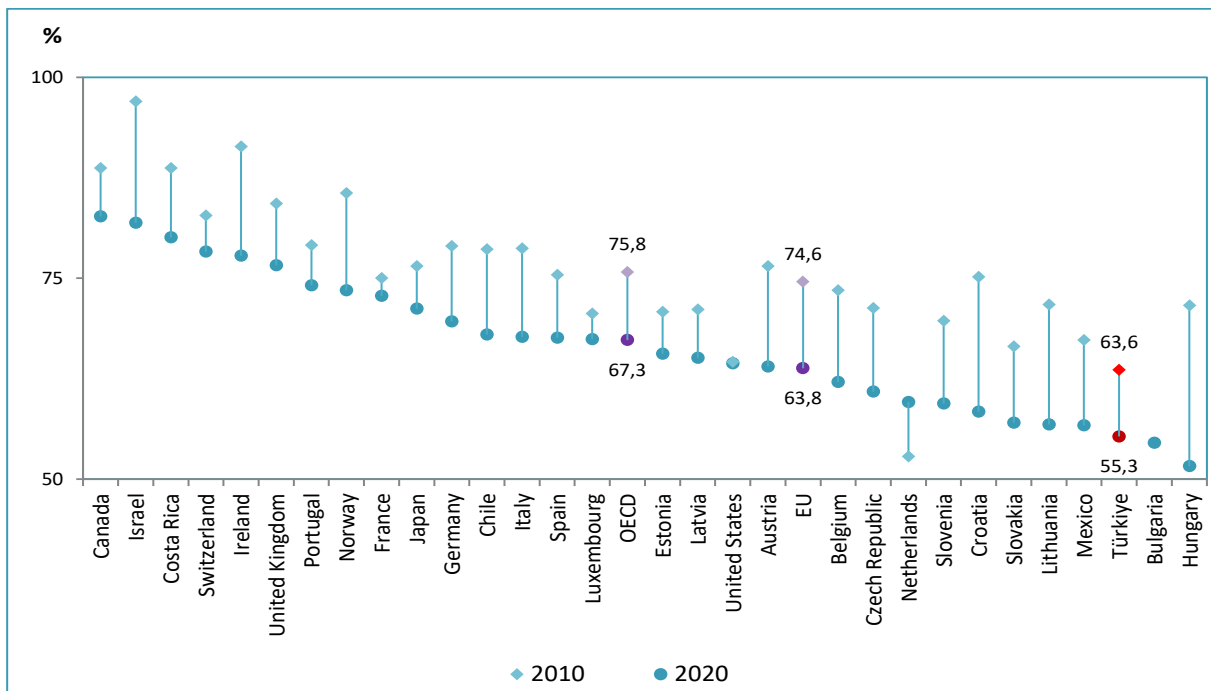


Figure 8.15. Bed Occupancy Rate in Hospitals by NUTS-1, Ministry of Health, (%), 2002, 2021



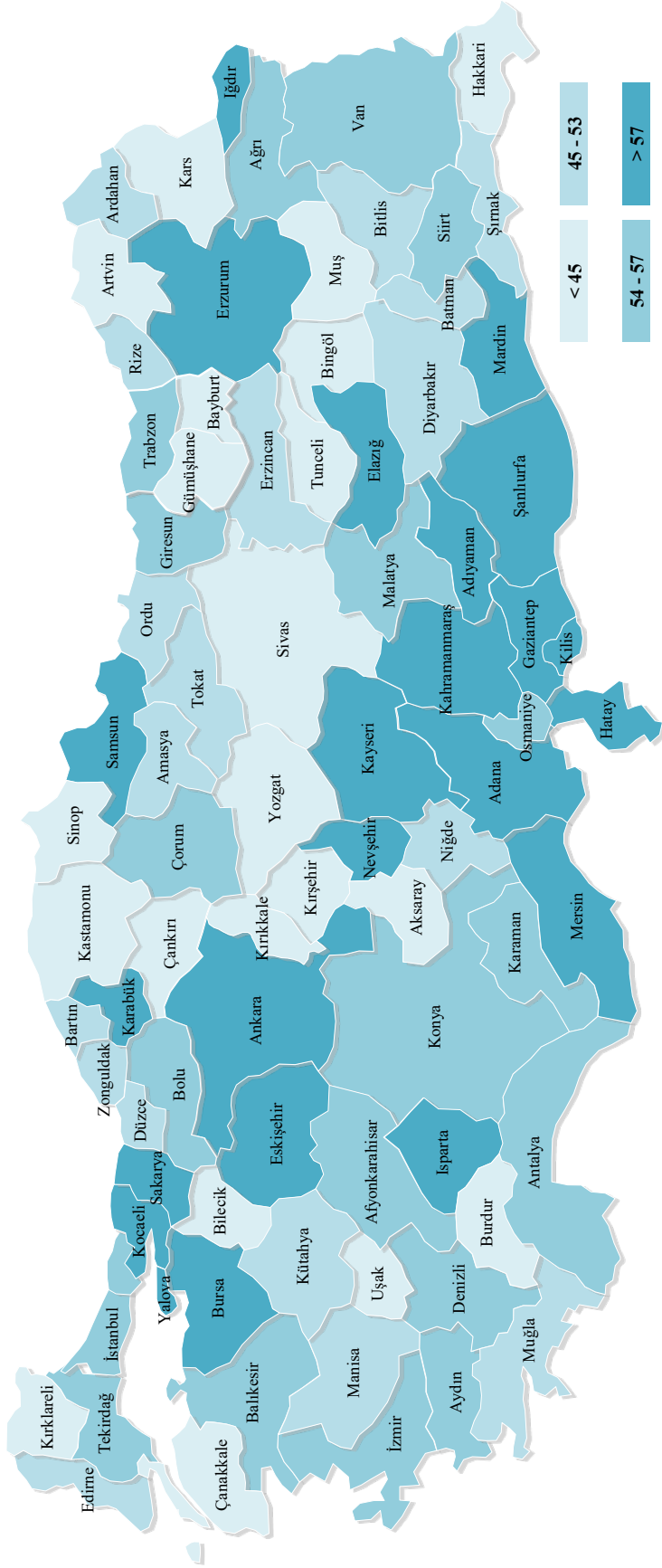
Source: General Directorate of Health Services

Figure 8.16. International Comparison of Acute Bed Occupancy Rate in Hospitals, (%), 2010, 2020



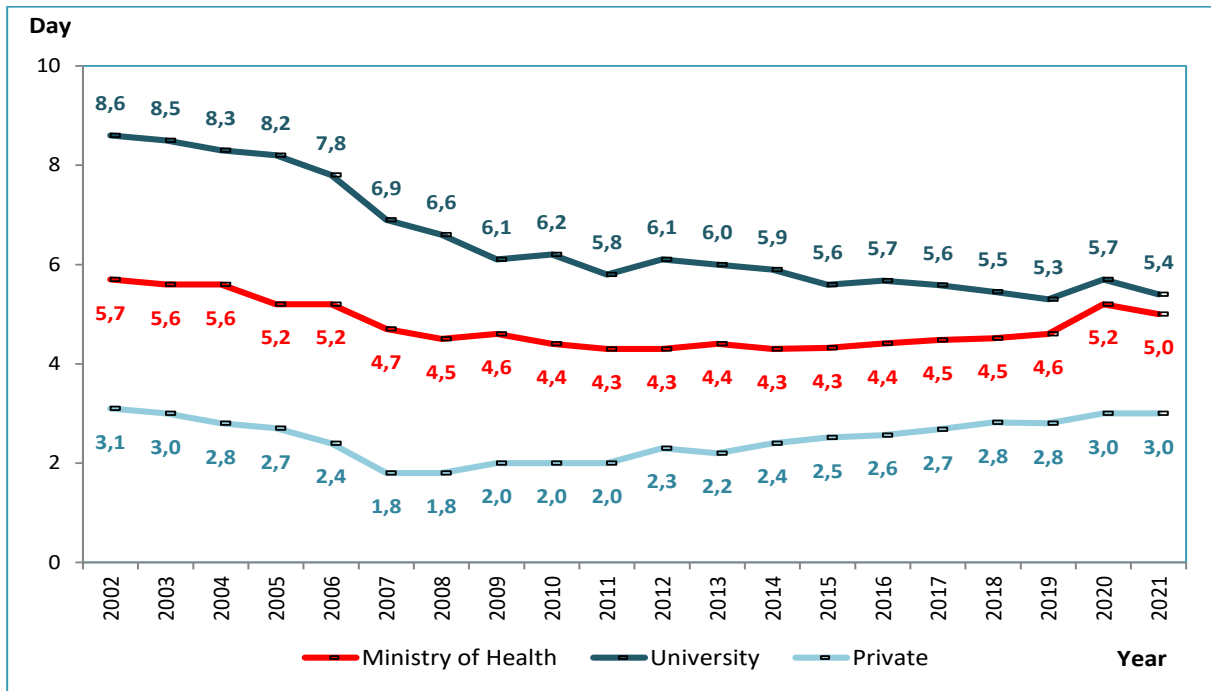
Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 Note: Türkiye's data belong to the year 2010 and 2021.

Map 8.4. Bed Occupancy Rate in Hospitals by Provinces, All Sectors, (%), 2021



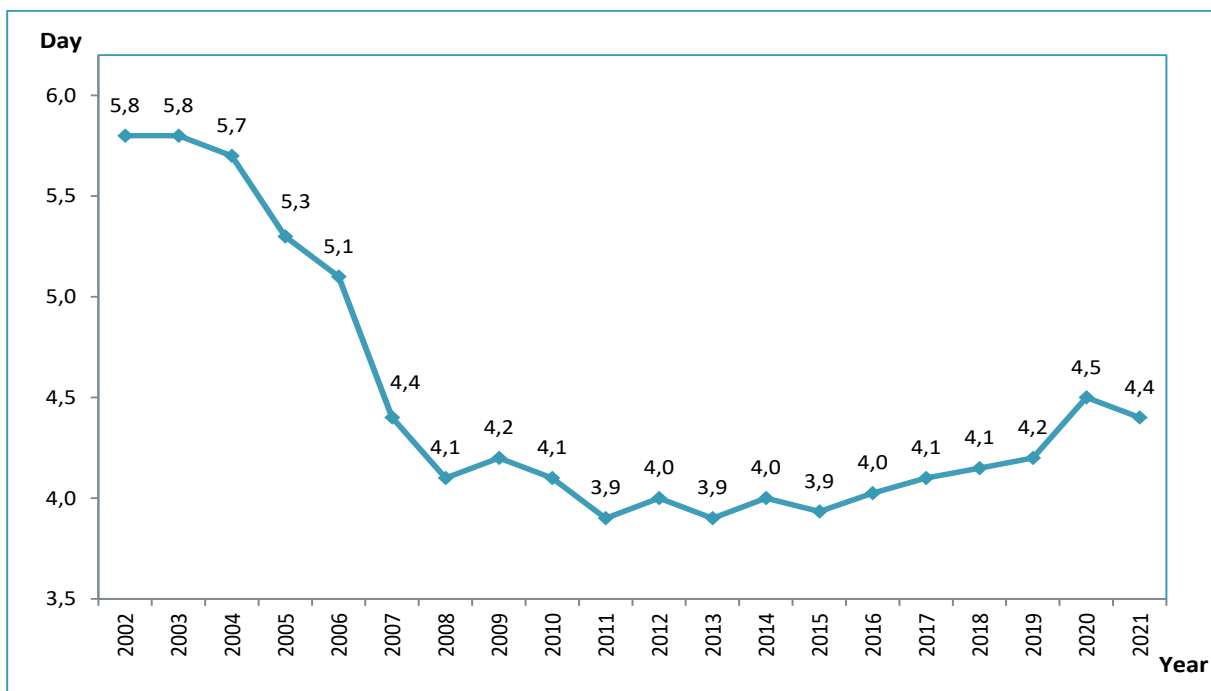
Source: General Directorate of Health Services

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



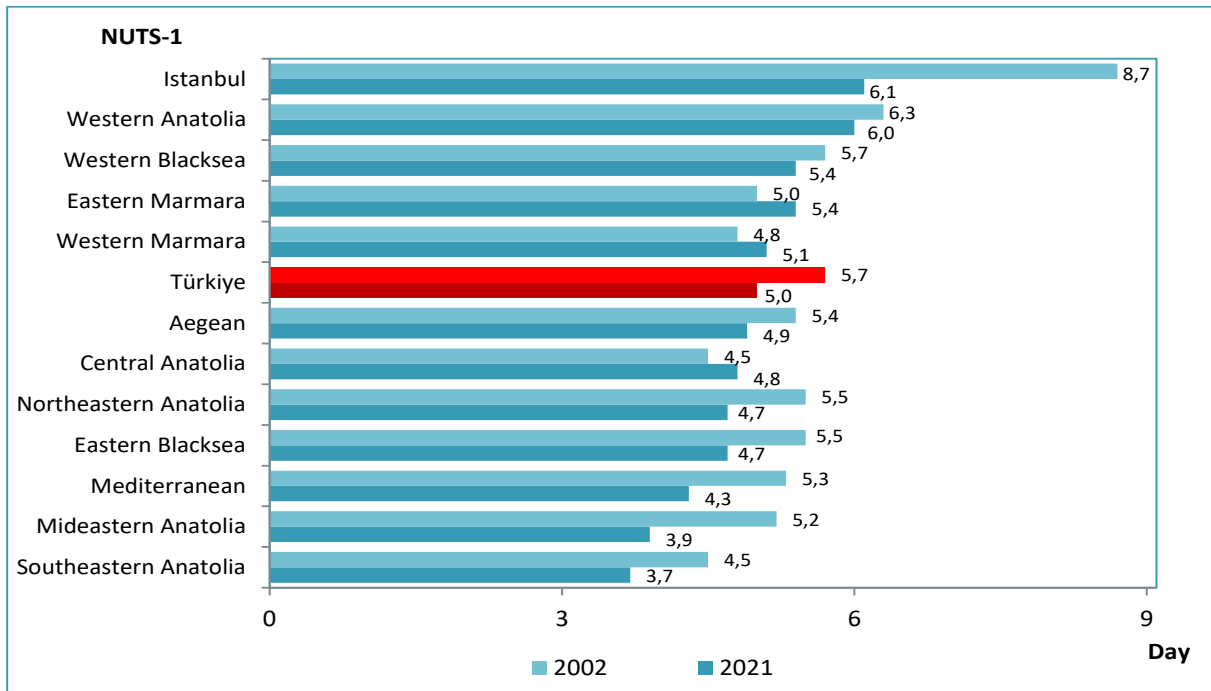
Source: General Directorate of Health Services

Figure 8.18. Average Length of Stay in Hospitals by Years, All Sectors, (Day)



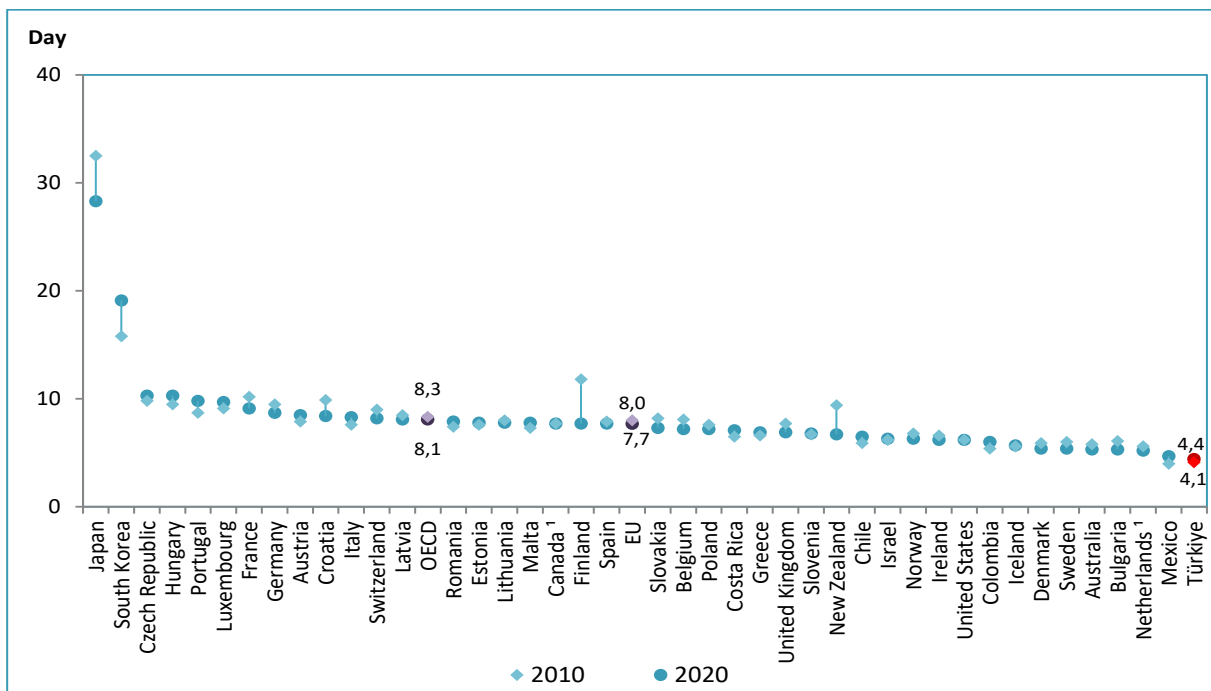
Source: General Directorate of Health Services

Figure 8.19. Average Length of Stay in Hospitals by NUTS-1, MoH, (Day), 2002, 2021



Source: General Directorate of Health Services

Figure 8.20. International Comparison of Average Length of Stay in Hospitals, (Day), 2010, 2020

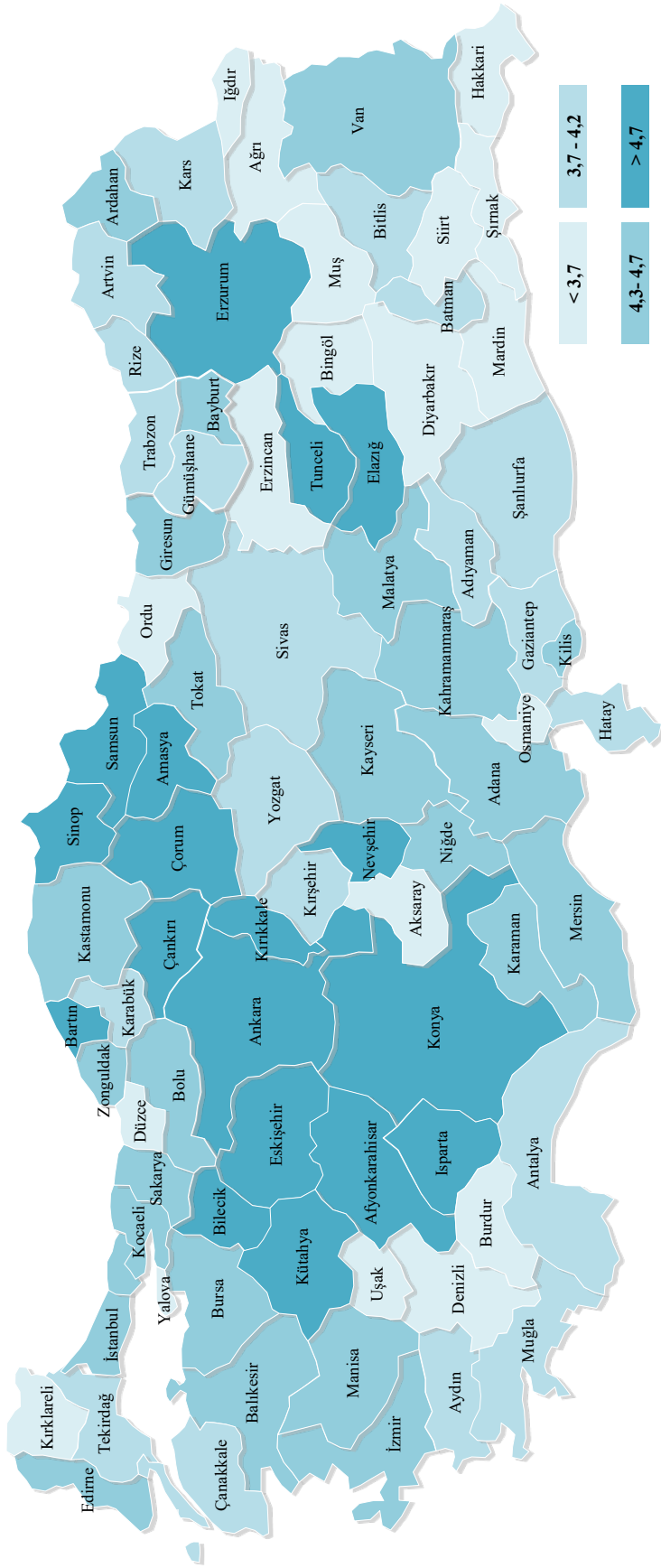


Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database

Note: Türkiye's data belong to the year 2010 and 2021.

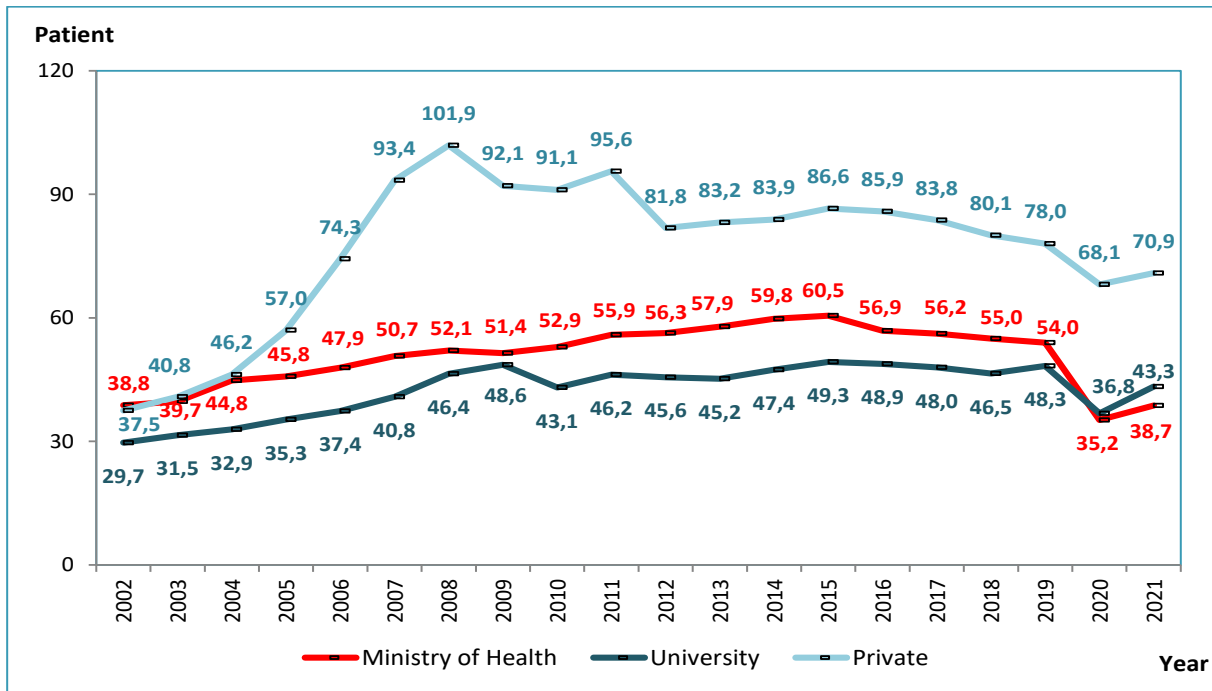
<sup>1</sup> Data includes acute care inpatients.

Map 8.5. Average Length of Stay in Hospitals by Provinces, All Sectors, (Day), 2021



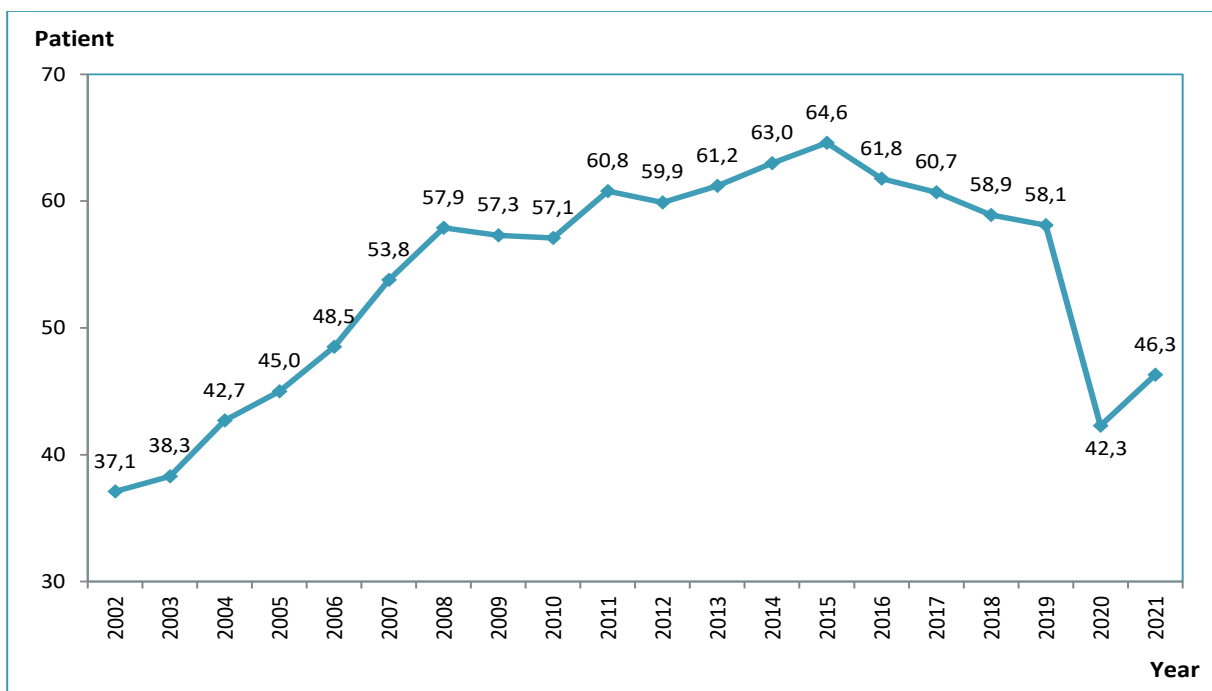
Source: General Directorate of Health Services

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



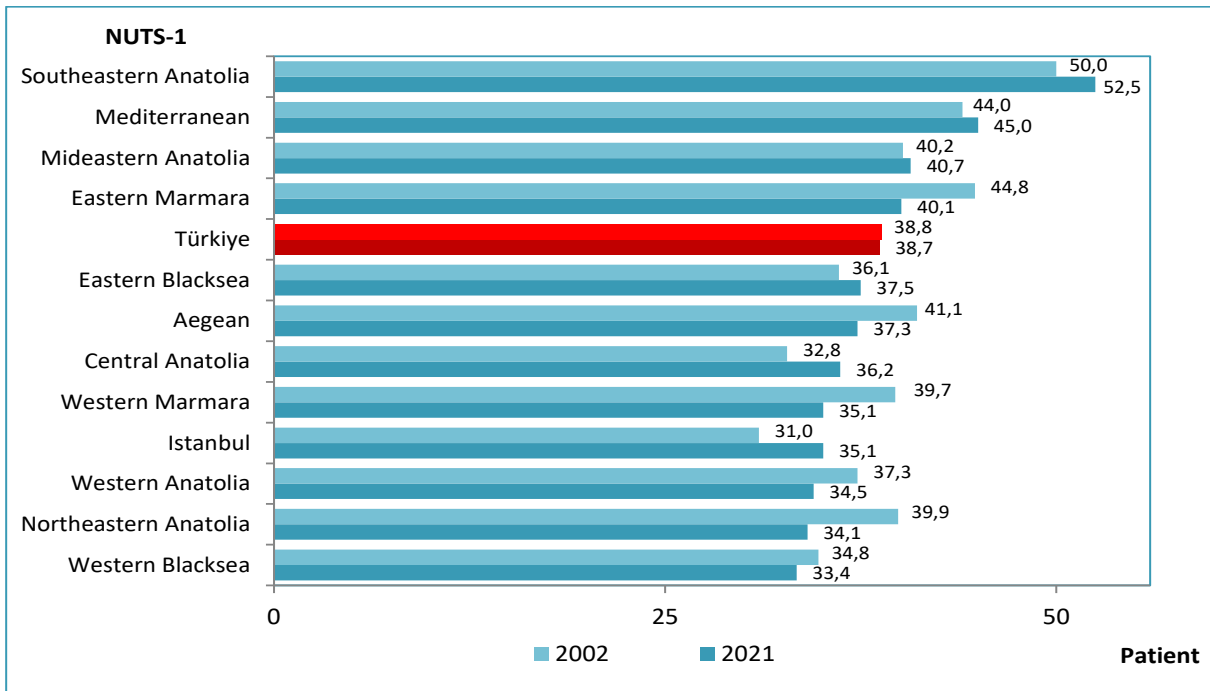
Source: General Directorate of Health Services

Figure 8.22. Bed Turnover Rate in Hospitals by Years, All Sectors, (Patient)



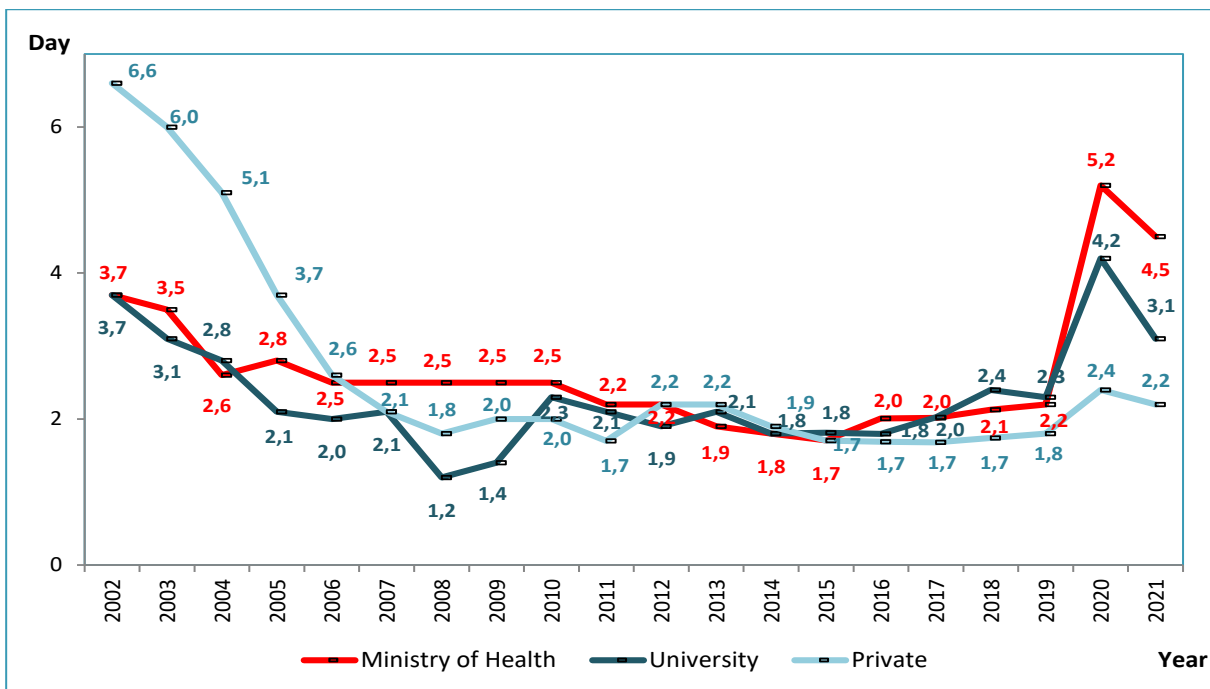
Source: General Directorate of Health Services

Figure 8.23. Bed Turnover Rate in Hospitals by NUTS-1, MoH, (Patient), 2002, 2021



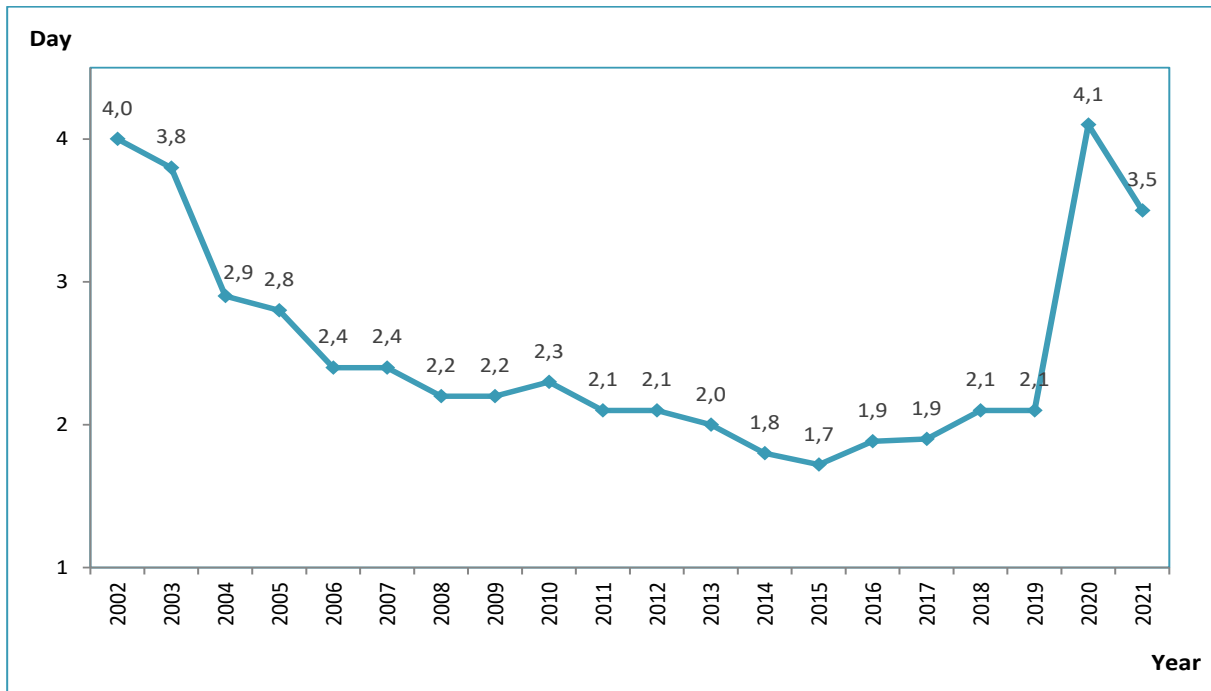
Source: General Directorate of Health Services

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



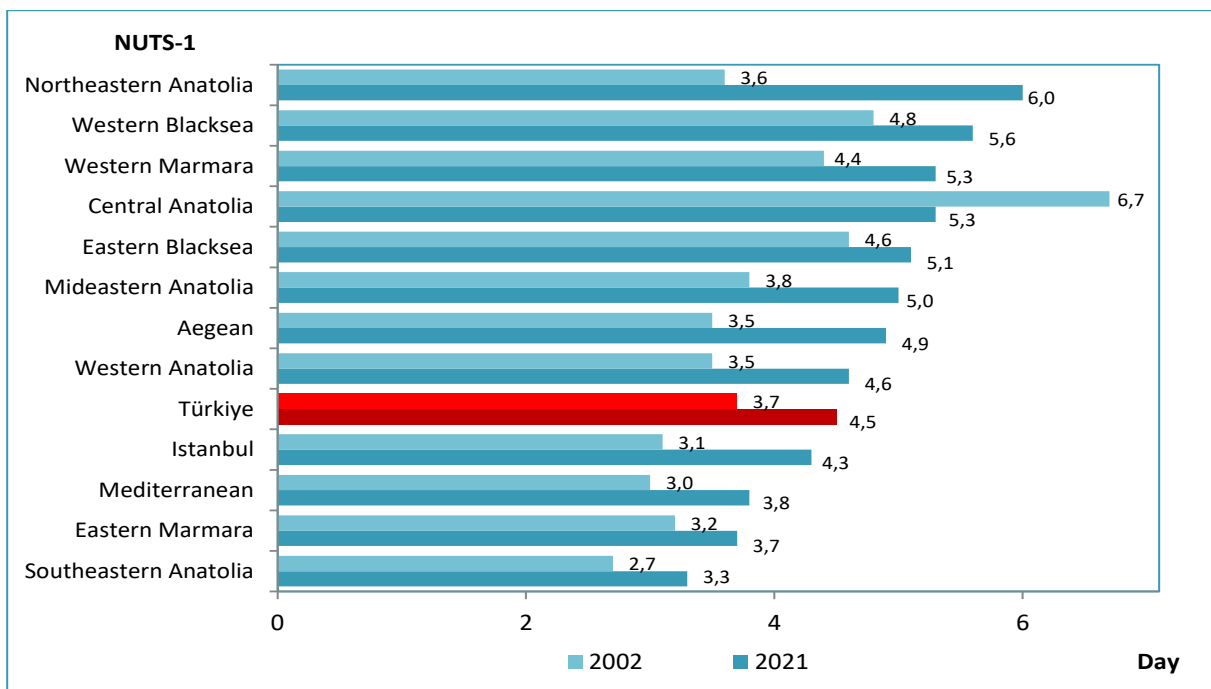
Source: General Directorate of Health Services

Figure 8.25. Bed Turnover Interval in Hospitals by Years, All Sectors, (Day)



Source: General Directorate of Health Services

Figure 8.26. Bed Turnover Interval in Hospitals by NUTS-1, MoH, (Day), 2002, 2021



Source: General Directorate of Health Services



Table 8.12. Number of Organ and Tissue Transplantations by Years, All Sectors

	2002	2017	2018	2019	2020	2021
Kidney	550	3.341	3.866	3.863	2.494	3.375
Liver	159	1.446	1.588	1.776	1.317	1.530
Heart	35*	77	91	84	21	24
Lung	0	42	43	33	11	21
Pancreas	0	0	4	3	1	0
Small Intestine	1	2	0	4	2	2
Cornea	-	3.586	4.137	3.790	1.734	2.812
Stem Cell	-	4.431	4.858	5.198	4.938	5.238
Total	745	12.925	14.587	14.751	10.518	13.002

Source: General Directorate of Health Services

\*Includes the number of heart valve transplants.

Table 8.13. The Number of Patients Waiting for Organ and Tissue Transplantation by Years, All Sectors

	2017	2018	2019	2020	2021
Kidney	21.917	22.540	22.935	22.138	22.491
Liver	2.095	2.141	2.260	2.199	2.180
Heart	957*	1.094	1.163	1.215	1.232
Lung	64	89	89	152	141
Pancreas	283	286	297	285	274
Small Intestine	6	3	1	1	5
Cornea	2.350	1.506	1.723	2.230	3.085
Stem Cell	659	1179	2.817	2.803	2.200
Total	28.331	28.838	31.285	31.023	31.608

Source: General Directorate of Health Services

\*Includes the number of patients awaiting heart valve transplant.

Table 8.14. Number of Transplantation Centers by Years, All Sectors

	2017	2018	2019	2020	2021
Kidney	76	72	74	78	78
Liver	48	48	46	49	46
Heart	17	19	17	15	15
Heart Valve	1	2	2	0	0
Lung	4	5	5	4	3
Heart-Lung	4	5	5	0	0
Pancreas	7	8	8	8	8
Small Intestine	2	2	1	2	3
Cornea	536	581	588	559	609
Stem Cell	84	87	91	96	105
Total	779	829	837	811	867

Source: General Directorate of Health Services

Table 8.15. Number of Exams of Imaging Devices in Hospitals by Sectors, 2021

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	10.023.807	18.008.250	11.363.596	13.185.789	5.031.267	1.189.994
University	1.984.267	3.171.108	2.298.689	1.085.804	924.091	273.676
Private	3.230.906	3.509.229	5.827.612	2.571.926	1.679.444	463.047
Total	15.238.980	24.688.587	19.489.897	16.843.519	7.634.802	1.926.717

Source: General Directorate of Health Service

Table 8.16. Number of Exams of Imaging Devices in Hospitals per Scanner by Sectors, 2021

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	26.730	30.889	4.044	3.031	2.925	3.005
University	17.876	21.720	2.219	1.628	2.742	3.509
Private	6.816	6.475	2.398	1.420	2.118	945
<b>Total</b>	<b>15.874</b>	<b>19.425</b>	<b>3.105</b>	<b>2.467</b>	<b>2.679</b>	<b>1.999</b>

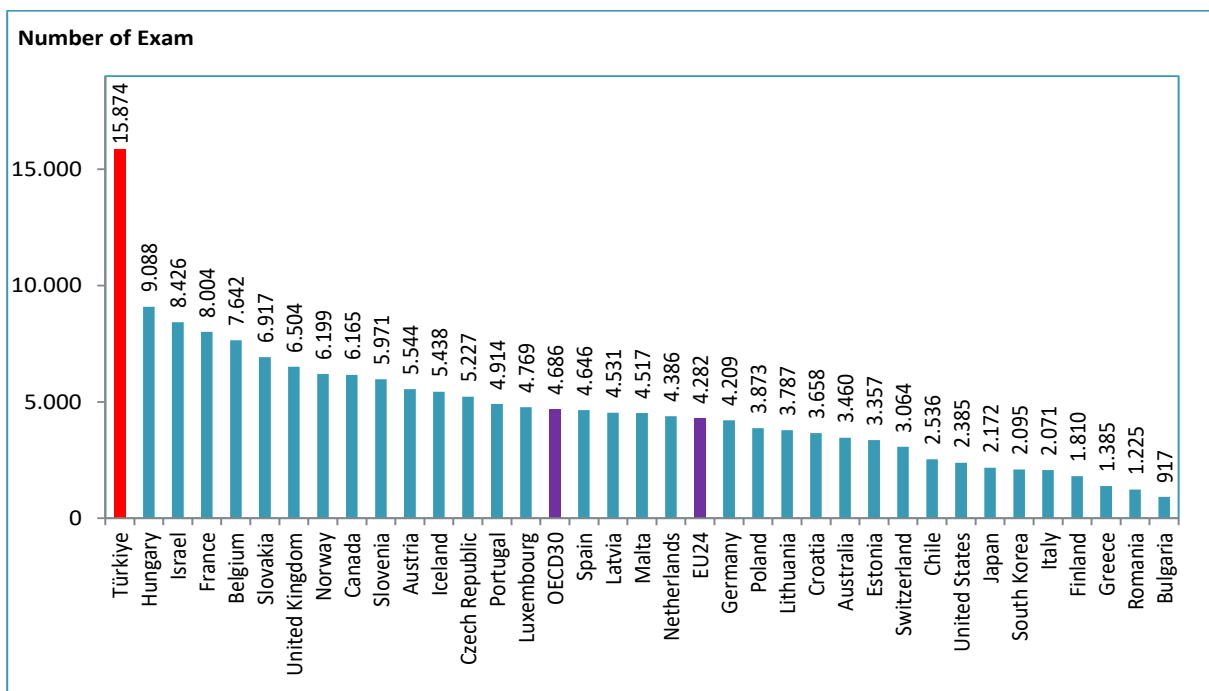
Source: General Directorate of Health Services

Table 8.17. Number of Exams of Imaging Devices in Hospitals per 1.000 Population by Sectors, 2021

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	118	213	134	156	59	14
University	23	37	27	13	11	3
Private	38	41	69	30	20	5
<b>Total</b>	<b>180</b>	<b>292</b>	<b>230</b>	<b>199</b>	<b>90</b>	<b>23</b>

Source: General Directorate of Health Services

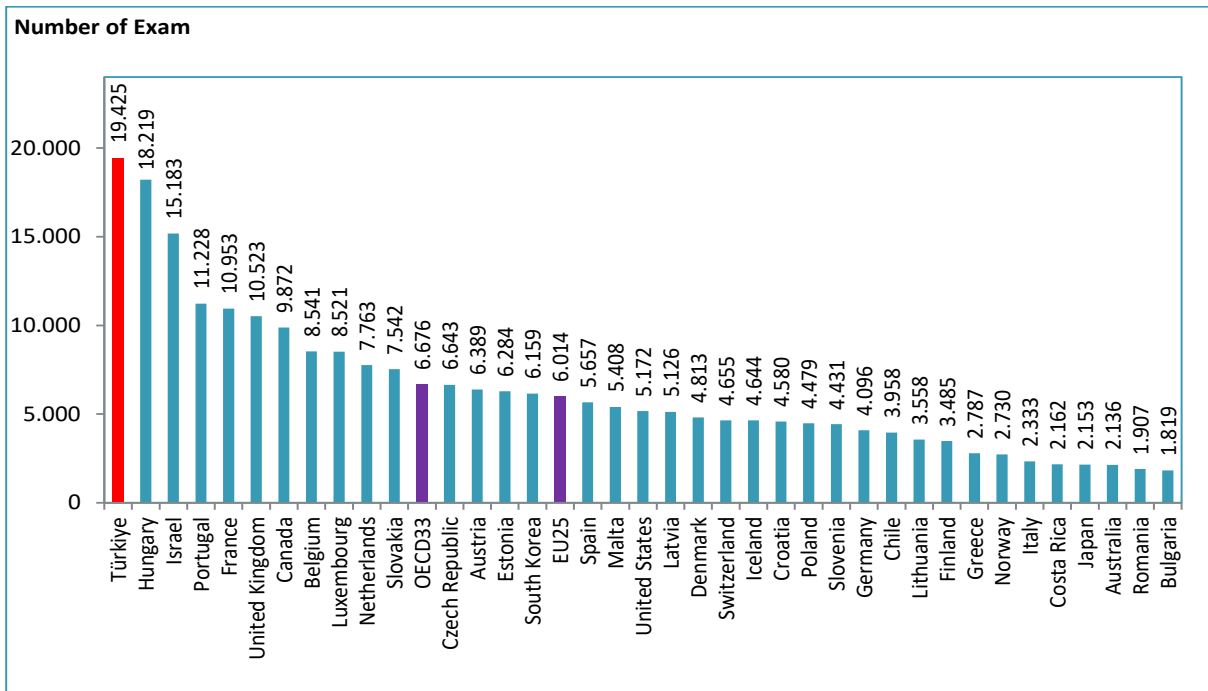
Figure 8.27. International Comparison of Number of Exams per MRI Scanner, 2020



Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database

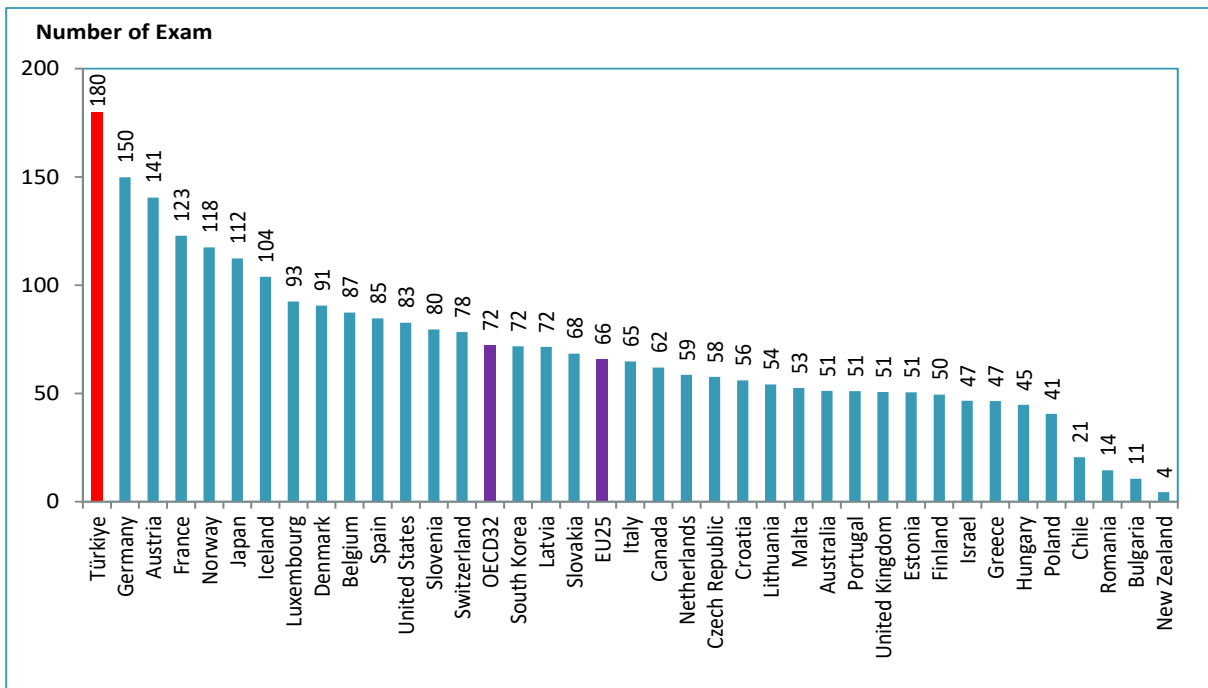
Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest. Türkiye's 2020 value is 12.462.

Figure 8.28. International Comparison of Number of Exams per CT Scanner, 2020



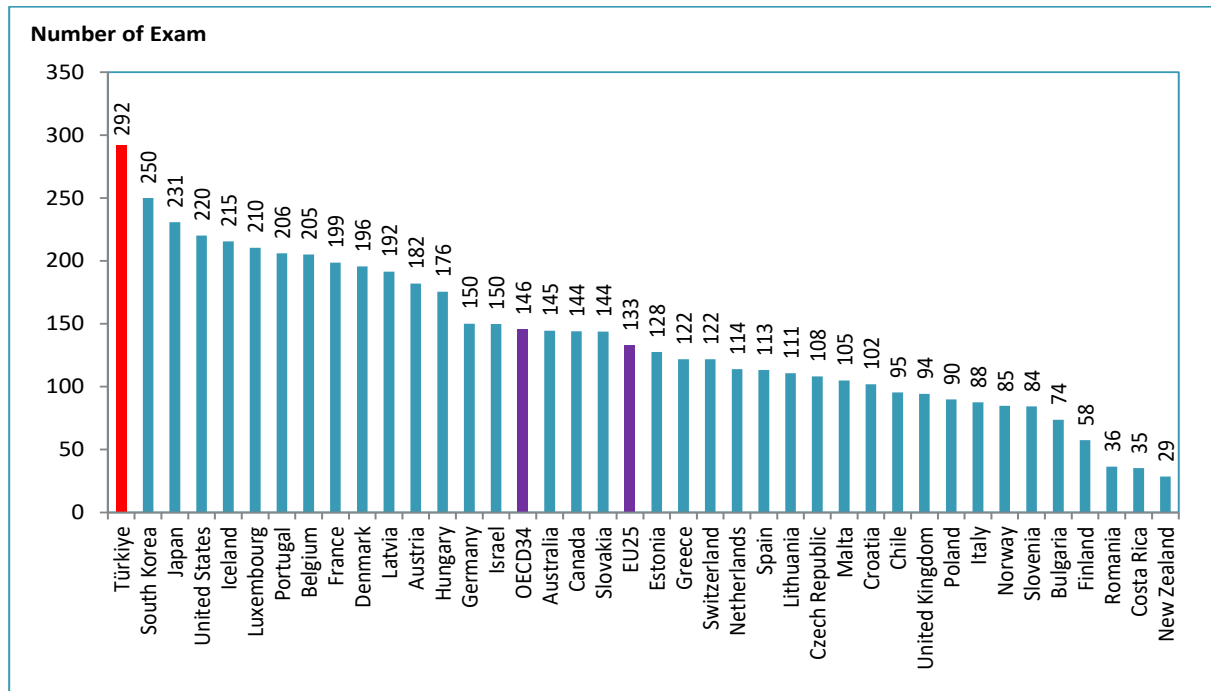
Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest. Türkiye's 2020 value is 18.816.

Figure 8.29. International Comparison of Number of MRI Exams per 1.000 Population, 2020



Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest. Türkiye's 2020 value is 140.

Figure 8.30. International Comparison of Number of CT Exams per 1.000 Population, 2020



Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database

Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest. Türkiye's 2020 value is 270.

Table 8.18. Number of MRI Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Southeastern Anatolia	22,8	35,6	48,0	27,7
Central Anatolia	28,0	58,4	43,8	33,4
Western Blacksea	30,6	56,9	57,5	35,5
Eastern Marmara	31,4	38,5	50,0	35,6
Mideastern Anatolia	27,8	66,4	63,6	36,2
Aegean	33,4	39,7	47,6	36,5
<b>Türkiye</b>	<b>32,5</b>	<b>49,5</b>	<b>46,6</b>	<b>36,5</b>
Mediterranean	34,4	43,9	42,2	36,9
Western Anatolia	31,7	51,1	57,7	37,7
Western Marmara	30,5	79,3	55,7	38,2
Istanbul	40,6	40,8	37,8	40,0
Eastern Blacksea	37,3	72,2	55,8	41,2
Northeastern Anatolia	31,4	110,8	54,7	42,7

Source: General Directorate of Health Services

Table 8.19. Number of CT Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Southeastern Anatolia	40,5	49,4	53,2	43,2
Mideastern Anatolia	43,9	99,2	59,2	52,1
Western Marmara	50,2	105,7	52,5	55,4
Northeastern Anatolia	49,1	111,3	40,8	56,3
Central Anatolia	52,5	109,6	37,0	56,5
Eastern Blacksea	58,3	93,7	50,3	59,1
<b>Türkiye</b>	<b>58,4</b>	<b>79,1</b>	<b>50,6</b>	<b>59,1</b>
Western Anatolia	57,6	79,1	49,8	59,7
Aegean	59,2	87,9	46,8	60,5
Istanbul	67,6	52,7	46,4	61,5
Eastern Marmara	66,2	88,7	43,6	63,5
Mediterranean	63,5	75,0	60,8	64,2
Western Blacksea	67,6	80,1	76,4	69,4

Source: General Directorate of Health Services

Table 8.20. Number of Ultrasound Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Eastern Blacksea	19,2	69,0	88,7	29,9
Western Marmara	25,4	83,0	67,4	36,2
Western Blacksea	33,5	56,2	75,1	39,8
Eastern Marmara	33,4	27,2	71,5	40,5
Istanbul	25,8	48,6	83,8	40,7
<b>Türkiye</b>	<b>36,9</b>	<b>57,3</b>	<b>84,1</b>	<b>46,7</b>
Western Anatolia	37,1	62,2	93,2	47,6
Central Anatolia	41,5	72,0	67,0	48,2
Mediterranean	36,0	67,3	85,6	48,7
Aegean	43,4	43,2	89,1	50,9
Mideastern Anatolia	46,6	87,4	78,8	54,9
Southeastern Anatolia	52,7	42,2	101,8	60,2
Northeastern Anatolia	60,3	97,6	70,5	65,6

Source: General Directorate of Health Services

Table 8.21. Number of Doppler Ultrasound Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Northeastern Anatolia	27,7	30,3	15,4	27,3
Central Anatolia	24,7	62,8	35,6	30,3
Western Blacksea	28,9	57,2	43,2	32,6
Aegean	37,0	22,4	41,3	36,0
Southeastern Anatolia	40,1	11,2	35,5	37,6
Mideastern Anatolia	36,6	21,4	64,8	37,9
Western Marmara	40,6	17,2	41,4	38,6
<b>Türkiye</b>	<b>42,8</b>	<b>27,1</b>	<b>37,1</b>	<b>40,3</b>
Mediterranean	49,6	15,7	24,6	41,3
Eastern Blacksea	47,0	8,9	18,8	41,8
Eastern Marmara	46,5	37,5	34,1	43,4
Istanbul	48,8	18,7	44,8	45,2
Western Anatolia	54,7	38,4	27,2	49,0

Source: General Directorate of Health Services

Table 8.22. Number of ECHO Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Mideastern Anatolia	13,8	14,5	20,6	14,6
Northeastern Anatolia	14,1	28,8	6,7	15,5
Southeastern Anatolia	16,4	23,0	15,6	16,6
Western Marmara	15,6	20,1	20,4	16,7
Istanbul	15,5	18,0	23,6	17,5
Eastern Marmara	16,2	20,0	22,4	17,8
<b>Türkiye</b>	<b>16,3</b>	<b>23,0</b>	<b>24,2</b>	<b>18,3</b>
Central Anatolia	16,1	25,7	25,3	18,4
Western Blacksea	16,4	19,0	37,9	19,1
Western Anatolia	15,4	28,7	30,6	19,2
Mediterranean	17,3	31,1	20,4	19,3
Eastern Blacksea	17,2	61,6	23,1	20,1
Aegean	18,9	16,3	34,1	21,1

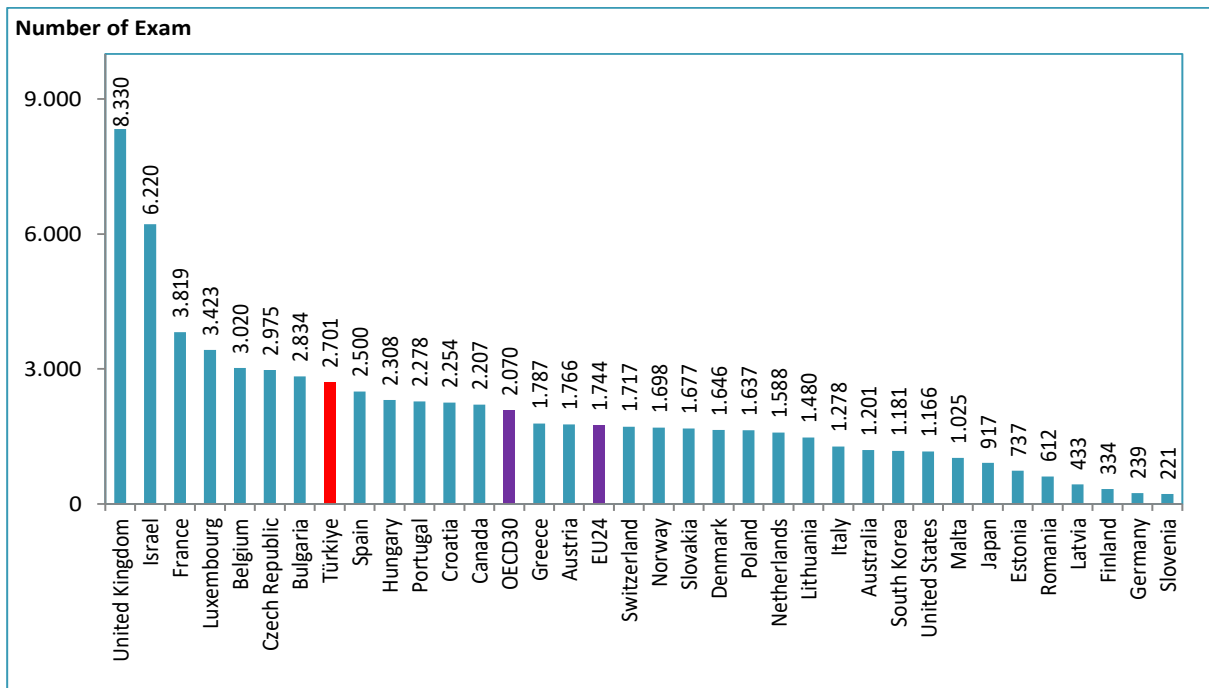
Source: General Directorate of Health Services

Table 8.23. Number of Mammography Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2021

NUTS-1	Ministry of Health	University	Private	Total
Southeastern Anatolia	1,3	1,0	2,0	1,4
Northeastern Anatolia	2,3	0,0	3,0	2,0
Mideastern Anatolia	2,0	7,3	2,6	2,7
Central Anatolia	2,6	3,9	5,5	3,1
Western Blacksea	3,4	6,4	5,0	3,8
Eastern Blacksea	3,2	19,0	4,1	4,0
Mediterranean	3,7	7,0	5,0	4,3
<b>Türkiye</b>	<b>3,9</b>	<b>6,8</b>	<b>6,7</b>	<b>4,6</b>
Western Marmara	4,2	9,0	5,3	4,7
Eastern Marmara	4,3	5,9	7,7	5,1
Aegean	4,6	5,7	7,4	5,2
Istanbul	5,3	6,8	9,0	6,2
Western Anatolia	5,4	11,3	10,8	6,9

Source: General Directorate of Health Services

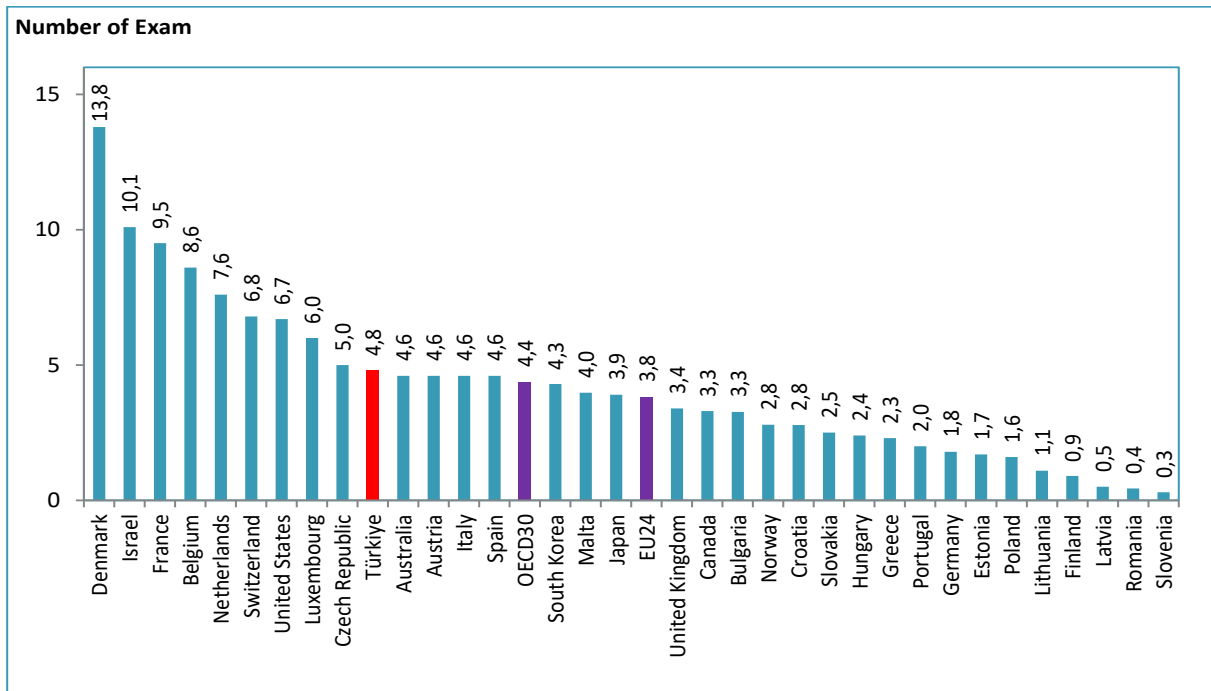
Figure 8.31. International Comparison of Number of Exams per PET Scanner, 2020



Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest.

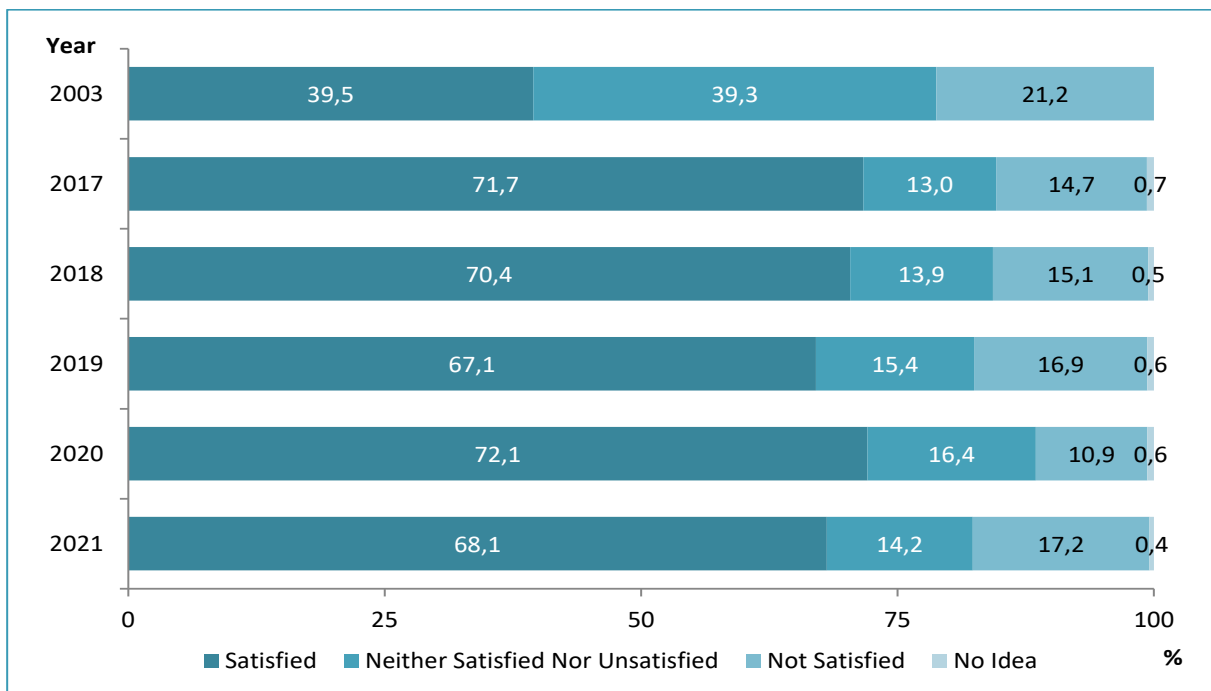


Figure 8.32. International Comparison of Number of PET Exams per 1.000 Population, 2020



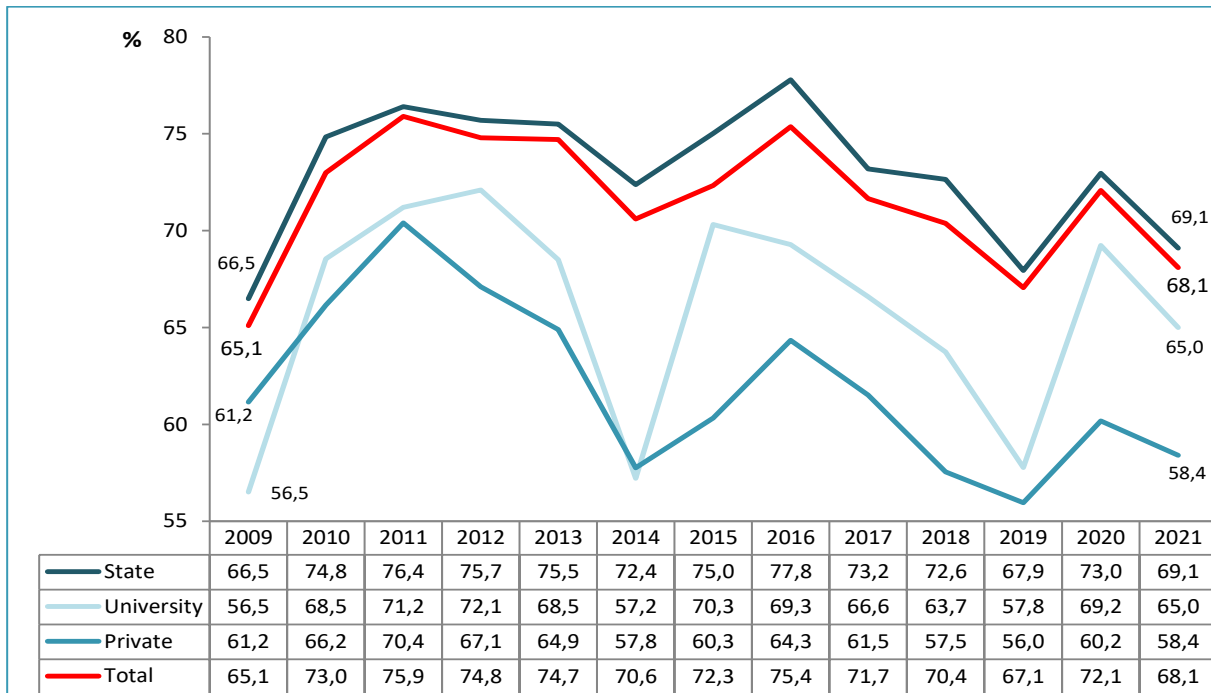
Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest.

Figure 8.33. Satisfaction Ratio with Healthcare Services by Years, (%)



Source: TURKSTAT, Life Satisfaction Survey 2003-2021

Figure 8.34. Satisfaction Ratio with Healthcare Services by Years and Sectors, (%)



Source: TURKSTAT, Life Satisfaction Survey 2009-2021

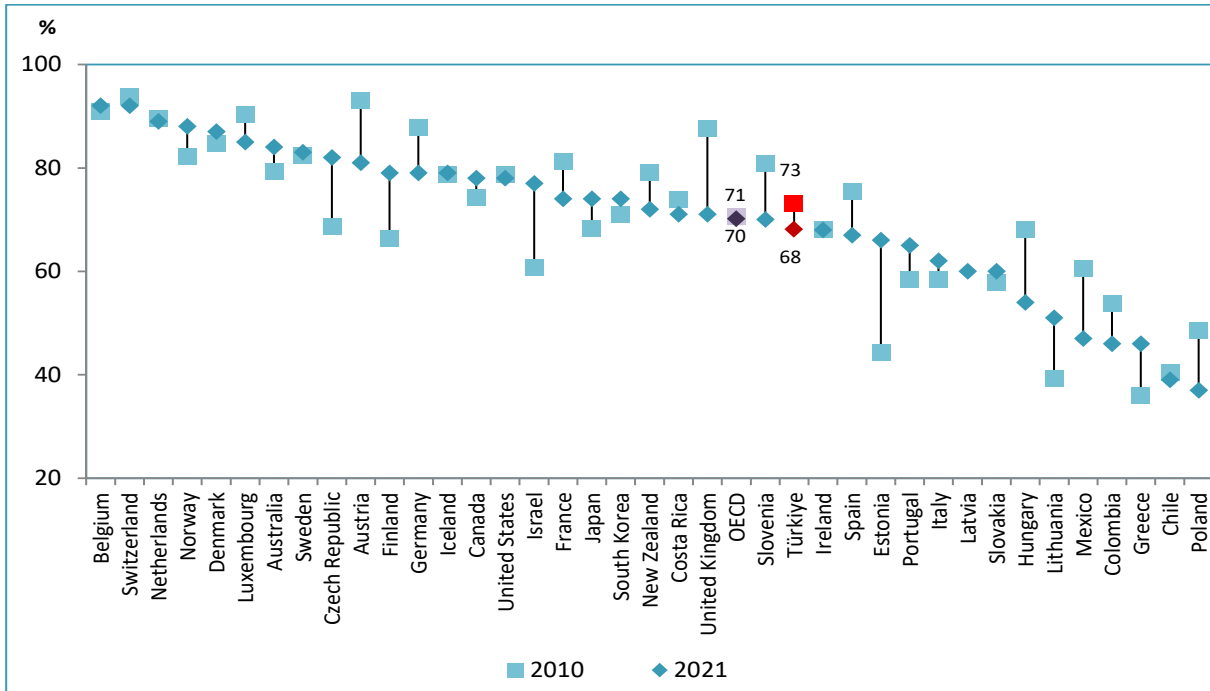
Note: "Total" data refers to the satisfaction ratio with healthcare services of all healthcare facilities.

Table 8.24. Satisfaction Ratio with Healthcare Services, (%), 2021

	Satisfied	Neither Satisfied Nor Unsatisfied	Not Satisfied	No Idea
<b>Hospitals</b>				
State	69,1	13,3	17,2	0,5
City Hospital	72,7	10,6	16,7	0,0
University	65,0	18,1	16,5	0,4
Private	58,4	15,0	26,1	0,5
Family Health Center	70,1	15,1	14,5	0,3
Private Polyclinic	56,6	13,6	29,7	0,0
Organization's Doctor	52,0	24,7	23,4	0,0
Private Medical Centers	87,1	0,0	12,9	0,0

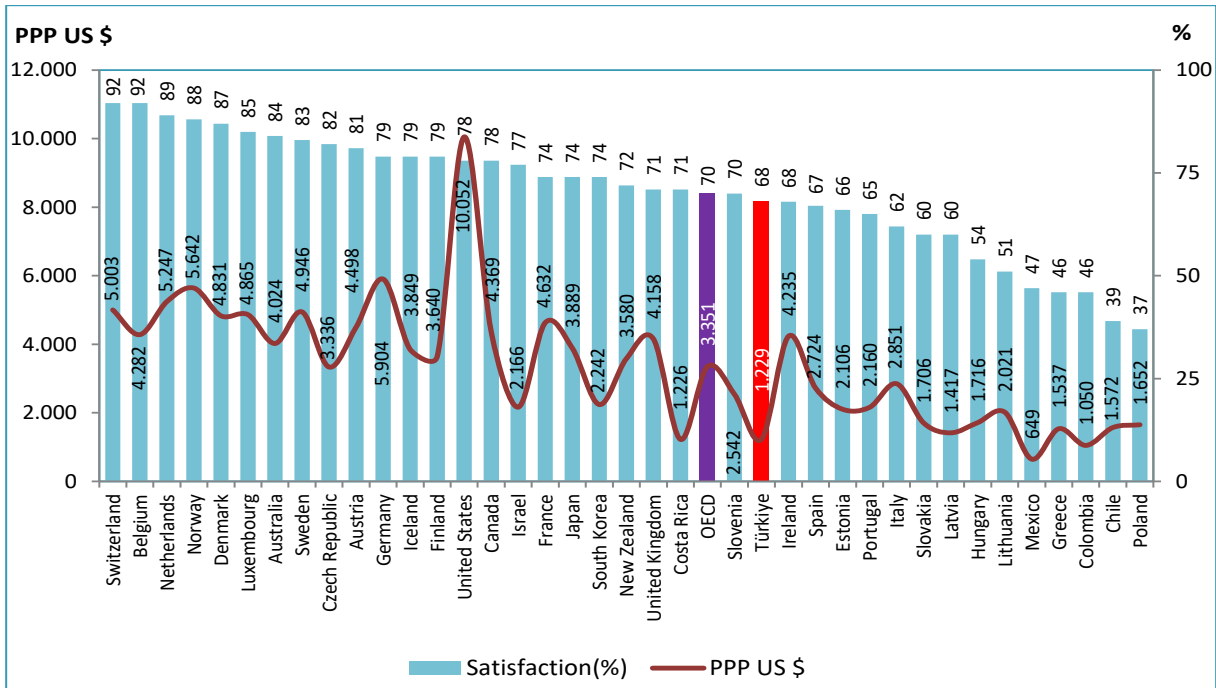
Source: TURKSTAT, Life Satisfaction Survey 2021

Figure 8.35. International Comparison of Satisfaction Ratio with Healthcare Services, (%), 2010, 2021



Source: TURKSTAT Life Satisfaction Survey 2021, OECD Health Data 2022

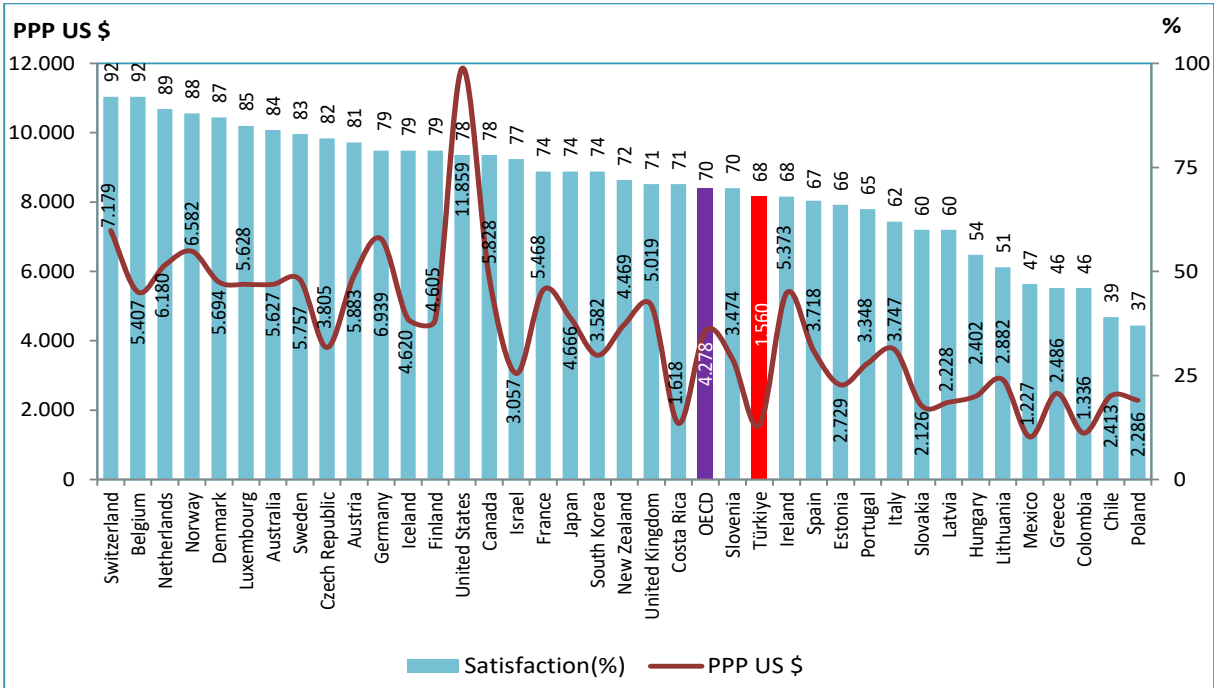
Figure 8.36. Satisfaction with Health Care Services, (%), 2021 and Public Current Health Expenditure per Capita, (PPP US \$), 2020



Source: TURKSTAT, OECD Health Data 2022

Note: The country values of satisfaction belong to the year 2021 and values of expenditure belong to the year 2020. Türkiye's satisfaction and expenditure data belong to the year 2021.

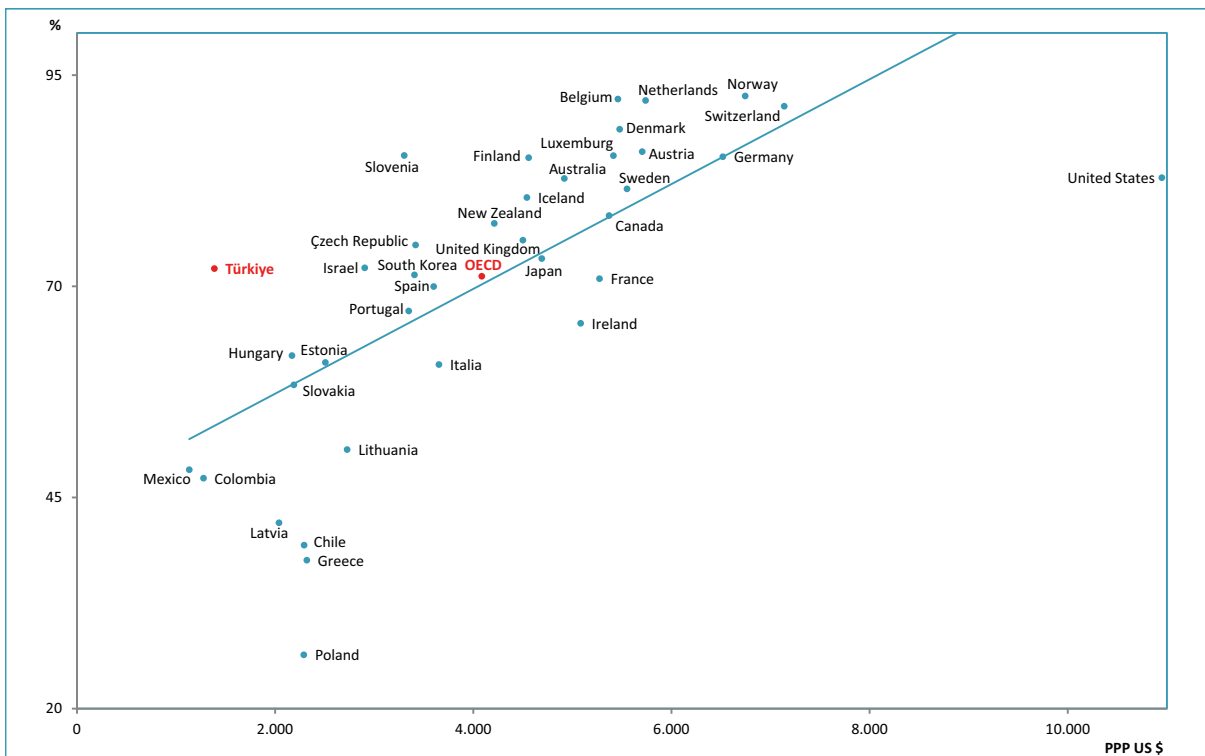
Figure 8.37. Satisfaction with Health Care Services, (%), 2021 and Total Current Health Expenditure per Capita, (PPP US \$), 2020



Source: TURKSTAT, OECD Health Data 2022

Note: The country values of satisfaction belong to the year 2021 and values of expenditure belong to the year 2020. Türkiye's satisfaction and expenditure data belong to the year 2021.

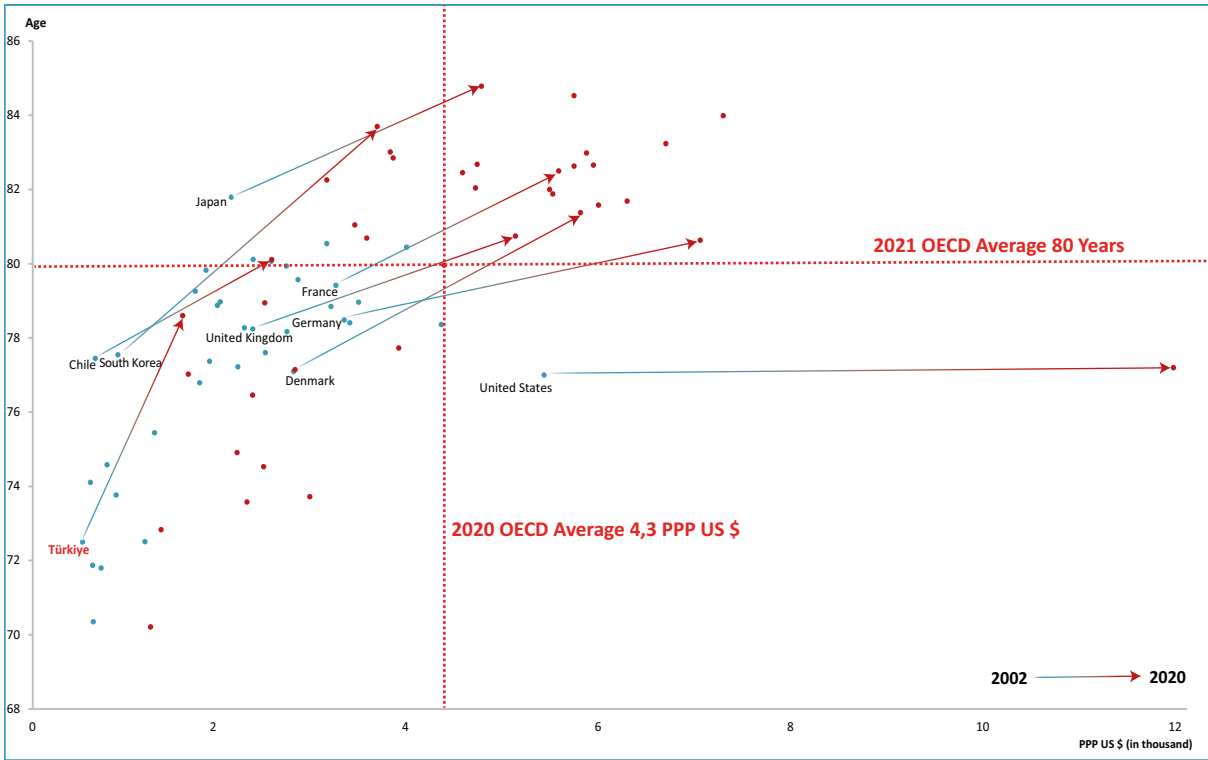
Figure 8.38. Satisfaction with Health Care Services (%), 2021 and Total Current Health Expenditure per Capita, (PPP US \$), 2020



Source: TURKSTAT, OECD Health Data 2022

Note: The country values of satisfaction belong to the year of 2021 and values of expenditure belong to the year of 2020. Türkiye expenditure data belongs to the year of 2021.

Figure 8.39. Life Expectancy at Birth, (Age) and Total Current Health Expenditure per Capita, (PPP US \$), 2002, 2020



Source: TURKSTAT, UNPD, OECD Health Data 2022

Note: The country values of life expectancy belong to the year of 2021 and values of expenditure belong to the year of 2020. Türkiye's expenditure and life expectancy data belongs to the year of 2021 and 2019 respectively.

Table 8.25. Some Health Indicators by Provinces, 2021

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	9.347.394	12.458.180	9,6	670.220	0,30
Adıyaman	1.972.774	2.984.571	7,8	313.464	0,50
Afyonkarahisar	2.813.630	3.491.733	8,5	318.880	0,43
Ağrı	933.956	2.260.526	6,1	191.419	0,36
Amasya	1.309.471	1.602.088	8,7	177.544	0,53
Ankara	13.144.836	30.634.315	7,6	1.986.214	0,35
Antalya	7.137.227	12.811.289	7,6	915.789	0,35
Artvin	482.105	703.957	7,0	58.932	0,35
Aydın	4.181.056	5.761.297	8,8	517.071	0,46
Balıkesir	4.776.971	6.301.326	8,9	512.540	0,41
Bilecik	751.890	808.022	6,8	130.864	0,57
Bingöl	604.267	1.273.886	6,6	167.783	0,59
Bitlis	570.532	1.737.035	6,6	146.370	0,42
Bolu	1.226.165	1.788.940	9,4	291.558	0,91
Burdur	938.744	1.146.293	7,6	97.308	0,36
Bursa	10.182.105	14.754.241	7,9	1.348.899	0,43
Çanakkale	1.998.003	2.752.742	8,5	175.359	0,31
Çankırı	574.731	813.681	7,1	108.448	0,55
Çorum	1.590.482	2.551.950	7,9	234.683	0,45
Denizli	4.499.457	5.312.593	9,3	474.988	0,45
Diyarbakır	5.001.373	7.526.392	7,0	572.923	0,32
Edirne	1.426.257	2.326.691	9,1	191.323	0,46
Elazığ	1.733.558	3.428.935	8,8	329.226	0,56
Erzincan	670.309	1.216.576	7,9	183.274	0,77
Erzurum	2.273.368	3.682.440	7,9	609.661	0,81
Eskişehir	2.513.114	5.148.018	8,5	490.787	0,55
Gaziantep	7.234.299	10.926.520	8,5	910.452	0,43
Giresun	1.488.277	2.328.403	8,5	164.805	0,37
Gümüşhane	373.356	551.368	6,2	60.730	0,40
Hakkari	401.684	1.068.789	5,3	76.608	0,28
Hatay	5.326.924	7.987.624	8,0	670.609	0,40
Isparta	1.601.579	2.955.255	10,2	294.934	0,66
Mersin	7.522.359	8.306.162	8,4	462.731	0,24
İstanbul	33.518.072	86.226.136	7,6	5.635.698	0,36
İzmir	12.728.416	23.228.873	8,1	1.766.522	0,40
Kars	675.950	1.123.829	6,4	117.570	0,42
Kastamonu	1.101.131	1.772.635	7,7	151.718	0,40
Kayseri	5.082.822	7.096.023	8,5	690.127	0,48
Kırklareli	1.251.973	1.839.054	8,4	162.776	0,44
Kırşehir	863.022	1.054.718	7,9	140.353	0,58
Kocaeli	5.514.945	10.434.045	7,8	987.247	0,49

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

Table 8.25. Some Health Indicators by Provinces, 2021 - 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	6.670.025	11.075.225	7,8	1.097.381	0,48
Kütahya	2.304.042	2.548.090	8,4	321.445	0,56
Malatya	2.819.615	4.367.648	8,9	407.525	0,50
Manisa	4.960.980	7.803.512	8,8	700.562	0,48
Kahramanmaraş	3.467.835	5.903.417	8,0	490.716	0,42
Mardin	2.298.053	3.859.103	7,1	287.268	0,33
Muğla	3.402.792	4.278.246	7,5	340.885	0,33
Muş	725.754	1.867.000	6,4	165.149	0,41
Nevşehir	1.135.769	1.414.926	8,3	146.827	0,48
Niğde	1.374.868	1.548.962	8,0	199.746	0,55
Ordu	2.242.669	3.900.734	8,1	310.046	0,41
Rize	1.085.585	2.070.875	9,1	279.828	0,81
Sakarya	3.203.023	5.352.162	8,1	361.504	0,34
Samsun	4.743.866	8.093.350	9,4	753.089	0,55
Siirt	629.410	1.635.781	6,8	141.988	0,43
Sinop	664.272	940.593	7,3	122.518	0,56
Sivas	1.860.659	3.537.240	8,5	509.392	0,80
Tekirdağ	3.785.008	5.771.405	8,6	517.032	0,46
Tokat	1.854.513	2.968.042	8,0	387.579	0,64
Trabzon	3.066.422	4.530.652	9,3	334.550	0,41
Tunceli	303.396	258.799	6,7	44.697	0,53
Şanlıurfa	5.135.024	11.334.580	7,7	561.358	0,26
Uşak	1.676.689	1.624.082	8,8	165.685	0,44
Van	2.398.325	5.082.776	6,6	431.000	0,38
Yozgat	1.183.453	1.814.167	7,2	206.064	0,49
Zonguldak	1.584.408	3.424.575	8,5	350.149	0,59
Aksaray	1.556.667	2.167.386	8,7	160.327	0,37
Bayburt	238.582	346.292	6,9	57.273	0,67
Karaman	823.957	1.179.207	7,7	115.835	0,45
Kırıkkale	902.826	1.297.510	8,0	150.661	0,55
Batman	1.476.401	3.289.191	7,6	281.906	0,45
Şırnak	1.004.149	2.039.968	5,6	145.812	0,27
Bartın	887.039	881.307	8,8	99.470	0,49
Ardahan	271.456	407.312	7,2	52.659	0,55
İğdir	478.320	945.491	7,0	102.464	0,50
Yalova	991.469	1.686.587	9,2	146.478	0,50
Karabük	814.102	1.316.447	8,5	150.312	0,60
Kilis	504.178	772.126	8,8	88.310	0,61
Osmaniye	2.180.756	2.596.020	8,6	204.347	0,37
Düzce	1.480.379	2.018.933	8,7	153.141	0,38
Türkiye	245.525.320	430.126.870	8,0	35.051.385	0,41

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

Table 8.25. Some Health Indicators by Provinces, 2021 - Continued

City	Number of Inpatients	Number of Bed Days	Number of Surgical Operation	Bed Occupancy Rate	Average Length of Stay	Bed Turnover Rate	Bed Turnover Interval
Adana	401.582	1.819.174	165.650	66,2	4,5	53,3	2,3
Adıyaman	73.372	297.613	16.469	59,3	4,1	53,4	2,8
Afyonkarahisar	89.590	485.668	42.261	57,3	5,4	38,5	4,0
Ağrı	52.732	175.682	9.775	54,5	3,3	59,7	2,8
Amasya	30.039	151.285	9.653	49,6	5,0	36,0	5,1
Ankara	806.310	4.155.540	387.261	59,1	5,2	41,9	3,6
Antalya	374.432	1.499.452	153.073	53,9	4,0	49,1	3,4
Artvin	14.676	54.127	3.630	40,9	3,7	40,4	5,3
Aydın	168.997	690.364	69.306	53,9	4,1	48,2	3,5
Balıkesir	143.219	667.711	60.799	54,0	4,7	42,3	4,0
Bilecik	14.536	76.463	7.487	34,9	5,3	24,2	9,8
Bingöl	28.864	92.179	7.502	33,2	3,2	38,0	6,4
Bitlis	46.695	174.045	14.122	44,8	3,7	43,8	4,6
Bolu	61.170	289.778	17.417	54,2	4,7	41,8	4,0
Burdur	30.103	105.660	9.371	37,6	3,5	39,1	5,8
Bursa	419.895	1.949.932	165.111	63,8	4,6	50,1	2,6
Çanakkale	67.273	279.520	25.583	43,0	4,2	37,8	5,5
Çankırı	14.545	69.903	6.087	40,3	4,8	30,6	7,1
Çorum	71.999	355.184	22.248	56,8	4,9	42,0	3,8
Denizli	191.863	638.293	84.016	54,1	3,3	59,3	2,8
Diyarbakır	249.068	833.591	94.677	46,5	3,3	50,7	3,8
Edirne	72.091	339.858	16.647	48,1	4,7	37,2	5,1
Elazığ	137.482	671.392	38.944	58,1	4,9	43,5	3,5
Erzincan	37.597	133.217	9.595	51,4	3,5	53,0	3,3
Erzurum	135.449	778.649	54.826	58,6	5,7	37,2	4,1
Eskişehir	172.223	824.992	71.302	61,8	4,8	47,1	3,0
Gaziantep	383.195	1.401.532	147.825	57,7	3,7	57,6	2,7
Giresun	79.427	340.357	21.234	53,6	4,3	45,6	3,7
Gümüşhane	9.557	40.149	2.797	28,3	4,2	24,6	10,7
Hakkari	24.184	57.819	4.754	37,0	2,4	56,5	4,1
Hatay	251.968	979.959	93.651	59,7	3,9	56,0	2,6
Isparta	89.882	463.240	52.893	60,1	5,2	42,5	3,4
Mersin	251.645	1.097.020	97.761	59,4	4,4	49,8	3,0
İstanbul	2.045.691	9.434.193	921.840	55,0	4,6	43,6	3,8
İzmir	555.734	2.570.314	287.870	57,1	4,6	45,1	3,5
Kars	25.350	93.387	8.020	31,6	3,7	31,3	8,0
Kastamonu	37.785	163.610	13.180	40,0	4,3	33,7	6,5
Kayseri	267.771	1.162.517	97.732	64,6	4,3	54,3	2,4
Kırklareli	44.293	160.781	9.589	43,5	3,6	43,7	4,7
Kırşehir	24.185	96.173	5.929	43,9	4,0	40,3	5,1
Kocaeli	248.971	1.090.378	110.928	61,1	4,4	50,9	2,8

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



Table 8.25. Some Health Indicators by Provinces, 2021 - Continued

City	Number of Inpatients	Number of Bed Days	Number of Surgical Operation	Bed Occupancy Rate	Average Length of Stay	Bed Turnover Rate	Bed Turnover Interval
Konya	359.733	1.710.921	168.775	53,5	4,8	41,0	4,1
Kütahya	66.010	334.513	19.685	46,2	5,1	33,3	5,9
Malatya	157.753	672.267	45.879	57,3	4,3	49,1	3,2
Manisa	191.229	907.181	77.533	51,8	4,7	39,8	4,4
Kahramanmaraş	157.165	694.298	66.735	60,2	4,4	49,7	2,9
Mardin	89.206	307.872	27.224	58,3	3,5	61,7	2,5
Muğla	108.506	431.996	37.677	53,0	4,0	48,6	3,5
Muş	39.856	121.497	9.248	43,2	3,0	51,8	4,0
Nevşehir	37.232	188.108	12.845	60,1	5,1	43,4	3,3
Niğde	38.157	164.867	7.888	48,7	4,3	41,1	4,6
Ordu	128.806	435.795	33.820	52,0	3,4	56,1	3,1
Rize	51.399	213.497	13.210	52,7	4,2	46,3	3,7
Sakarya	110.388	497.104	46.205	58,3	4,5	47,2	3,2
Samsun	234.053	1.311.219	105.150	67,6	5,6	44,0	2,7
Siirt	47.159	162.371	14.673	56,8	3,4	60,2	2,6
Sinop	22.894	116.245	5.873	40,6	5,1	29,2	7,4
Sivas	93.110	376.373	34.664	35,2	4,0	31,8	7,4
Tekirdağ	164.737	646.843	52.235	55,0	3,9	51,1	3,2
Tokat	95.527	413.222	32.836	49,2	4,3	41,6	4,5
Trabzon	158.668	669.597	61.904	53,7	4,2	46,4	3,6
Tunceli	2.771	13.677	674	25,0	4,9	18,5	14,8
Şanlıurfa	284.479	1.105.637	92.730	71,8	3,9	67,5	1,5
Uşak	52.203	186.490	19.674	41,4	3,6	42,3	5,1
Van	147.223	628.590	49.935	56,8	4,3	48,6	3,2
Yozgat	48.879	185.206	13.211	41,9	3,8	40,4	5,2
Zonguldak	95.601	433.857	34.815	51,4	4,5	41,4	4,3
Aksaray	48.853	170.843	16.195	42,0	3,5	43,9	4,8
Bayburt	8.172	38.013	1.193	32,5	4,7	25,5	9,6
Karaman	25.439	120.176	13.082	55,9	4,7	43,2	3,7
Kırıkkale	40.252	199.624	16.939	44,1	5,0	32,5	6,3
Batman	87.520	340.485	28.307	51,1	3,9	47,9	3,7
Şırnak	41.760	119.883	13.560	45,1	2,9	57,4	3,5
Bartın	16.550	82.741	3.699	52,5	5,0	38,3	4,5
Ardahan	8.322	35.582	2.329	45,3	4,3	38,7	5,2
İğdir	26.015	67.598	4.668	59,2	2,6	83,1	1,8
Yalova	54.509	178.141	13.447	66,6	3,3	74,4	1,6
Karabük	40.276	158.791	10.462	59,9	3,9	55,5	2,6
Kilis	20.222	86.308	6.850	70,2	4,3	60,0	1,8
Osmaniye	84.892	281.383	29.695	57,2	3,3	63,0	2,5
Düzce	54.526	172.655	19.755	52,6	3,2	60,7	2,9
Türkiye	11.785.492	51.742.167	4.704.094	55,7	4,4	46,3	3,5

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.
- ☑ According to the Circular "Staging Health Service Providers" published by the Ministry of Health, General Directorate of Health Services on 31/05/2019, E2-E3 Integrated District State Hospitals were defined as primary health care institutions and E1 Integrated District State Hospitals as secondary health institutions. Prior year data was revised due to categorize of integrated district state hospitals in 2019.
- ☑ Integrated District State Hospitals, which serve as primary health care institutions throughout the year, were included in the calculations in tables, figures and maps of the Ministry of Health hospitals.
- ☑ 4-point Likert scale was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the scale intervals.
- ☑ The value of the provinces was rounded up to the closest whole number while making Map 8.2 and Map 8.4, the value of the provinces was rounded up to 1 decimal place while making Map 8.1 and Map 8.5 and the value of the provinces was rounded up to 2 decimal place while making Map 8.3 in the chapter. These numbers were considered while creating 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 change due to TURKSTAT’s population revision.
- ☑ **Referrals from the Family Medicine Unit:** It is calculated as follows: (Number of Referrals from the Family Medicine Unit / Number of Visits of Family Medicine Unit) x100.
- ☑ **Number of Inpatient:** The number of hospitalizations (Discharged + Deceased) 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 Bed Days 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 Bed Days) / (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:  $(\text{Number of Beds} \times 365 - \text{Number of Bed Days}) / (\text{Discharged} + \text{Deceased})$ .
- ☑ The number of patients waiting for transplantation is cumulative. It is calculated as: the number of people waiting in the previous year +the number of patients added to the list in the year-patients who became transplantation, died, recovered or left the waiting list for any reason in the year.
- ☑ All transplantation centers are included in the hospitals. Private licenses are given to the centers that meet the conditions under legislation.
- ☑ **Current Health Expenditure:** It is calculated by subtracting investment health expenditure from total health expenditure.



# CHAPTER 9

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## Pharmaceutical Statistics

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

ATC-1 Group	2016	2017	2018	2019	2020	2021
Alimentary T.& Metabolism	346,1	374,8	398,7	406,3	401,0	446,0
Nervous System	287,7	298,4	308,0	313,2	320,2	351,9
Respiratory System	307,6	317,2	329,8	335,0	276,9	291,8
Cardiovascular System	212,8	225,9	238,3	251,4	273,6	279,8
Musculo-Skeletal System	253,9	258,1	259,7	261,3	229,9	255,7
Systemic Anti-Infectives	284,0	257,3	262,7	265,8	205,7	204,5
Blood & Blood Forming Organs	93,2	99,4	107,0	107,1	117,1	133,2
Dermatologicals	110,1	115,8	118,6	123,1	115,2	130,9
G.U.System & Sex Hormones	71,5	74,1	77,6	78,7	73,0	82,7
Sensory Organs	66,1	68,1	71,2	73,2	63,2	71,9
Hospital Solutions	90,3	99,2	92,6	100,5	86,9	70,6
Systemic Hormonal Preparations (Excl. Sex Hormones and Insulins)	48,4	54,3	59,7	65,6	61,2	64,7
Antineoplastic & Immunomodul Agents	9,8	10,2	11,3	12,6	13,7	14,0
Various (Other)	5,2	6,1	6,3	7,1	12,9	13,2
Antiparasitic Products, Insecticides and Repellents	5,1	5,1	5,4	5,7	5,3	6,2
Diagnostic Agents	4,3	4,5	4,3	4,7	3,9	4,6
<b>Total</b>	<b>2.196,1</b>	<b>2.268,5</b>	<b>2.351,2</b>	<b>2.411,3</b>	<b>2.259,6</b>	<b>2.421,6</b>

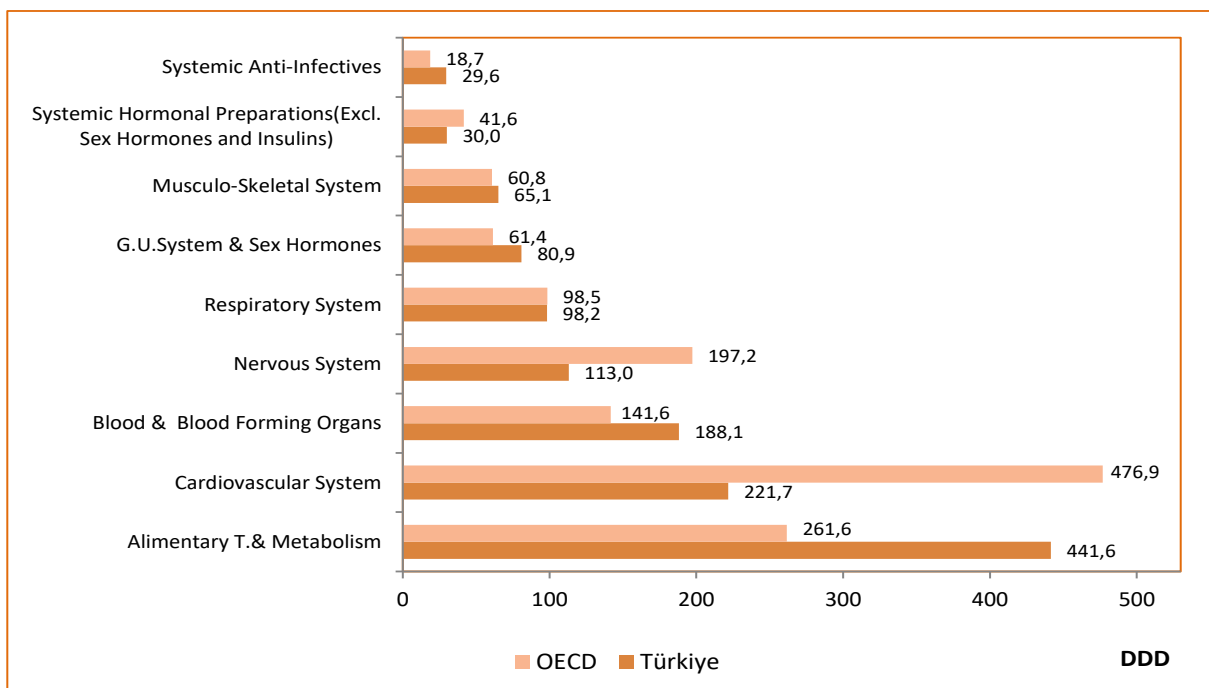
Source: Turkish Medicines and Medical Devices Agency

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

ATC-1 Group	2016	2017	2018	2019	2020	2021
Alimentary T.& Metabolism	332,7	340,6	387,4	392,4	417,3	441,6
Cardiovascular System	167,4	176,4	187,7	195,1	218,8	221,7
Blood & Blood Forming Organs	134,6	144,4	169,3	170,2	152,8	188,1
Nervous System	93,8	98,4	101,1	101,5	108,7	113,0
Respiratory System	96,4	99,9	109,0	111,2	97,9	98,2
G.U.System & Sex Hormones	53,5	68,5	69,9	73,7	74,3	80,9
Musculo-Skeletal System	64,7	62,0	61,6	64,8	58,4	65,1
Systemic Hormonal Preparations (Excl. Sex Hormones and Insulins)	21,3	21,9	24,2	25,7	27,8	30,0
Systemic Anti-Infectives	42,1	37,3	33,3	34,6	27,6	29,6

Source: Turkish Medicines and Medical Devices Agency

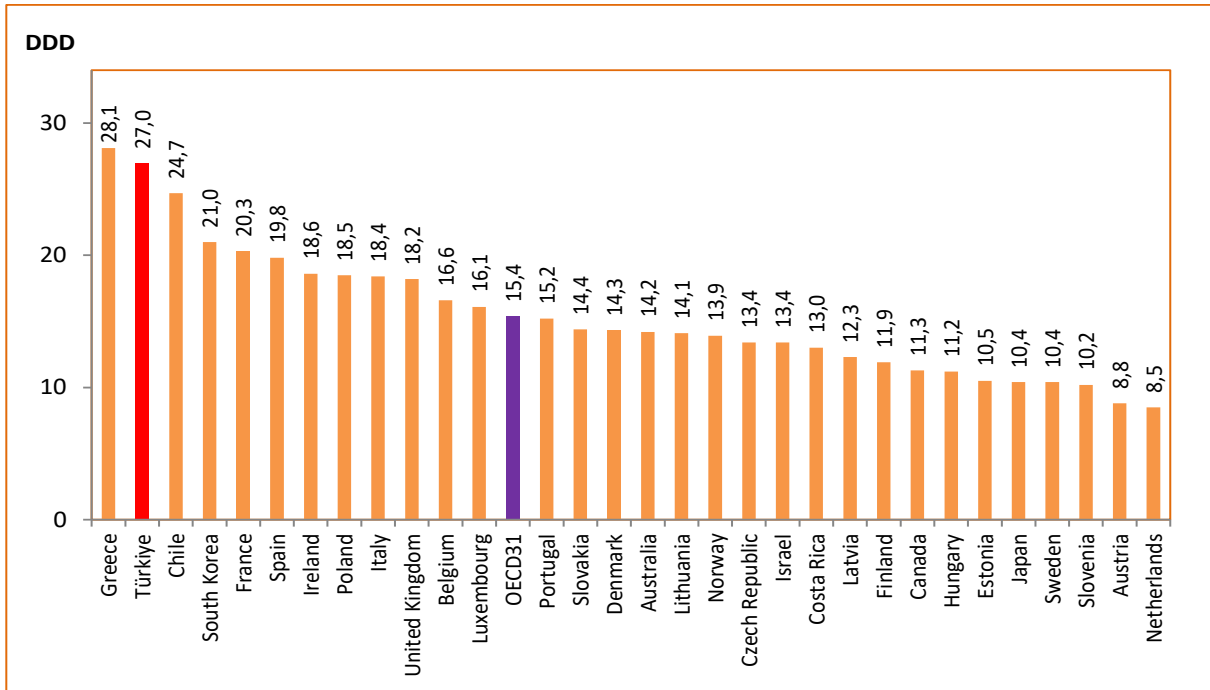
Figure 9.1. International Comparison of Pharmaceutical Consumption per 1.000 Population by Selected ATC-1 Groups, DDD, 2020



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2022

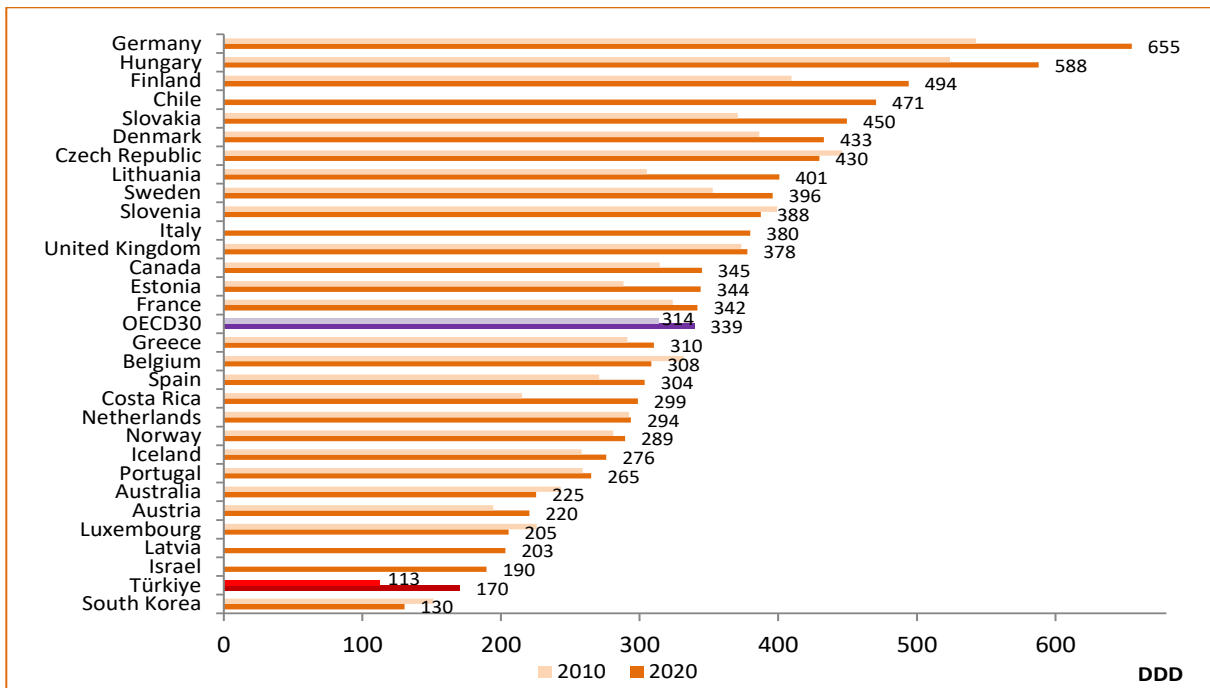
Note: Türkiye's data belong to the year 2021. OECD's data belong to the year of 2020 or nearest.

Figure 9.2. International Comparison of Antibiotic (ATC-J01) Consumption per 1.000 Population, DDD, 2020



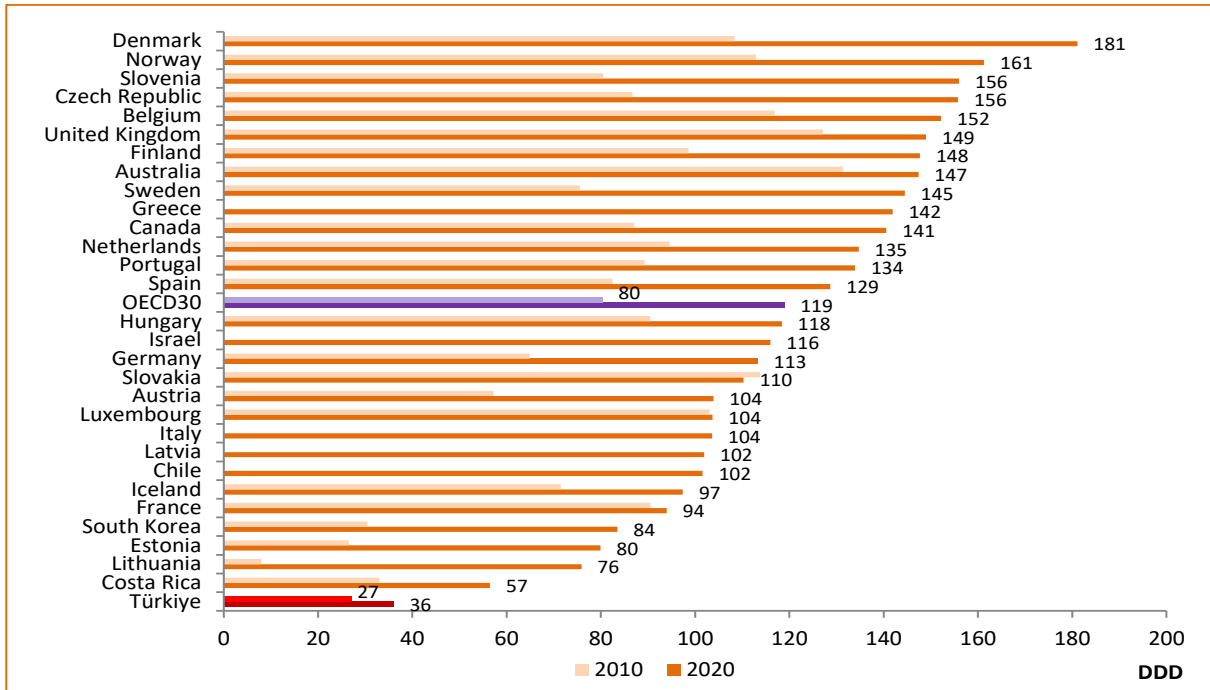
Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2022  
 Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year of 2020 or nearest.

Figure 9.3. International Comparison of Antihypertensive Drug Consumption per 1.000 Population, DDD, 2010, 2020



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2022  
 Note: Türkiye's data belong to the year 2010 and 2021. Countries' data belong to the year of 2010 and 2020 or nearest. Data includes ATC codes C02, C03, C07, C08, C09.

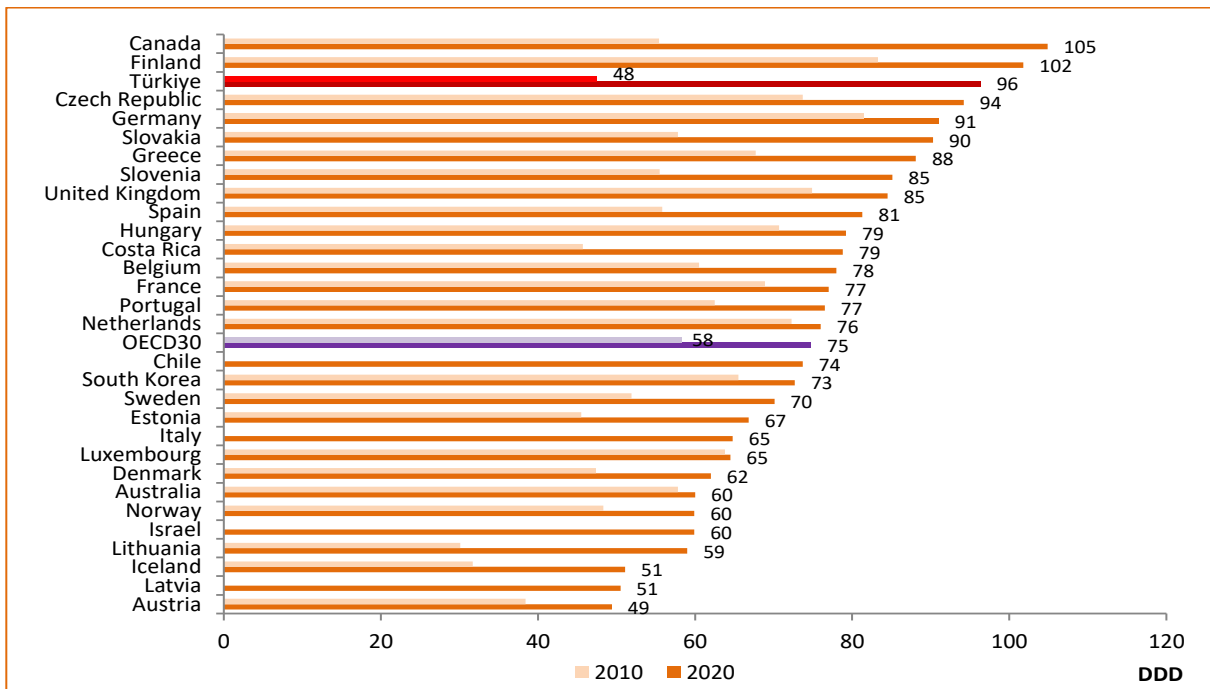
Figure 9.4. International Comparison of Cholesterol-Lowering Drug (ATC-C10) Consumption per 1.000 Population, DDD, 2010, 2020



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2022

Note: Türkiye's data belong to the year 2010 and 2021. Countries' data belong to the year of 2010 and 2020 or nearest.

Figure 9.5. International Comparison of Antidiabetic Drug (ATC-A10) Consumption per 1.000 Population, DDD, 2010, 2020

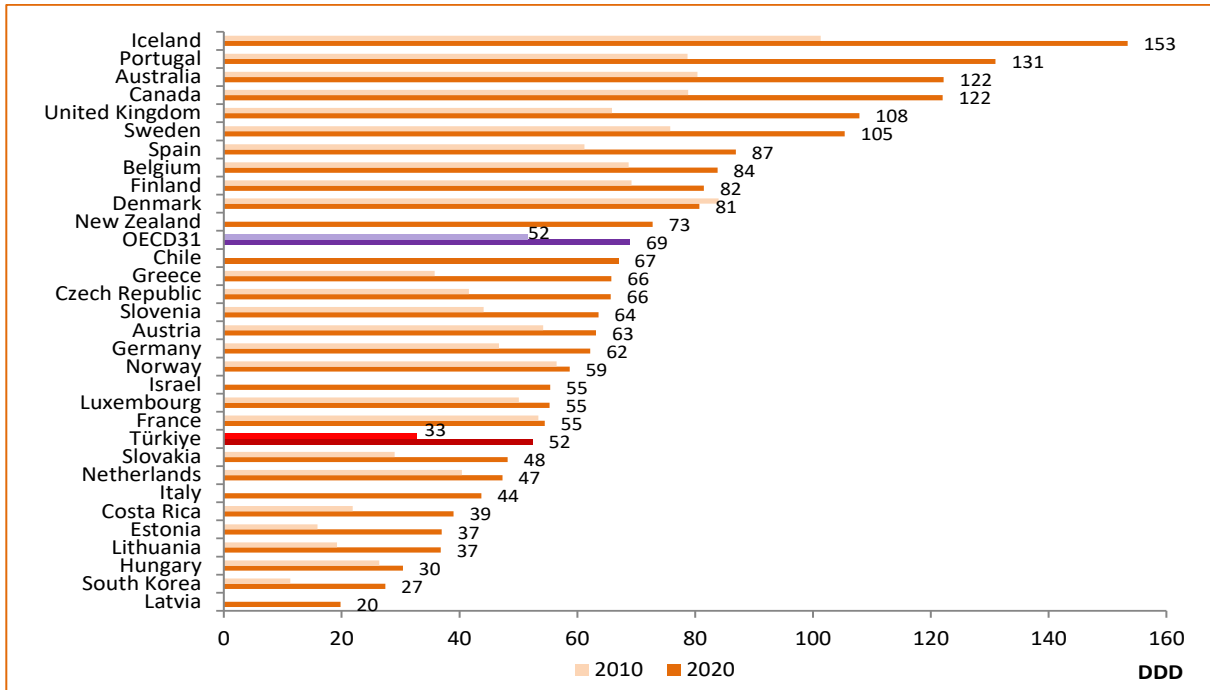


Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2022

Note: Türkiye's data belong to the year 2010 and 2021. Countries' data belong to the year of 2010 and 2020 or nearest.



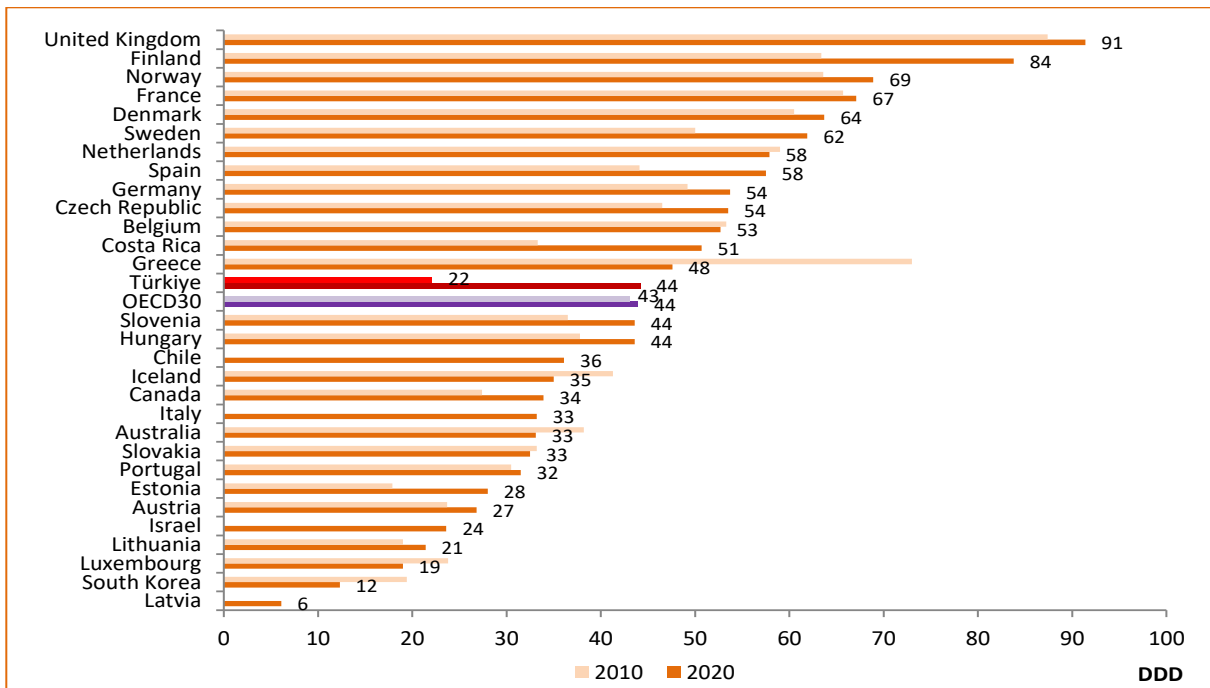
Figure 9.6. International Comparison of Antidepressant Drug (ATC-N06A) Consumption per 1.000 Population, DDD, 2010, 2020



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2022

Note: Türkiye's data belong to the year 2010 and 2021. Countries' data belong to the year of 2010 and 2020 or nearest.

Figure 9.7. International Comparison of Drugs for Obstructive Airway Disease (ATC-R03) Consumption per 1.000 Population, DDD, 2010, 2020



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2022

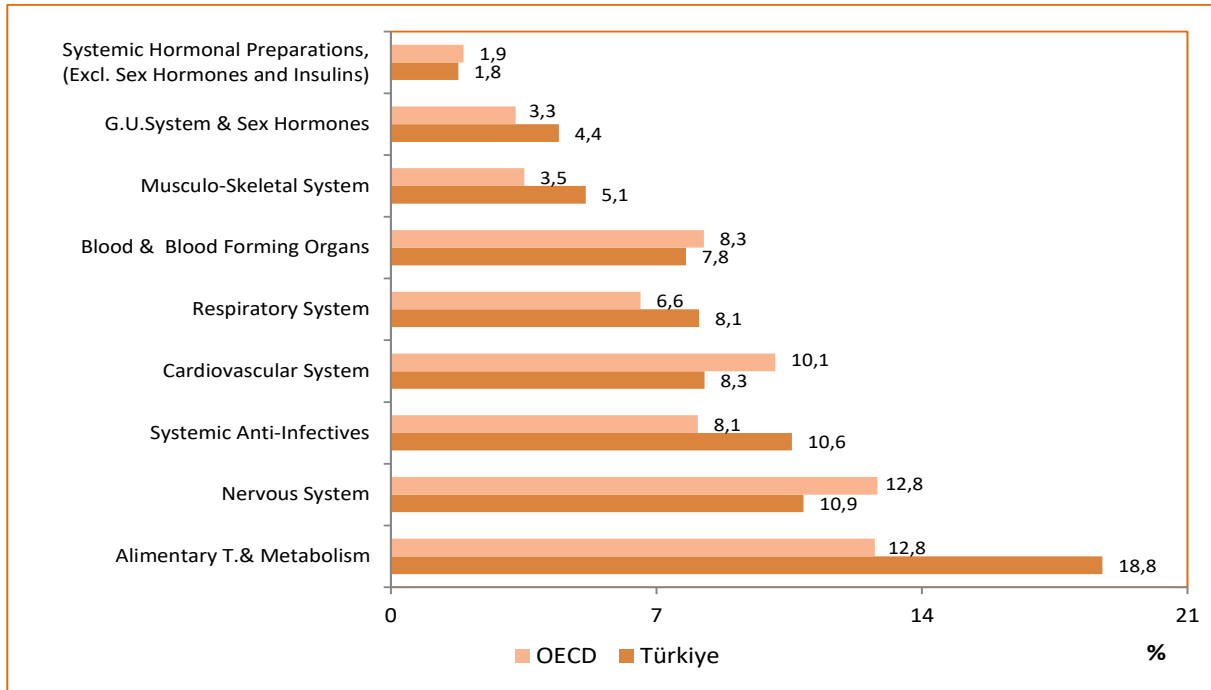
Note: Türkiye's data belong to the year 2010 and 2021. Countries' data belong to the year of 2010 and 2020 or nearest.

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

ATC-1 Group	2016	2017	2018	2019	2020	2021
Alimentary T.& Metabolism	3.361,1	4.163,1	5.223,5	6.893,8	9.117,7	12.158,5
Antineoplastic & Immunomodul Agents	2.440,2	3.038,3	4.179,2	5.691,7	7.391,5	9.716,4
Nervous System	2.299,1	2.995,9	3.607,3	4.659,9	5.563,4	7.050,7
Systemic Anti-Infectives	2.699,3	3.002,4	3.895,8	5.252,0	5.511,5	6.853,7
Cardiovascular System	1.744,0	2.133,3	2.608,9	3.441,1	4.375,4	5.358,0
Respiratory System	2.002,8	2.431,2	3.019,9	3.906,6	4.172,0	5.267,7
Blood & Blood Forming Organs	1.411,0	1.773,1	2.309,3	3.114,7	3.935,0	5.042,0
Musculo-Skeletal System	1.295,4	1.578,9	1.915,1	2.441,3	2.509,3	3.327,6
G.U.System & Sex Hormones	984,6	1.193,9	1.485,5	1.897,9	2.006,2	2.871,3
Dermatologicals	694,0	825,0	983,0	1.264,9	1.385,5	2.010,7
Sensory Organs	783,3	877,8	1.073,2	1.230,7	1.259,7	1.798,4
Systemic Hormonal Preparations (Excl. Sex Hormones and Insulins)	411,4	476,7	614,3	753,3	861,1	1.151,4
Various (Other)	226,8	273,3	314,7	419,4	788,6	1.016,0
Hospital Solutions	364,0	463,5	550,0	671,9	691,3	622,1
Diagnostic Agents	183,3	213,8	267,7	382,7	338,6	479,3
Antiparasitic Products, Insecticides and Repellents	22,1	26,6	34,4	48,6	58,4	83,3
<b>Total</b>	<b>20.922,4</b>	<b>25.466,7</b>	<b>32.081,8</b>	<b>42.070,4</b>	<b>49.965,3</b>	<b>64.807,1</b>

Source: Turkish Medicines and Medical Devices Agency

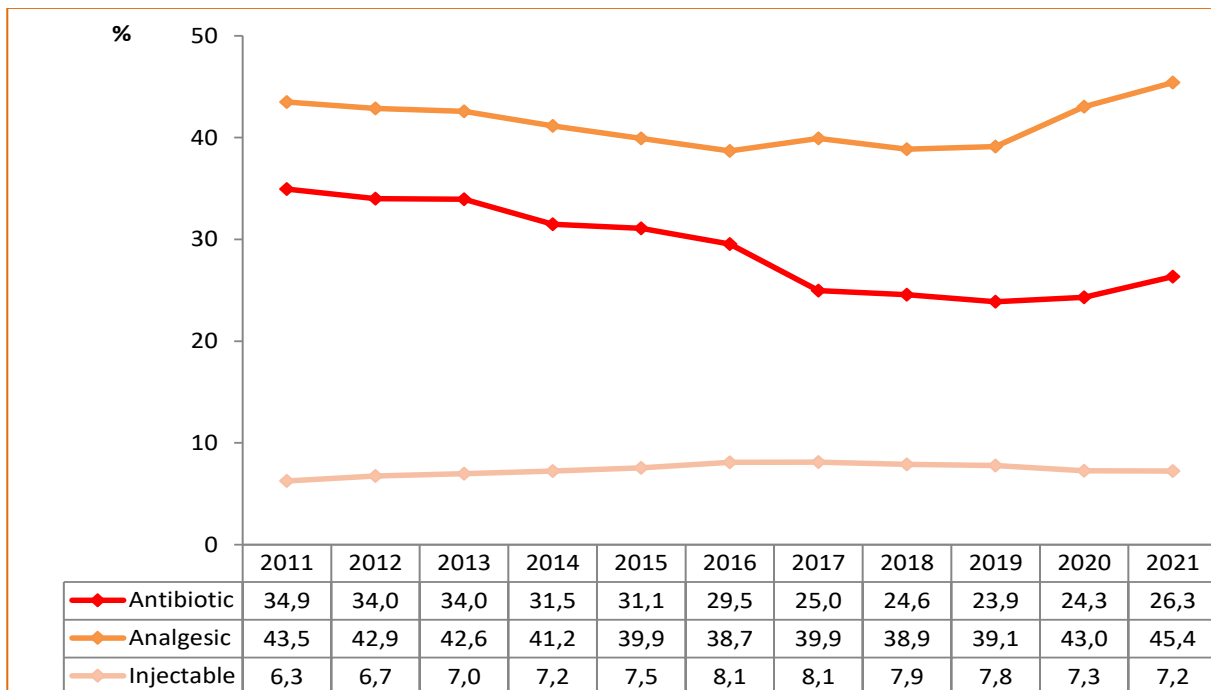
Figure 9.8. International Comparison of Pharmaceutical Sales Amounts (National Currency) by Selected ATC-1 Groups, (%), 2020



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2022

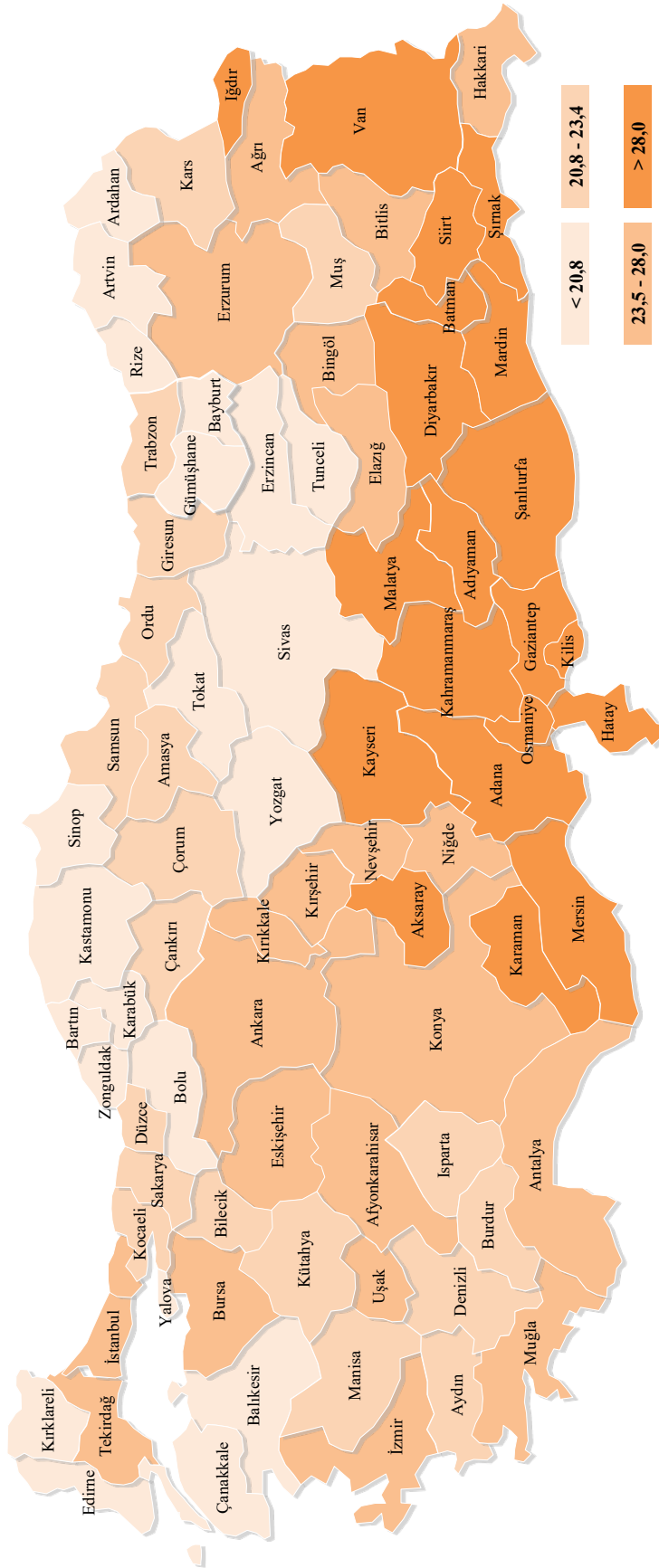
Note: Türkiye's data belong to the year 2021. OECD's data belong to the year of 2020 or nearest.

Figure 9.9. Ratio of Prescriptions Including Antibiotic, Analgesic, Injectable Drug Among All Prescriptions Written Out by Family Physicians by Years, (%)



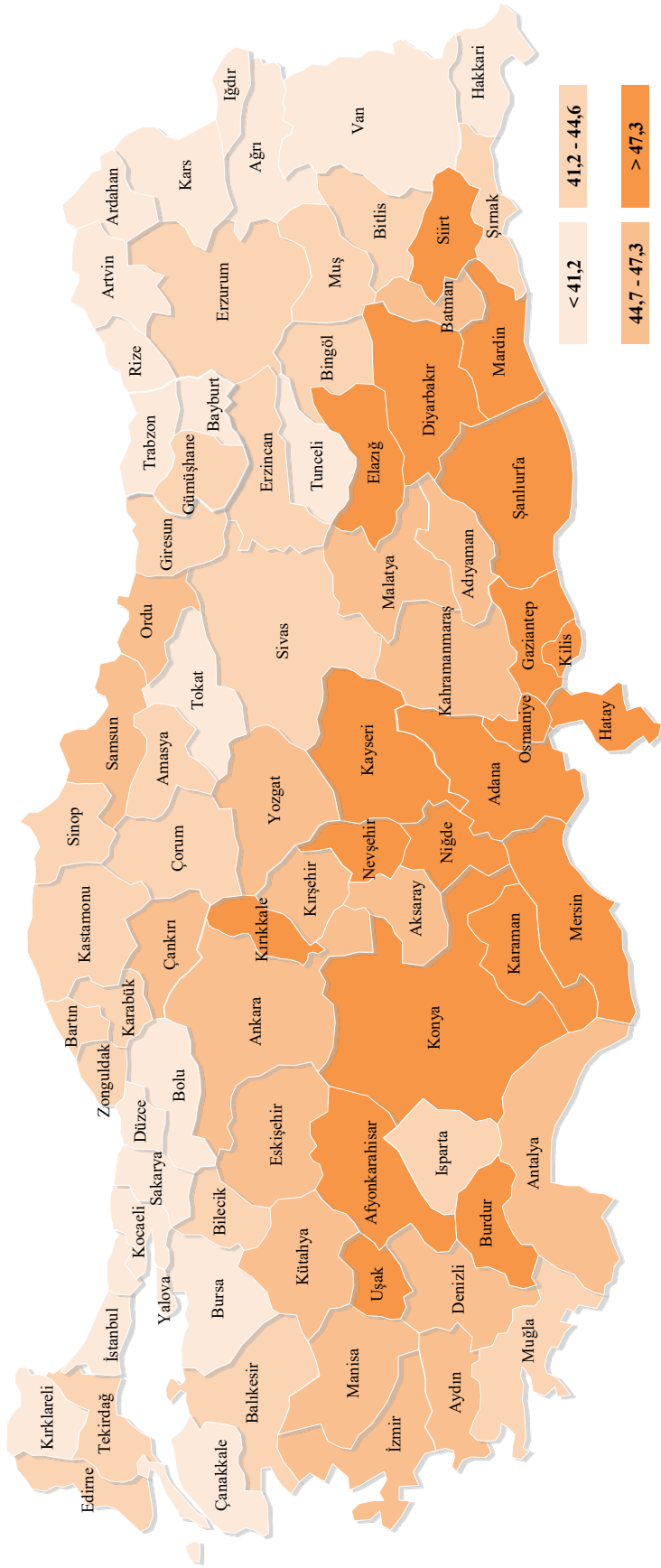
Source: Turkish Medicines and Medical Devices Agency

Map 9.1.1. Ratio of Prescriptions Including Antibiotic Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2021



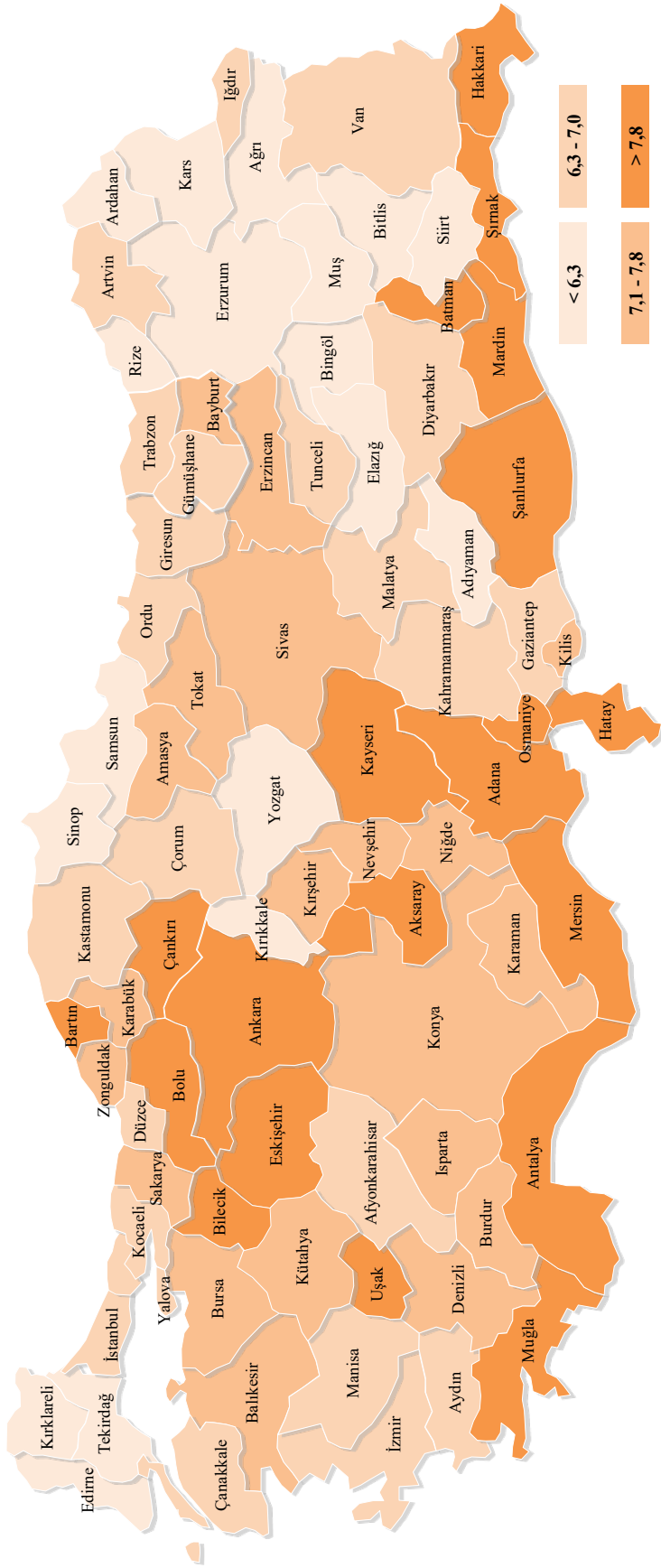
Source: Turkish Medicines and Medical Devices Agency

Map 9.2. Ratio of Prescriptions Including Analgesic Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2021



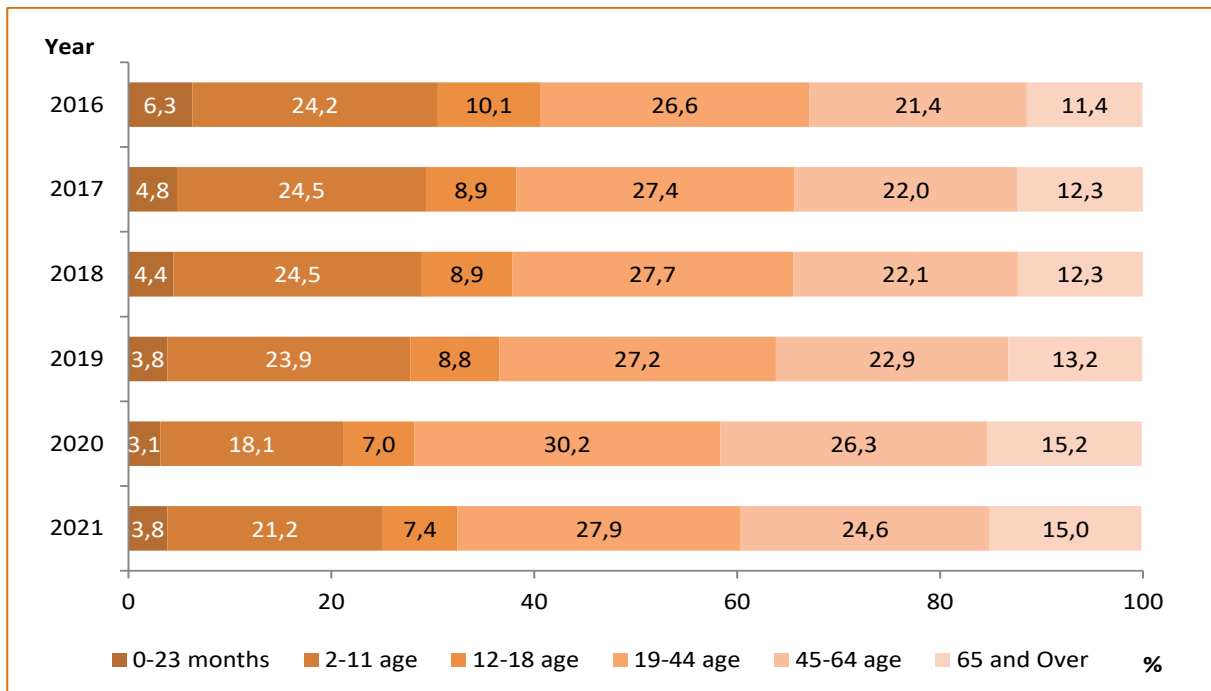
Source: Turkish Medicines and Medical Devices Agency

Map 9.3. Ratio of Prescriptions Including Injectable Drug Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2021



Source: Turkish Medicines and Medical Devices Agency

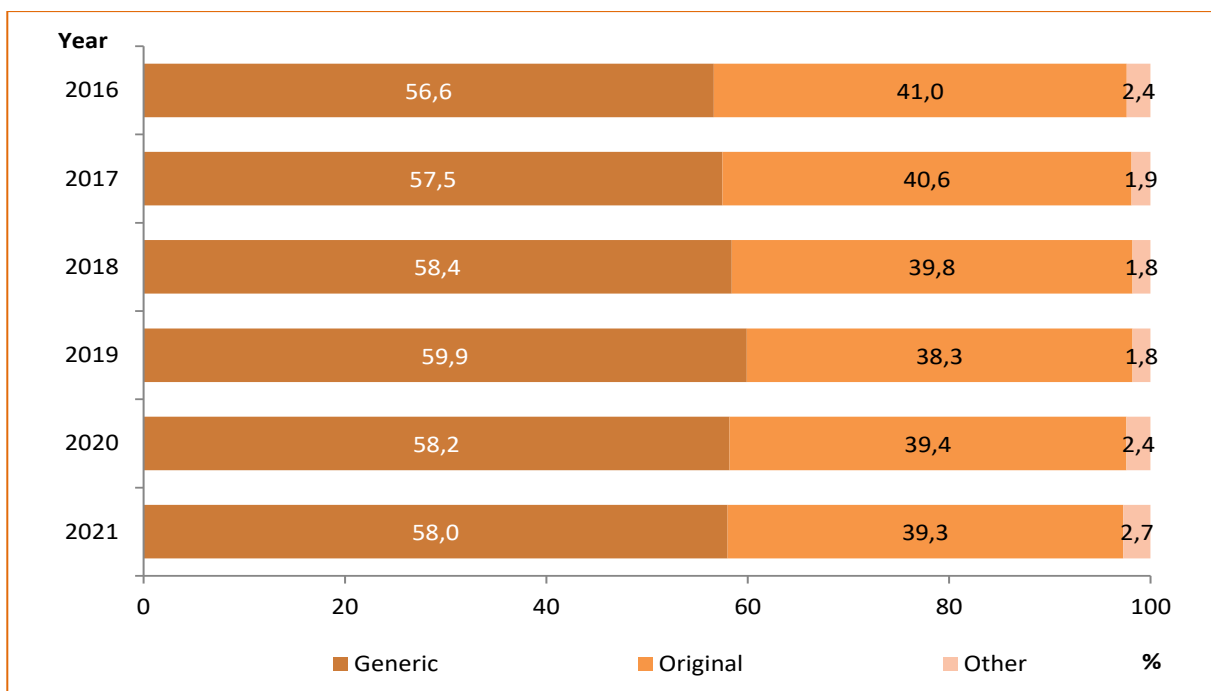
Figure 9.10. Distribution of Prescriptions Including Antibiotic Written Out by Family Physicians by Years and Age Groups, (%)



Source: Turkish Medicines and Medical Devices Agency

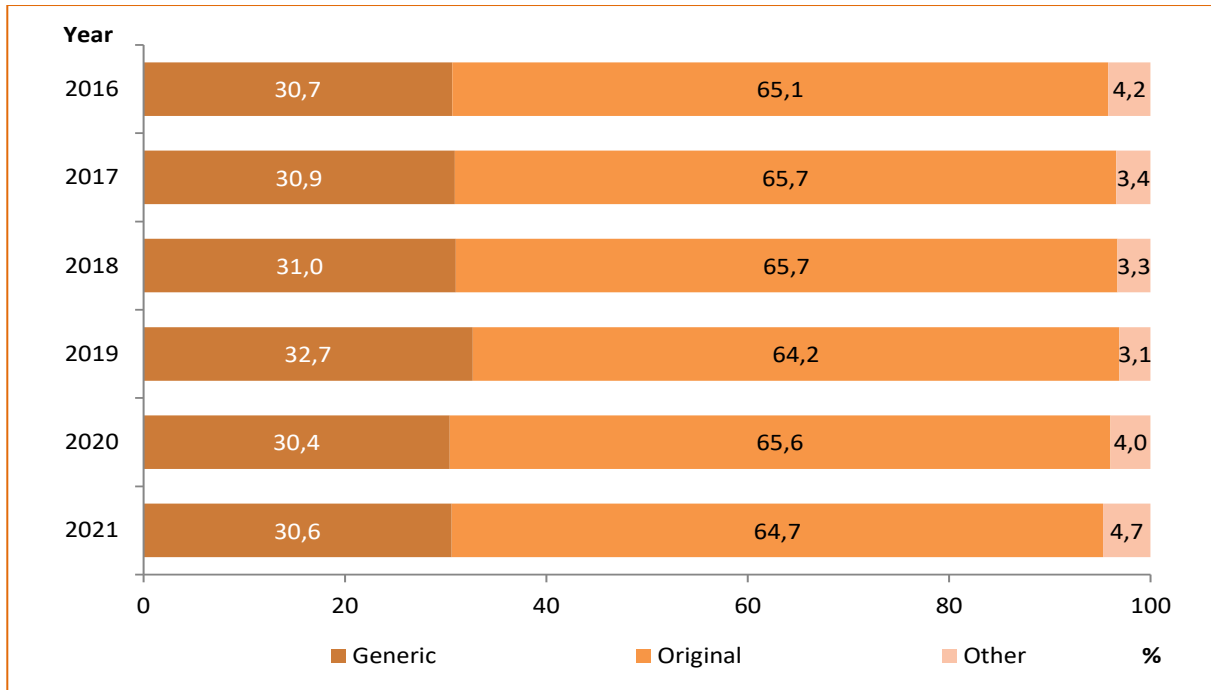
Note: In years when 100% is not completed, the age group of prescription data is unknown.

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



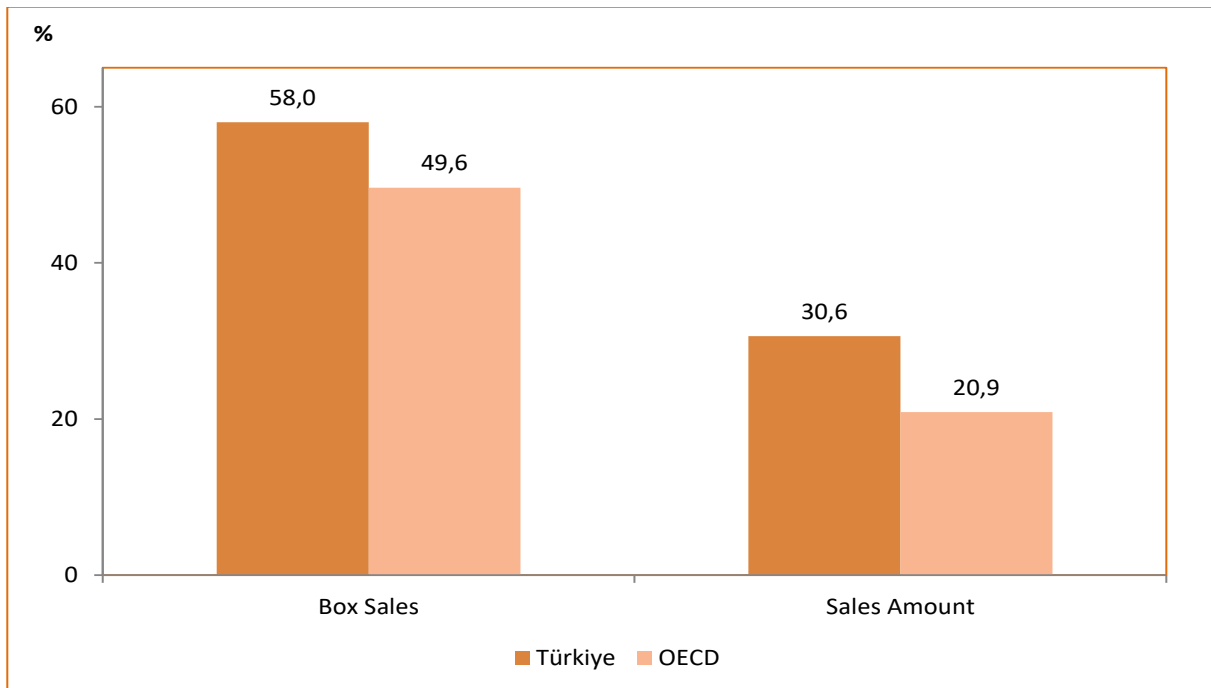
Source: Turkish Medicines and Medical Devices Agency

Figure 9.12. Distribution of Pharmaceutical Sales Amounts (in ₺) by Years and Types of Reference, (%)



Source: Turkish Medicines and Medical Devices Agency

Figure 9.13. International Comparison of Share of Generic Market with respect to Box Sales and Sales Amounts (National Currency), (%), 2020

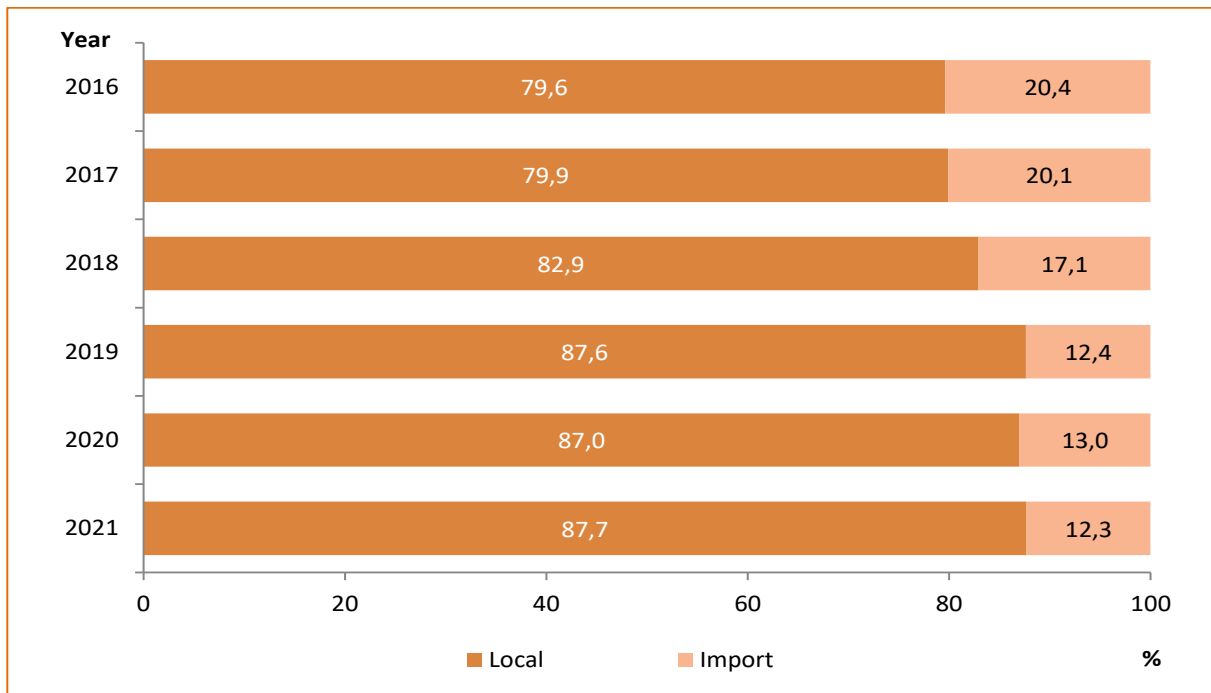


Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2022

Note: Türkiye's data belong to the year 2021. OECD's data belong to the year of 2020 or nearest. Generic drugs include generic and drugs which is not specified original or generic.

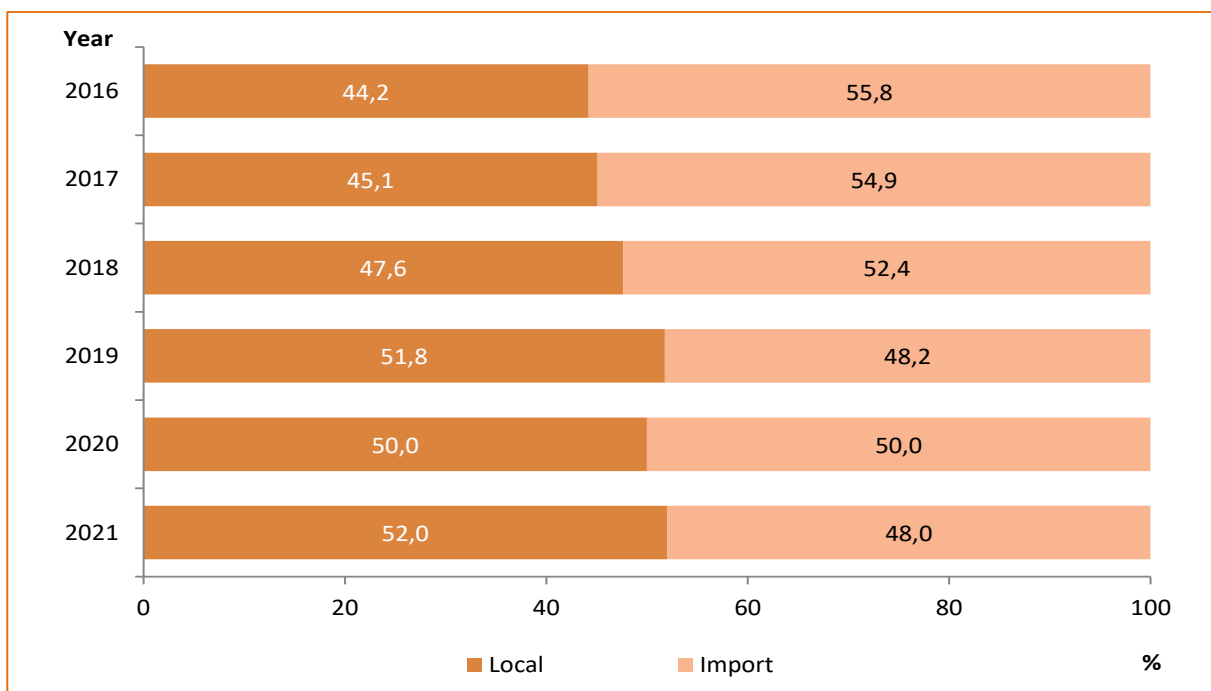


Figure 9.14. Distribution of Pharmaceutical Box Sales by Years and Local/Imported Status, (%)



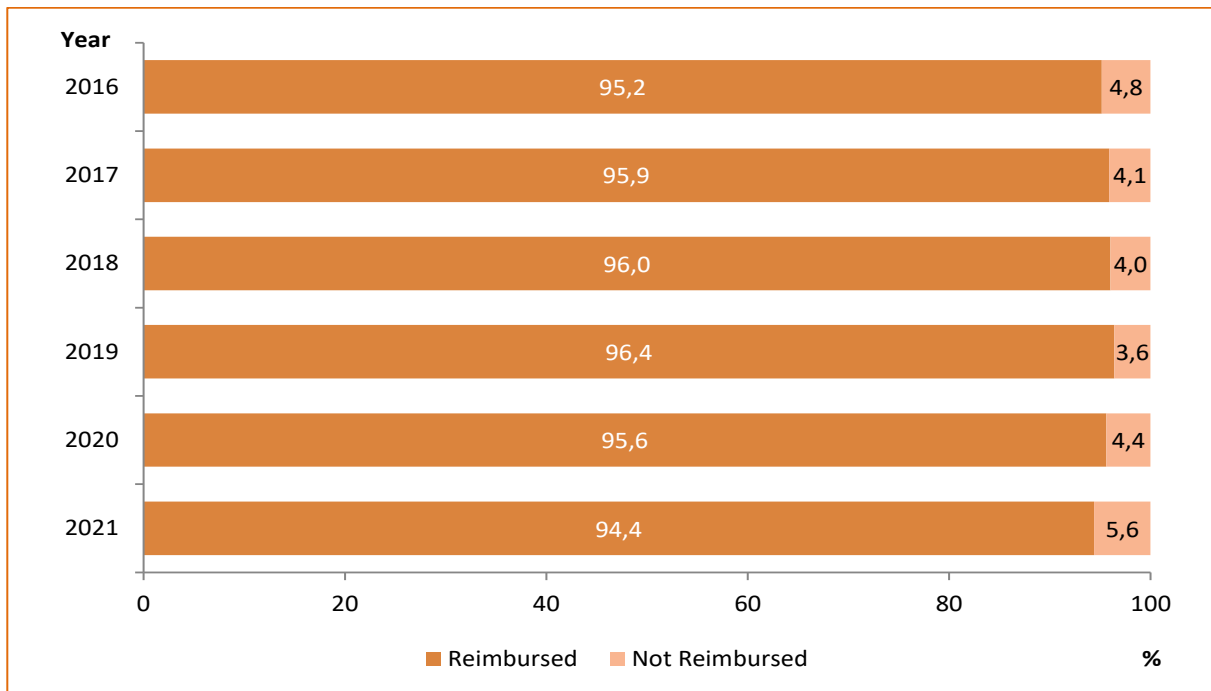
Source: Turkish Medicines and Medical Devices Agency

Figure 9.15. Distribution of Pharmaceutical Sales Amounts (in ₺) by Years and Local/Imported Status, (%)



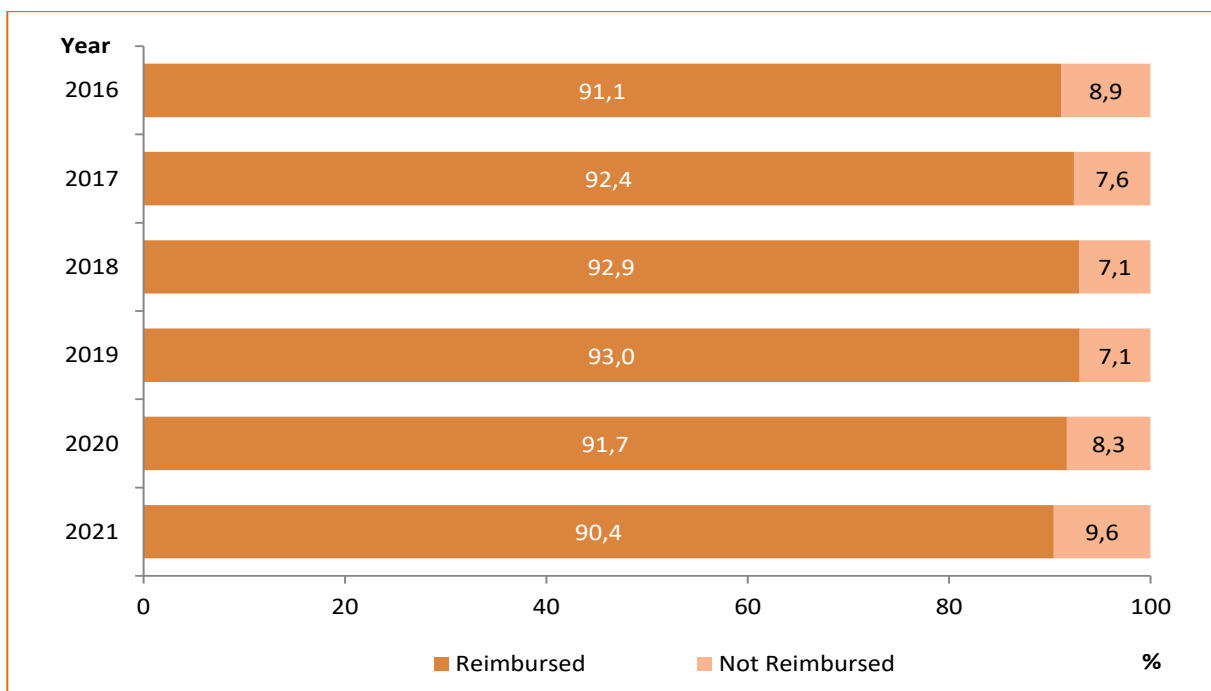
Source: Turkish Medicines and Medical Devices Agency

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



Source: Turkish Medicines and Medical Devices Agency

Figure 9.17. 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	2018			2019			2020			2021		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Ratio of adequate use of cholesterol lowering treatment in people with diabetes, (%)	31,5	29,5	30,3	32,5	30,2	31,2	25,7	23,6	24,5	20,9	20,1	20,4
Ratio of first choice antihypertensive for people with diabetes, (%)	78,5	83,7	81,6	78,3	83,5	81,4	73,4	78,6	76,6	69,4	75,0	73,1
Volume of cephalosporines and quinolones as a proportion of all systemic antibiotics prescribed, (%)	31,5	34,8	33,3	27,3	30,8	29,2	26,6	30,2	28,6	25,3	29,3	27,5
Overall volume (DDD) of antibiotics for systemic use prescribed (per 1.000 population in FMIS)	10,2	10,6	10,4	11,3	12,5	12,0	10,1	11,4	10,8	10,6	11,9	11,3

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, 2020

Health Care Quality Indicators	Türkiye	OECD
Ratio of first choice antihypertensives for people with diabetes, (%)	73,1	80,4
Volume of cephalosporines and quinolones as a proportion of all systemic antibiotics prescribed, (%)	27,5	17,5
Ratio of adequate use of cholesterol lowering treatment in people with diabetes, (%)	20,4	66,2
Overall volume (DDD) of antibiotics for systemic use prescribed (per 1.000 population in FMIS)	11,3	17,4

Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2022

Note: Türkiye's data belong to the year 2021. OECD's data belong to the year of 2020 or nearest.

## Explanations for Chapter 9

- ☑ 4-point Likert scale was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the scale intervals. The value of the provinces was rounded up to 1 decimal place. These whole numbers were considered while creating 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
<b>A</b>	<b>Alimentary T. &amp; Metabolism</b>
A10	Drugs Used in Diabetes
<b>B</b>	<b>Blood and Blood Forming Organs</b>
<b>C</b>	<b>Cardiovascular System</b>
C02	Antihypertensives
C03	Diuretics
C07	Beta Blocking Agents
C08	Calcium Channel Blockers
C09	Agents Acting on The Renin-Angiotensin System
C10	Lipid Modifying Agents
<b>G</b>	<b>G.U. System &amp; Sex Hormones</b>
<b>H</b>	<b>Systemic Hormonal Preparations (Excl. Sex Hormones and Insulins)</b>
<b>J</b>	<b>Systemic Anti-Infectives</b>
J01	Antibacterials for Systemic Use
<b>M</b>	<b>Musculo-Skeletal System</b>
<b>N</b>	<b>Nervous System</b>
N06A	Antidepressants
<b>R</b>	<b>Respiratory System</b>
R03	Drugs for Obstructive Airway Diseases

- ☑ **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 software 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 research and clinical studies, which are based on a patented molecule, and which are previously unprecedented.

☑ The parts shown as Other in Figure 9.11. and Figure 9.12. are products which do not have a distinction of original/generic.

An abstract graphic on the left side of the page, consisting of a complex network of dark blue and black lines connecting various nodes. Some nodes are represented by small, semi-transparent blue circles. The network is dense and extends from the top-left corner towards the bottom-right, fading into the white background.

# **CHAPTER 10**

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## **Human Resources for Health**

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

	2002	2017	2018	2019	2020	2021
Specialist Physicians	45.457	80.951	82.894	85.199	88.127	93.517
General Practitioners	30.900	44.649	44.053	46.843	49.760	53.035
Medical Residents	15.592	24.397	26.181	28.768	33.372	37.017
<b>Total Physicians</b>	<b>91.949</b>	<b>149.997</b>	<b>153.128</b>	<b>160.810</b>	<b>171.259</b>	<b>183.569</b>
Total Dentists	16.371	27.889	30.615	32.925	34.830	39.851
Pharmacists	22.289	28.512	32.032	33.841	35.364	37.211
Nurses	72.393	166.142	190.499	198.103	227.292	232.442
Midwives	41.479	53.741	56.351	55.972	59.040	57.908
Other Health Personnel	50.106	155.417	177.409	182.456	206.103	219.630
Other Personnel and Procurement of Services	83.964	339.241	376.367	369.660	408.581	481.311
<b>Total Personnel</b>	<b>378.551</b>	<b>920.939</b>	<b>1.016.401</b>	<b>1.033.767</b>	<b>1.142.469</b>	<b>1.251.922</b>

Source: General Directorate of Health Services

Note: 2.520 physicians in the subspecialty program are included to the number of "Medical Resident" in 2021. 2.581 dental residents are included to the number of "Total Dentist". 2.446 pharmacists including graduated intern pharmacist and second pharmacists were added to the number of "Pharmacists". The health personnel working in the central organization of the Ministry of Health are not included in the number of Ministry of Health personnel.

Table 10.2. Distribution of Health Care Professionals by Sectors and Titles, 2021

	Ministry of Health	University	Private	Total
Specialist Physicians	45.672	16.228	31.617	93.517
General Practitioners	47.216	807	5.012	53.035
Medical Residents	14.360	22.657	-	37.017
<b>Total Physicians</b>	<b>107.248</b>	<b>39.692</b>	<b>36.629</b>	<b>183.569</b>
Specialist Dentists	1.077	2.125	3.337	6.539
Dentists	10.528	362	19.841	30.731
Dental Residents	30	2.551	-	2.581
<b>Total Dentists</b>	<b>11.635</b>	<b>5.038</b>	<b>23.178</b>	<b>39.851</b>
Pharmacists	4.033	728	32.450	37.211
Nurses	155.588	37.021	39.833	232.442
Midwives	54.178	925	2.805	57.908
Other Health Personnel	142.712	21.617	55.301	219.630
Other Personnel and Procurement of Services	252.626	73.338	155.347	481.311
<b>Total Personnel</b>	<b>728.020</b>	<b>178.359</b>	<b>345.543</b>	<b>1.251.922</b>

Source: General Directorate of Health Services

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

	2002	2017	2018	2019	2020	2021
Specialist Physicians	22.187	42.726	43.347	44.698	46.603	45.672
General Practitioners	29.030	38.721	39.442	42.300	45.291	47.216
Medical Residents	6.189	8.817	8.770	10.147	12.264	14.360
<b>Total Physicians</b>	<b>57.406</b>	<b>90.264</b>	<b>91.559</b>	<b>97.145</b>	<b>104.158</b>	<b>107.248</b>
Total Dentists	3.211	9.768	10.814	11.387	11.588	11.635
Pharmacists	1.596	2.855	3.064	3.404	3.697	4.033
Nurses	54.360	112.074	126.891	132.333	156.205	155.588
Midwives	39.473	49.003	52.495	52.076	55.505	54.178
Other Health Personnel	33.276	111.193	121.206	124.758	140.161	142.712
Other Personnel and Procurement of Services	67.496	215.402	236.155	229.335	250.461	252.626
<b>Total Personnel</b>	<b>256.818</b>	<b>590.559</b>	<b>642.184</b>	<b>650.438</b>	<b>721.775</b>	<b>728.020</b>

Source: General Directorate of Health Services

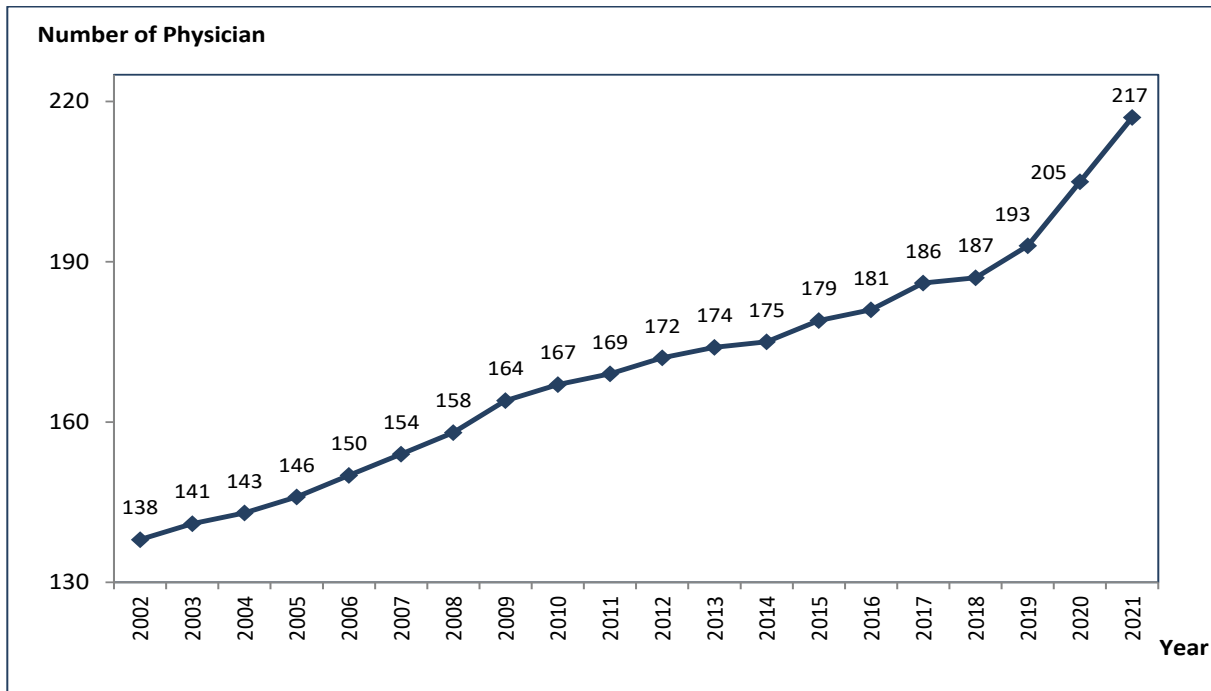
Table 10.4. Distribution of Health Care Professionals Working in Central Organization by Titles, MoH, 2021

	Central Organization
Specialist Physicians	146
General Practitioners	287
Medical Residents	-
<b>Total Physicians</b>	<b>433</b>
Specialist Dentists	6
Dentists	32
Dental Residents	-
<b>Total Dentists</b>	<b>38</b>
Pharmacists	367
Nurses	425
Midwives	147
Other Health Personnel	919
Other Personnel and Procurement of Services	4.680
<b>Total Personnel</b>	<b>7.009</b>

Source: General Directorate of Health Services

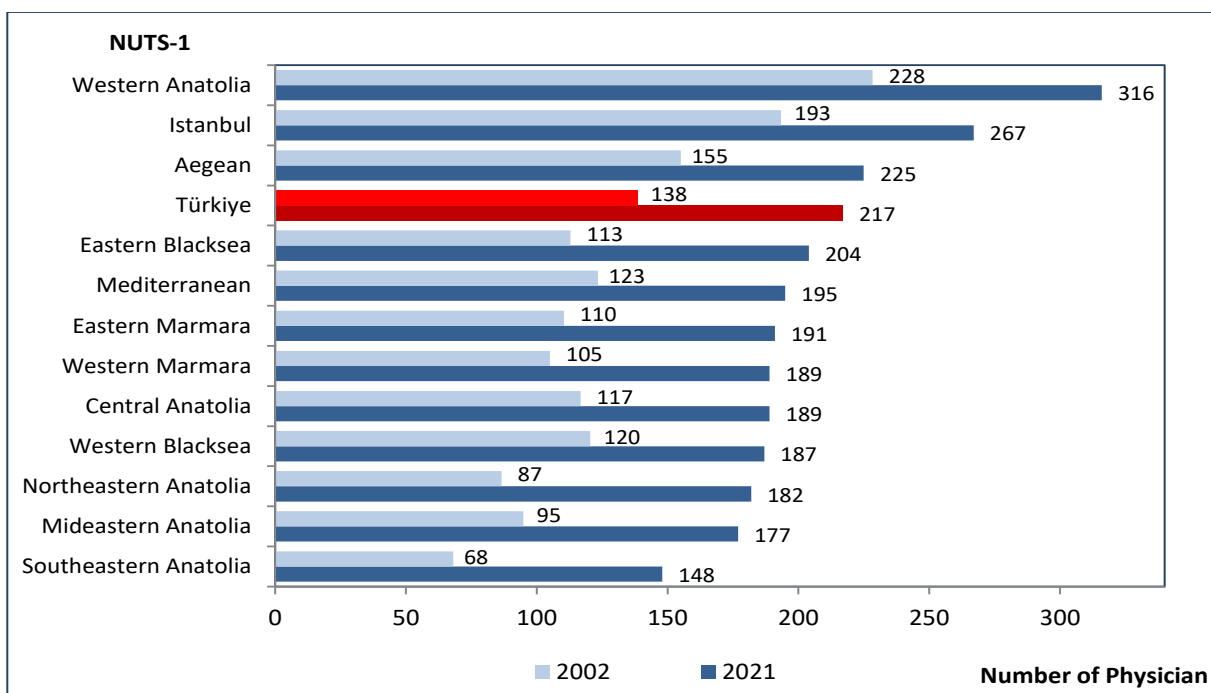


Figure 10.1. Number of Total Physicians per 100.000 Population by Years, All Sectors



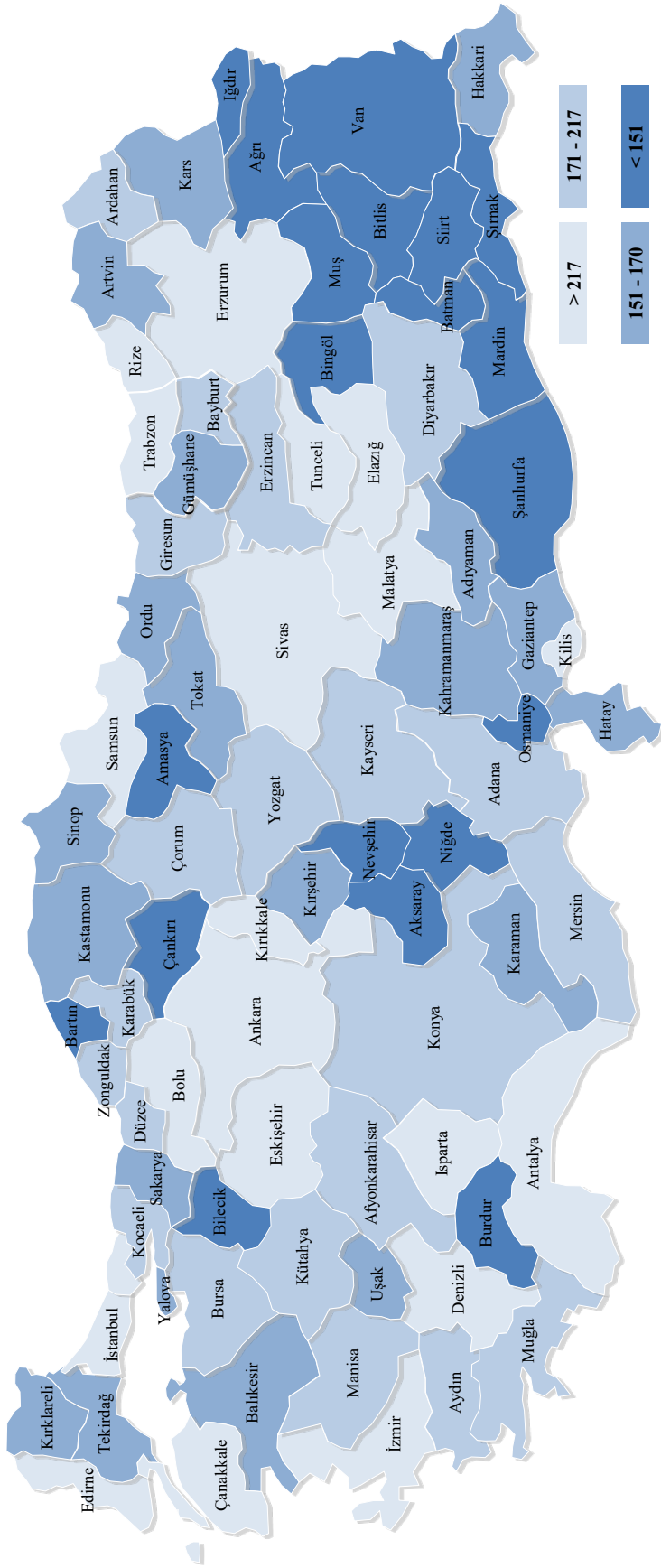
Source: General Directorate of Health Services

Figure 10.2. Number of Total Physicians per 100.000 Population by NUTS-1, All Sectors, 2002, 2021



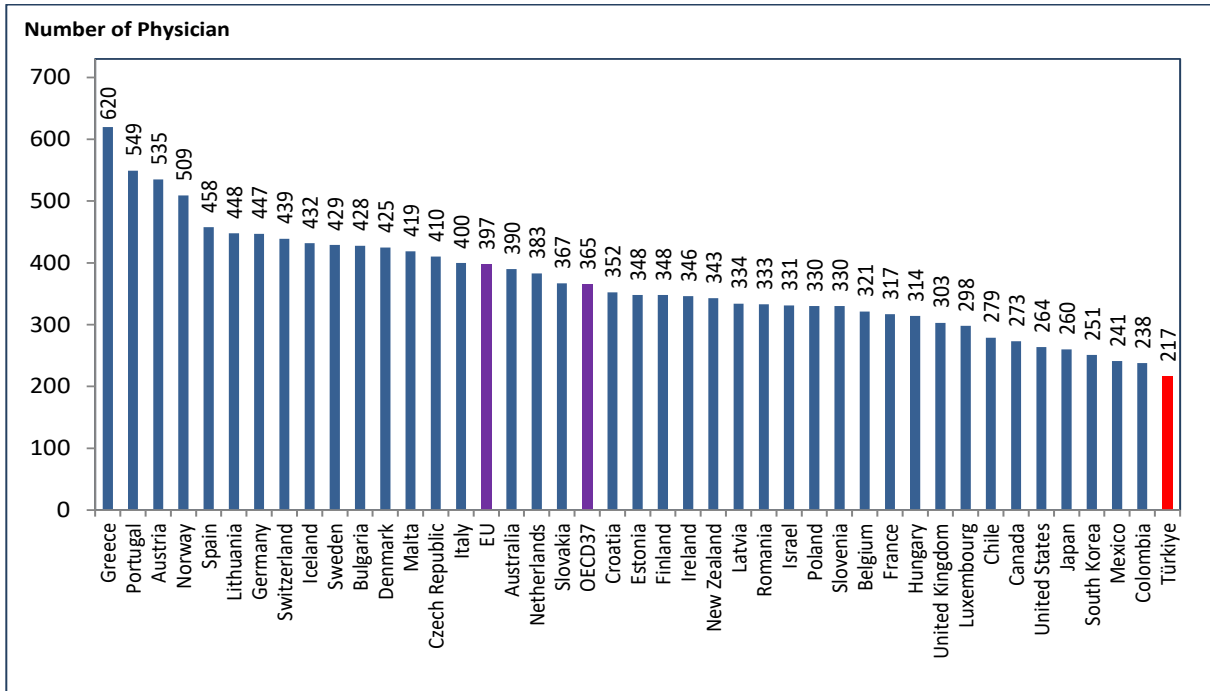
Source: General Directorate of Health Services

Map 10.1. Number of Total Physicians per 100,000 Population by Provinces, All Sectors, 2021



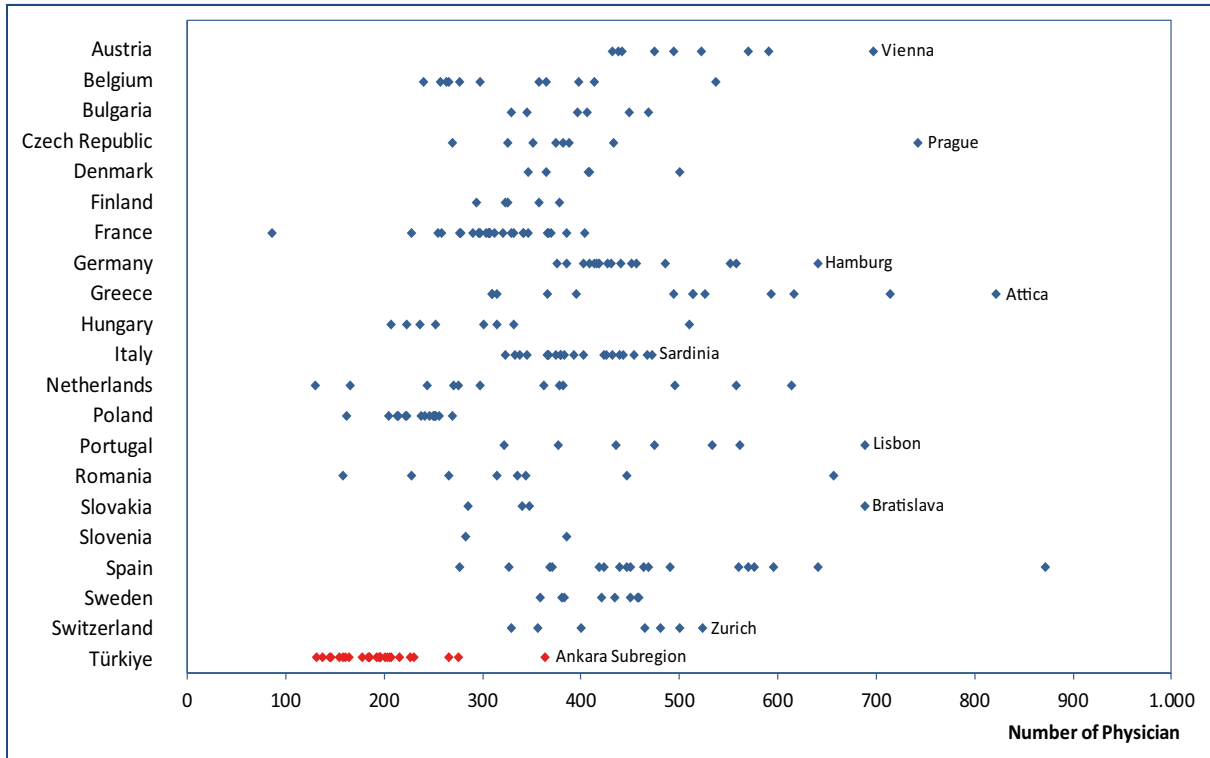
Source: General Directorate of Health Services

Figure 10.3. International Comparison of Number of Total Physicians per 100.000 Population, 2020



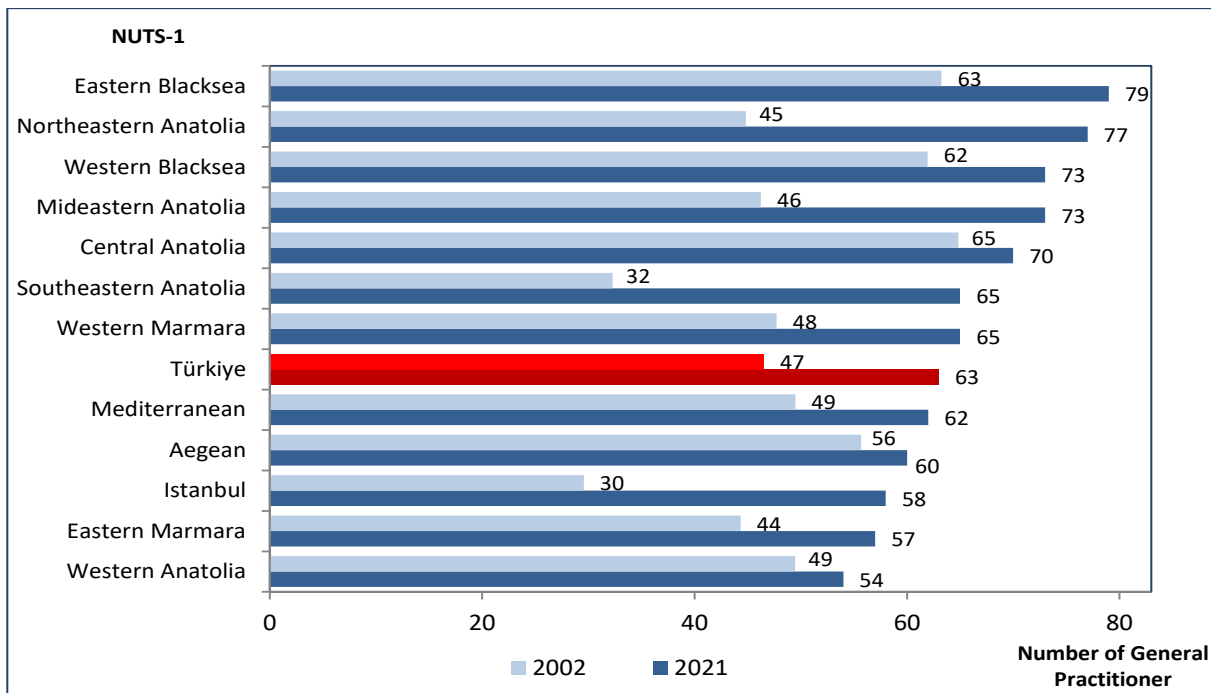
Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year of 2020 or nearest.

Figure 10.4. International Comparison of Number of Total Physicians per 100.000 Population by NUTS-2, 2020



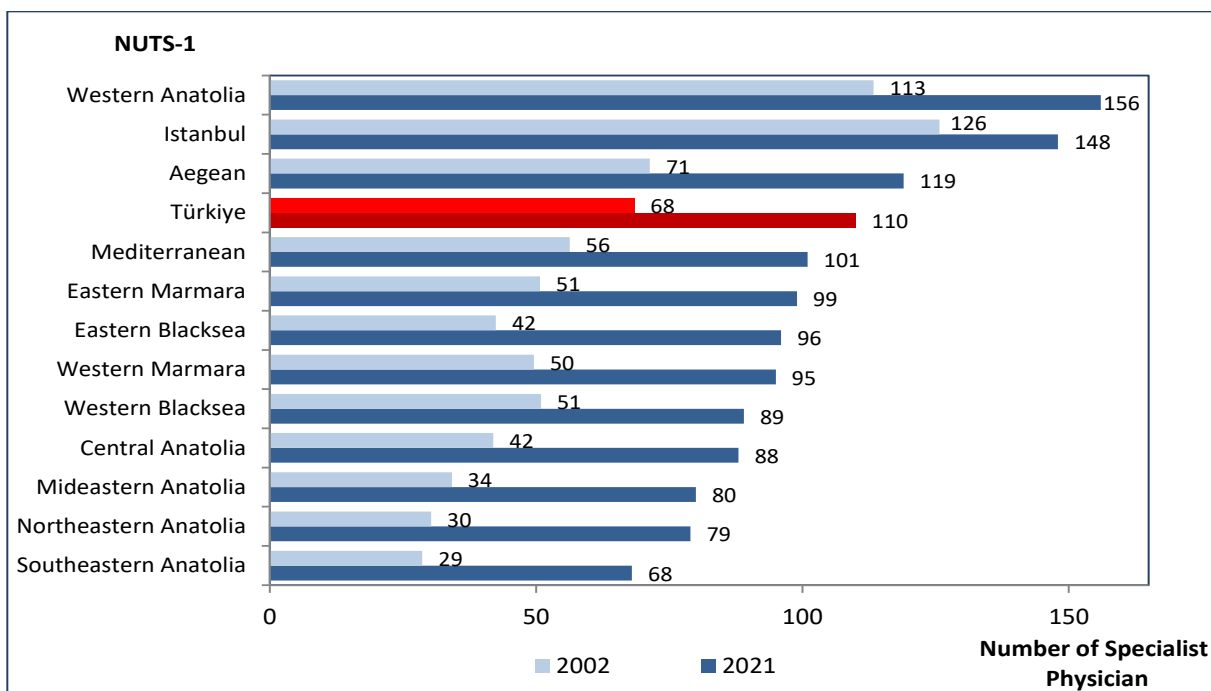
Source: General Directorate of Health Services, EUROSTAT Database  
 Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year of 2020 or nearest.

Figure 10.5. Number of General Practitioners per 100.000 Population by NUTS-1, All Sectors, 2002, 2021



Source: General Directorate of Health Services

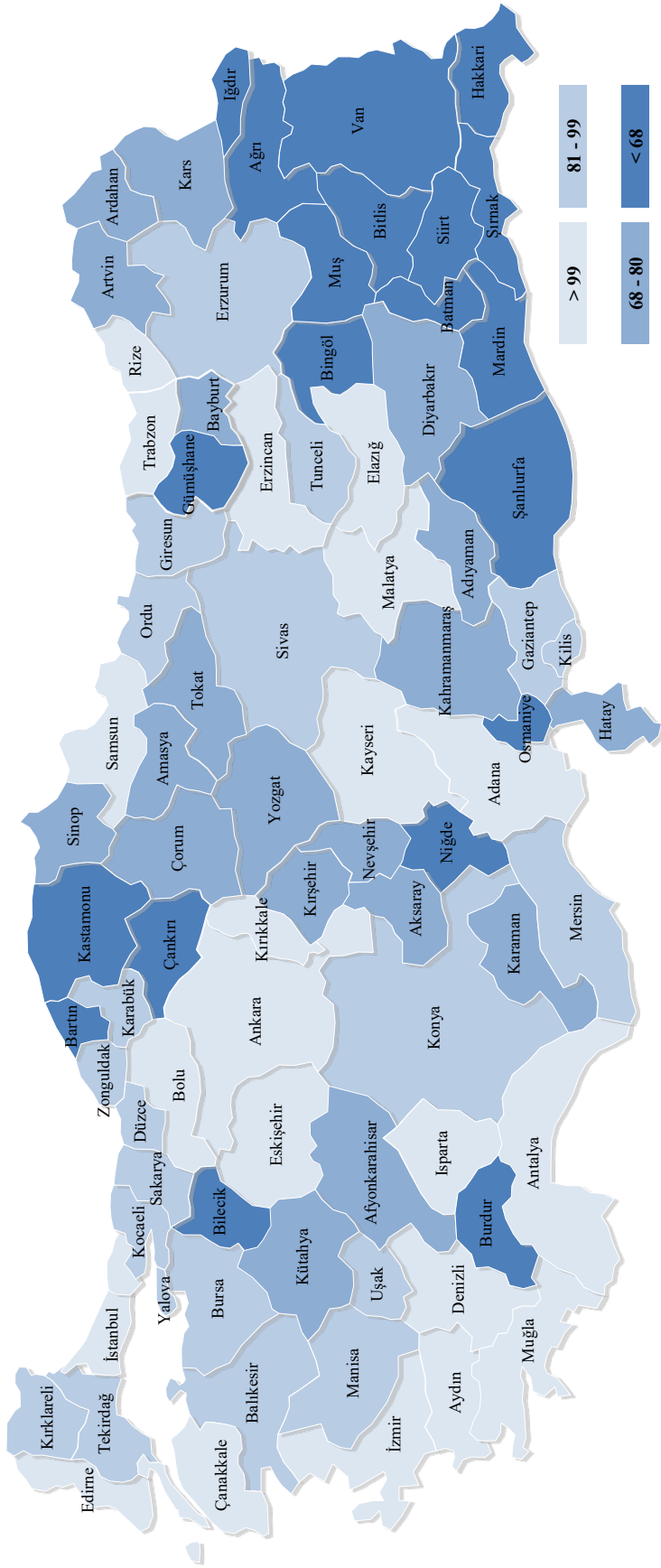
Figure 10.6. Number of Specialist Physicians per 100.000 Population by NUTS-1, All Sectors, 2002, 2021



Source: General Directorate of Health Services

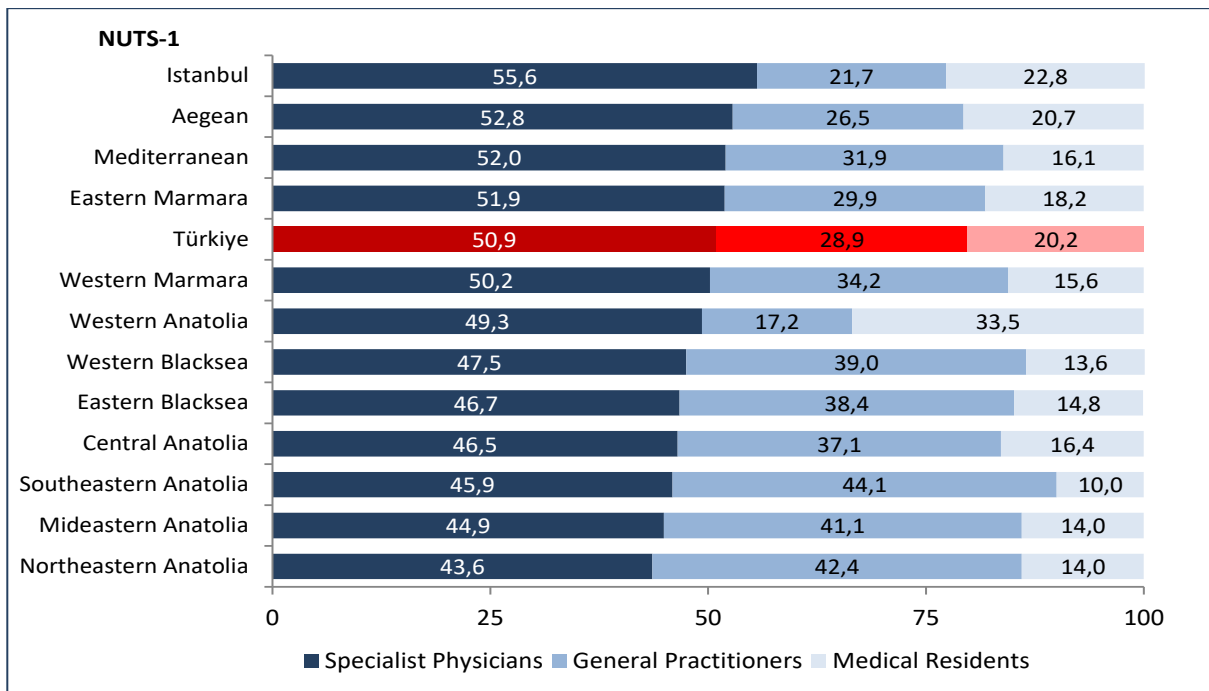


Map 10.3. Number of Specialist Physicians per 100.000 Population by Provinces, All Sectors, 2021



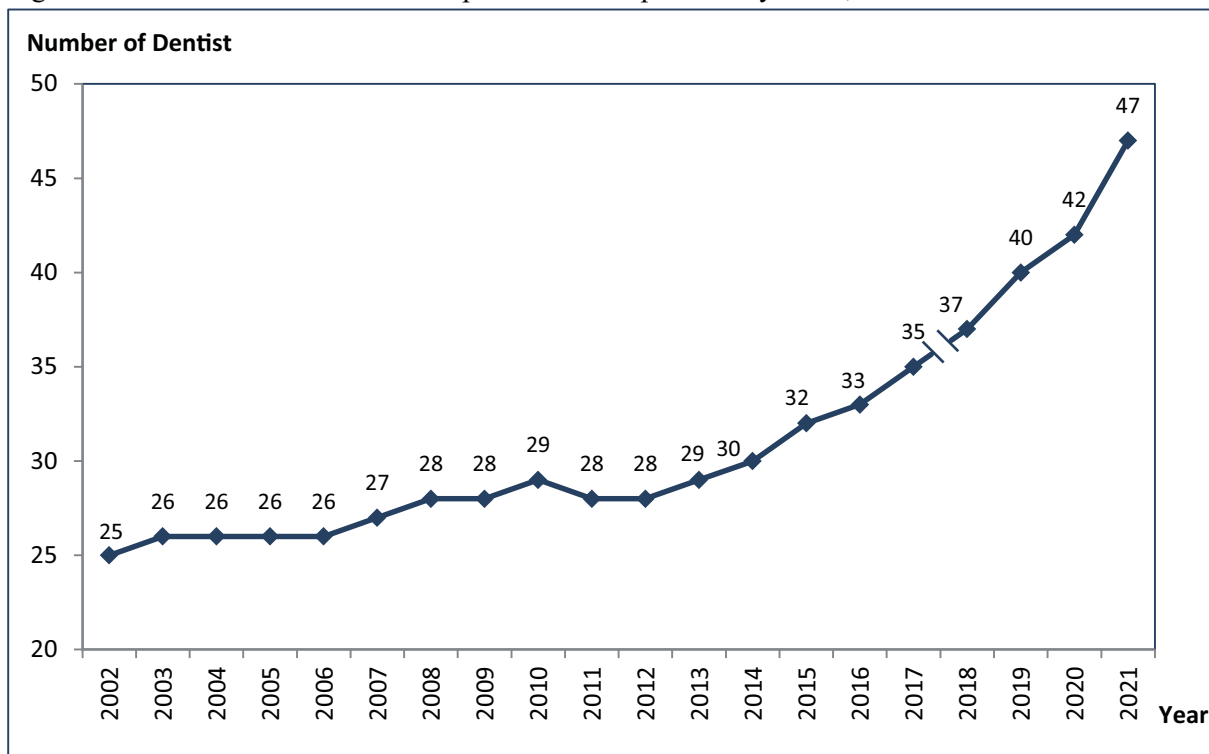
Source: General Directorate of Health Services

Figure 10.7. Distribution of Specialist Physicians, General Practitioners and Medical Residents by NUTS-1, All Sectors, (%), 2021



Source: General Directorate of Health Services

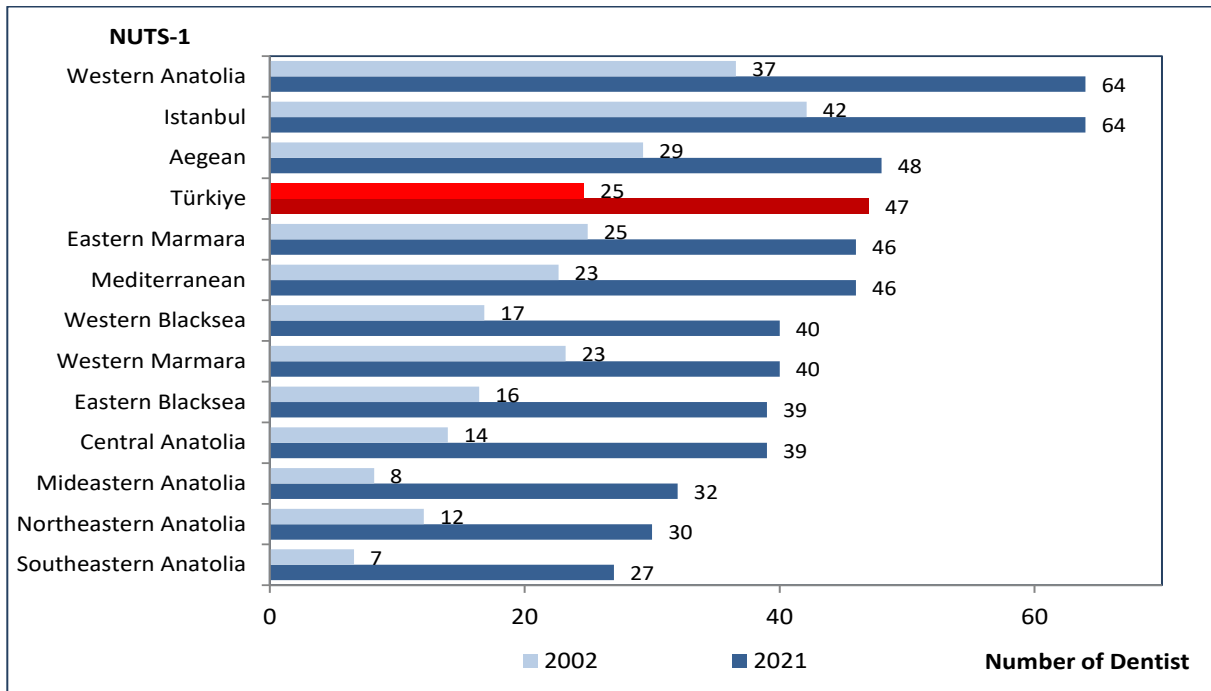
Figure 10.8. Number of Total Dentists per 100.000 Population by Years, All Sectors



Source: General Directorate of Health Services

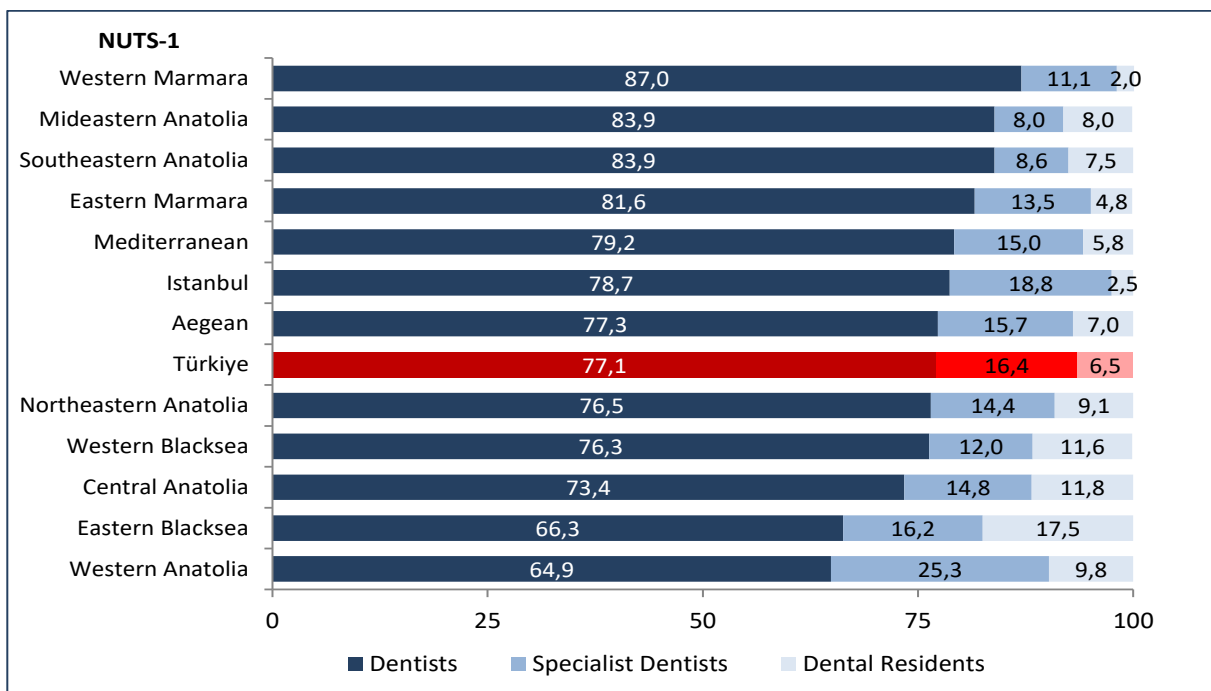
Note: Unlike the previous years, the number of dentists includes dental residents as of 2018. Number of dentists per 100.000 population not including dental residents is 44 for the year 2021.

Figure 10.9. Number of Total Dentists per 100.000 Population by NUTS-1, All Sectors, 2002, 2021



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

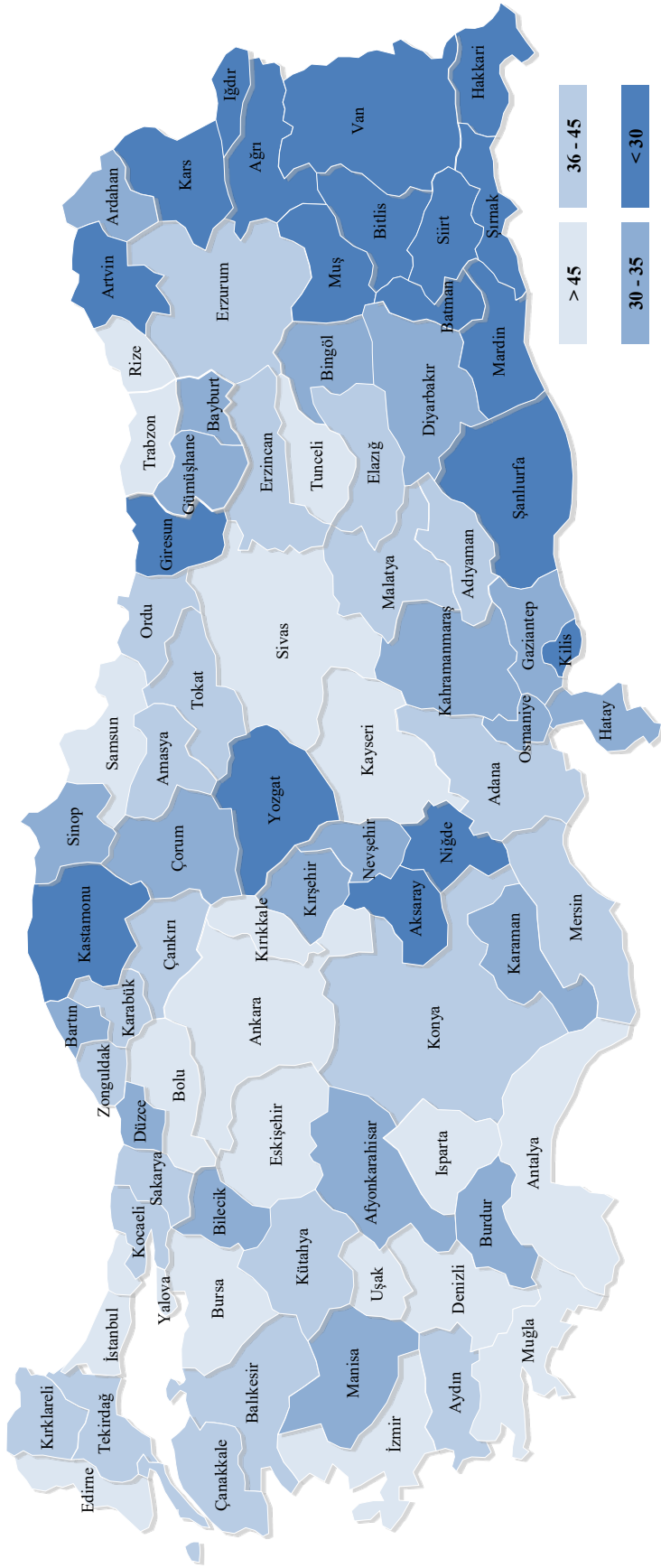
Figure 10.10. Distribution of Dentists, Specialist Dentists and Dental Residents by NUTS-1, All Sectors, (%), 2021



Source: General Directorate of Health Services

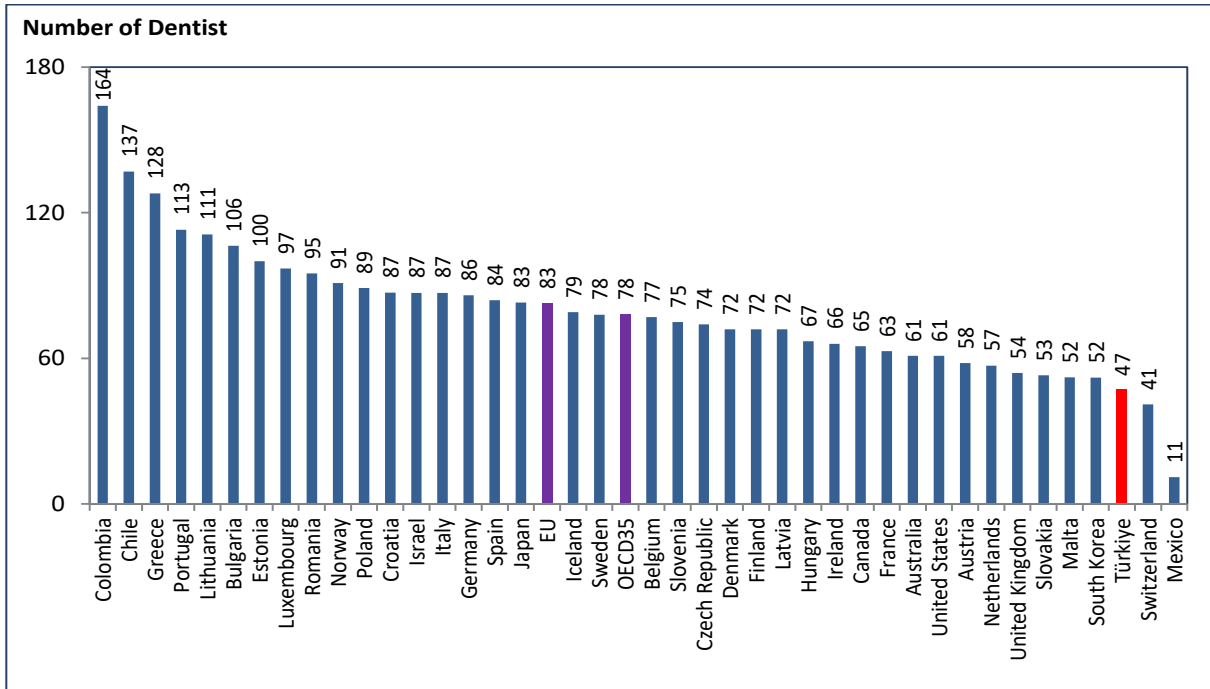


Map 10.4. Number of Total Dentists per 100.000 Population by Provinces, All Sectors, 2021



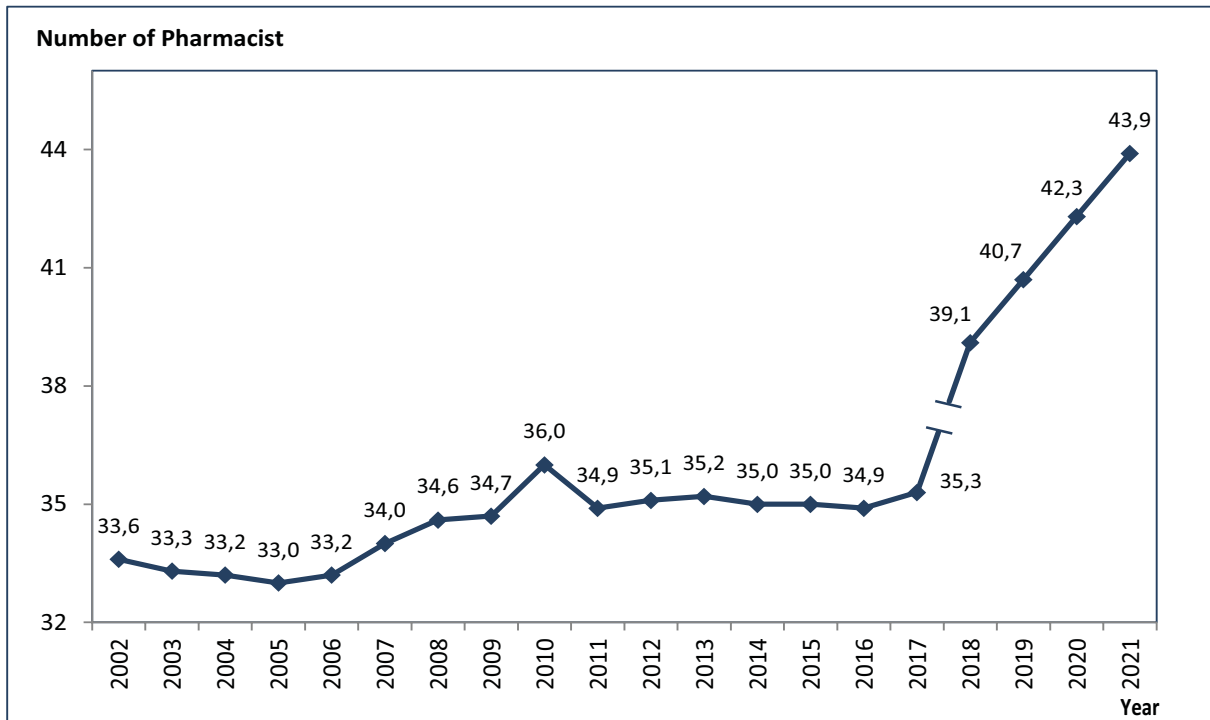
Source: General Directorate of Health Services

Figure 10.11. International Comparison of Number of Total Dentists per 100.000 Population, 2020



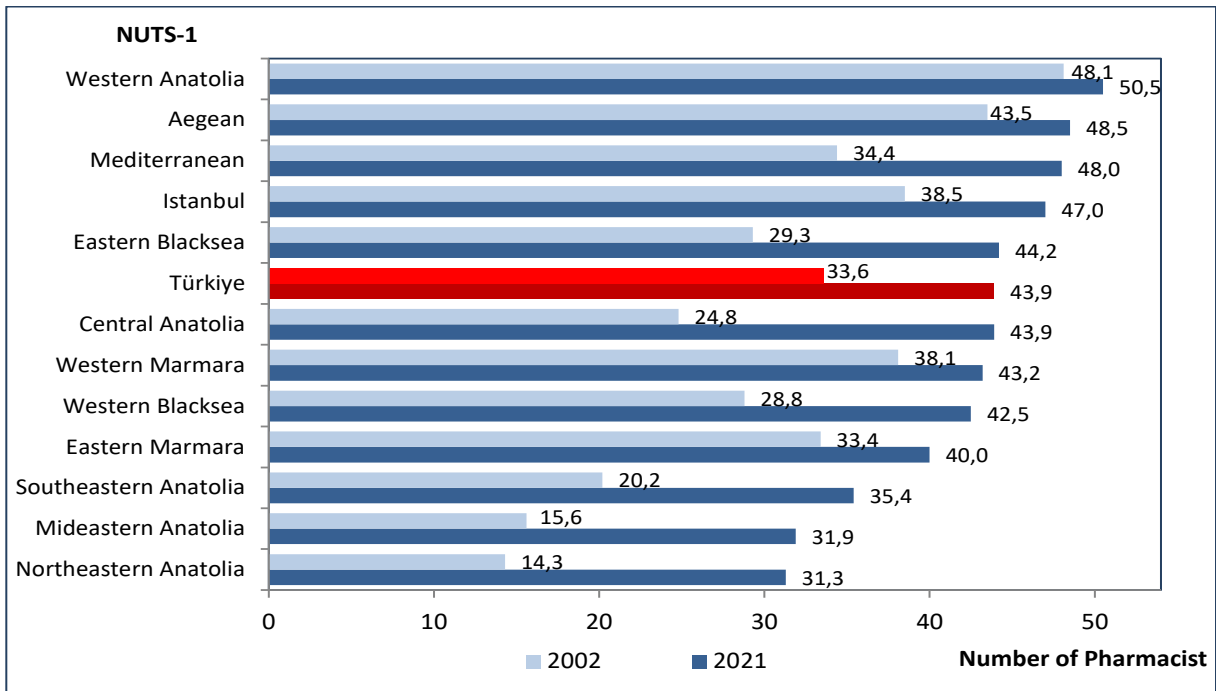
Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year of 2020 or nearest.

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 pharmacists include second pharmacists and graduated intern pharmacists as of 2018. Number of pharmacists per 100.000 population not including second pharmacists and graduated intern pharmacists is 41,1 for the year 2021.

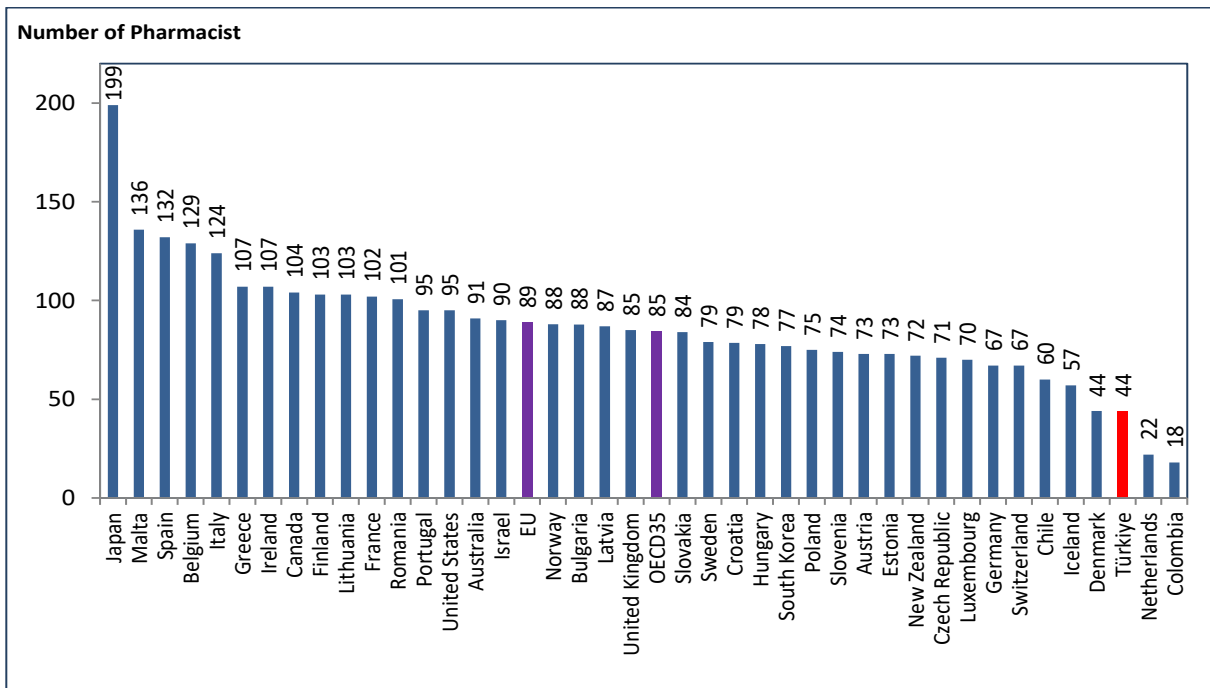
Figure 10.13. Number of Pharmacists per 100.000 Population by NUTS-1, All Sectors, 2002, 2021



Source: General Directorate of Health Services

Note: Data for 2002 does not include second pharmacist and graduated intern pharmacist.

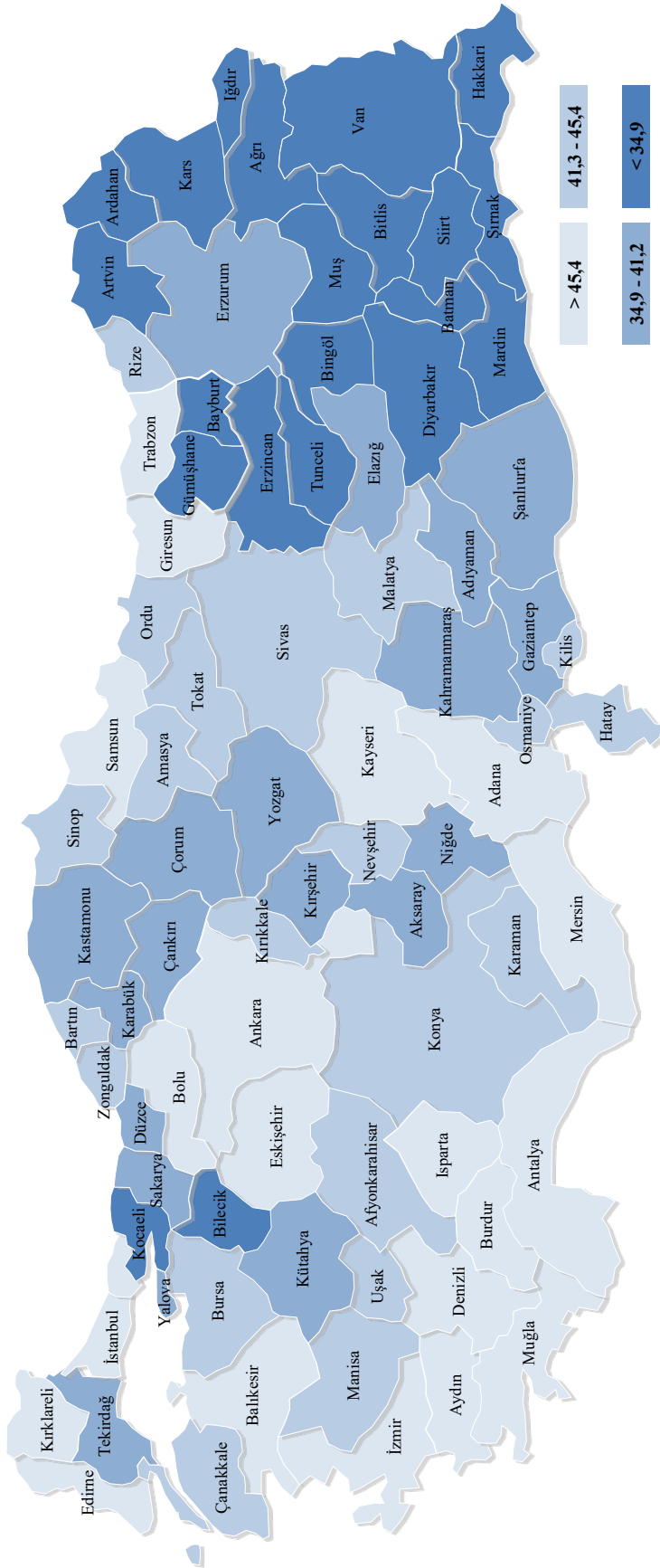
Figure 10.14. International Comparison of Number of Pharmacists per 100.000 Population, 2020



Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database

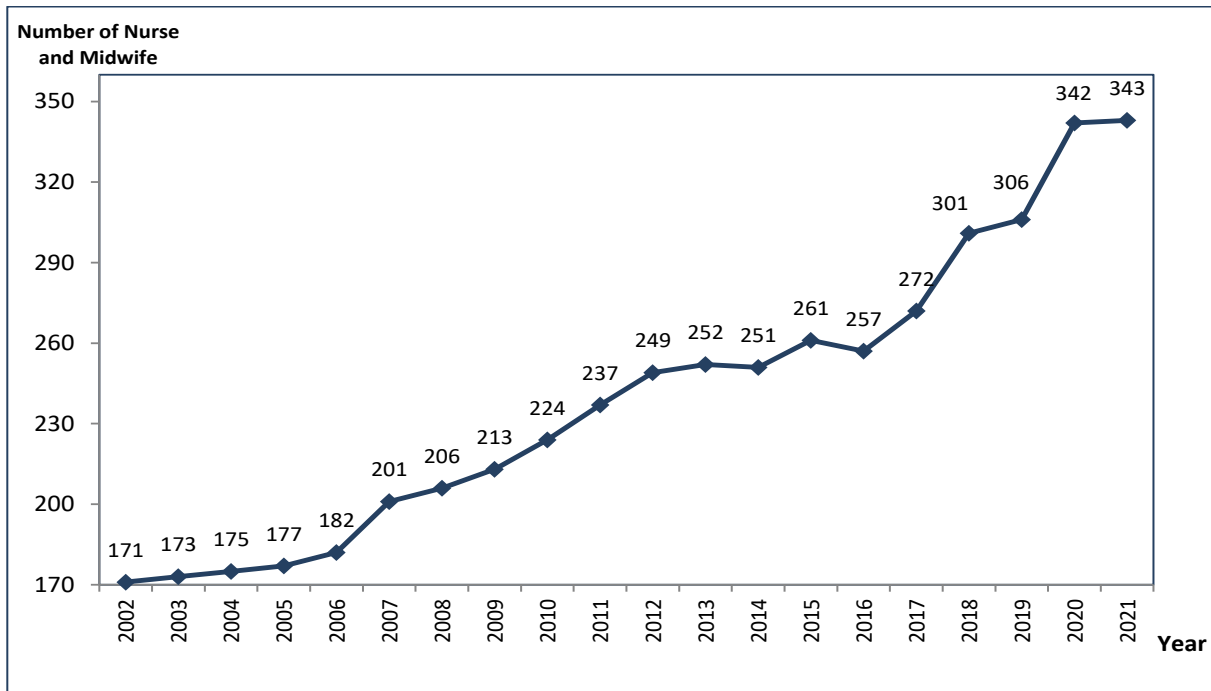
Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year of 2020 or nearest.

Map 10.5. Number of Pharmacists per 100.000 Population by Provinces, All Sectors, 2021



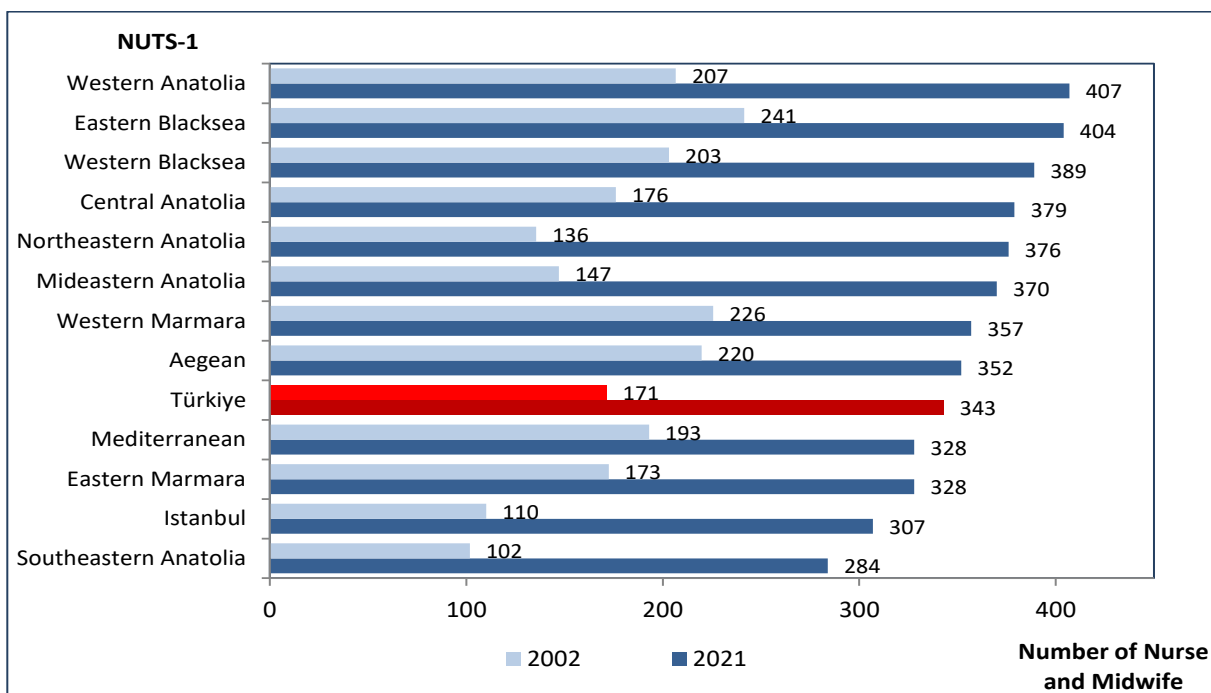
Source: General Directorate of Health Services

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



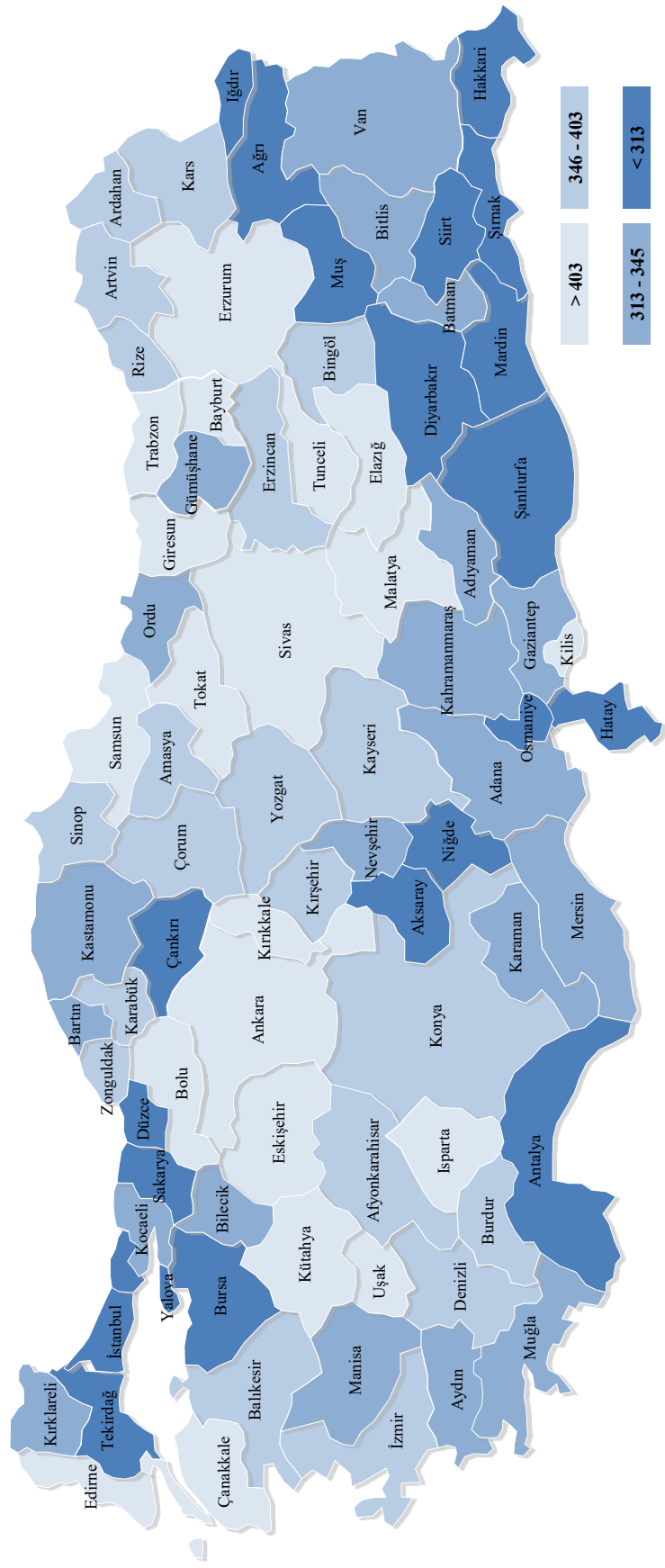
Source: General Directorate of Health Services

Figure 10.16. Number of Nurses and Midwives per 100.000 Population by NUTS-1, All Sectors, 2002, 2021



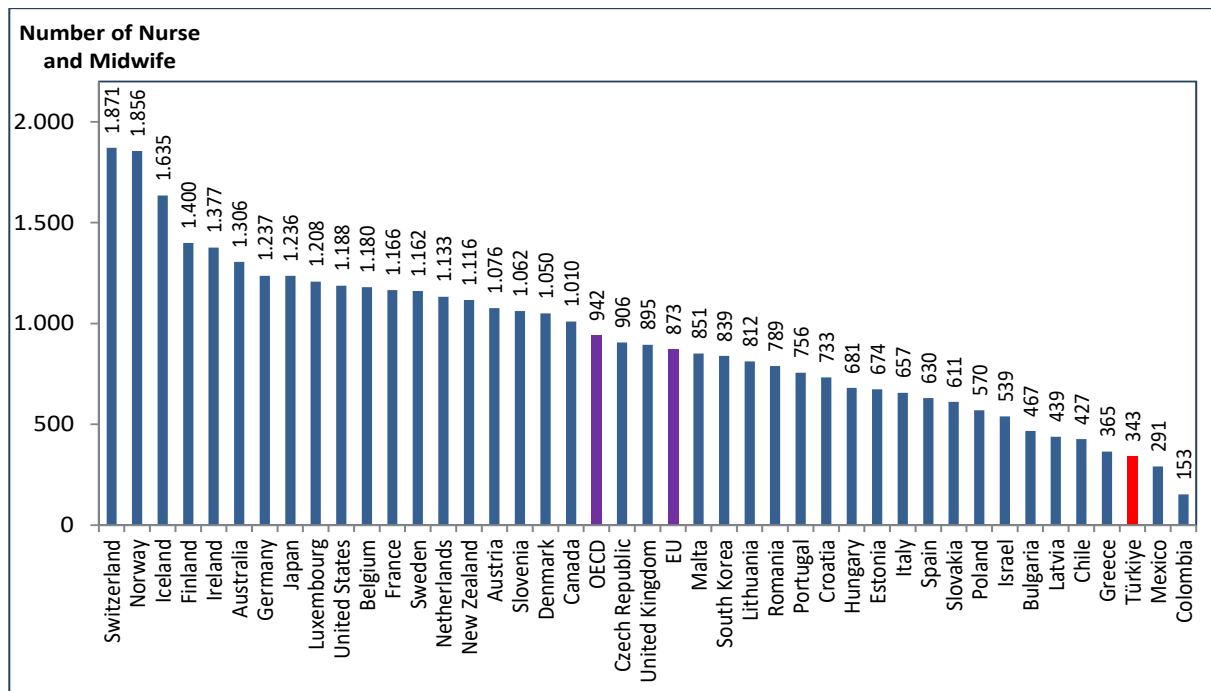
Source: General Directorate of Health Services

Map 10.6. Number of Nurses and Midwives per 100.000 Population by Provinces, All Sectors, 2021



Source: General Directorate of Health Services

Figure 10.17. International Comparison of Number of Nurses and Midwives per 100.000 Population, 2020



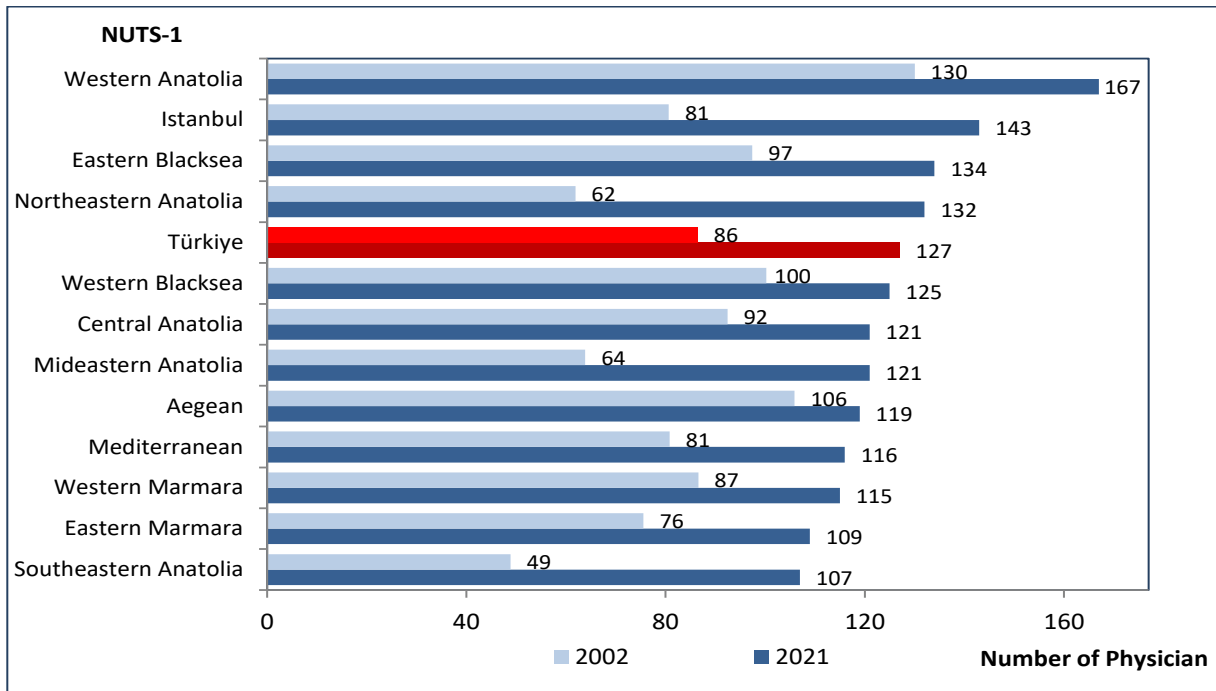
Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year of 2020 or nearest.

Table 10.5. International Comparison of Number of Health Care Professionals per 100.000 Population by Years

	2002			2010			2015			2020		
	Türkiye	OECD	EU	Türkiye	OECD	EU	Türkiye	OECD	EU	Türkiye*	OECD	EU
<b>Total Physicians</b>	138	276	304	167	310	340	179	334	364	217	365	397
<b>Total Dentists</b>	25	61	64	29	66	71	32	71	75	47	78	83
<b>Pharmacists</b>	34	59	52	36	68	67	35	77	82	44	85	89
<b>Nurses and Midwives</b>	171	704	653	224	815	762	261	871	809	343	942	873

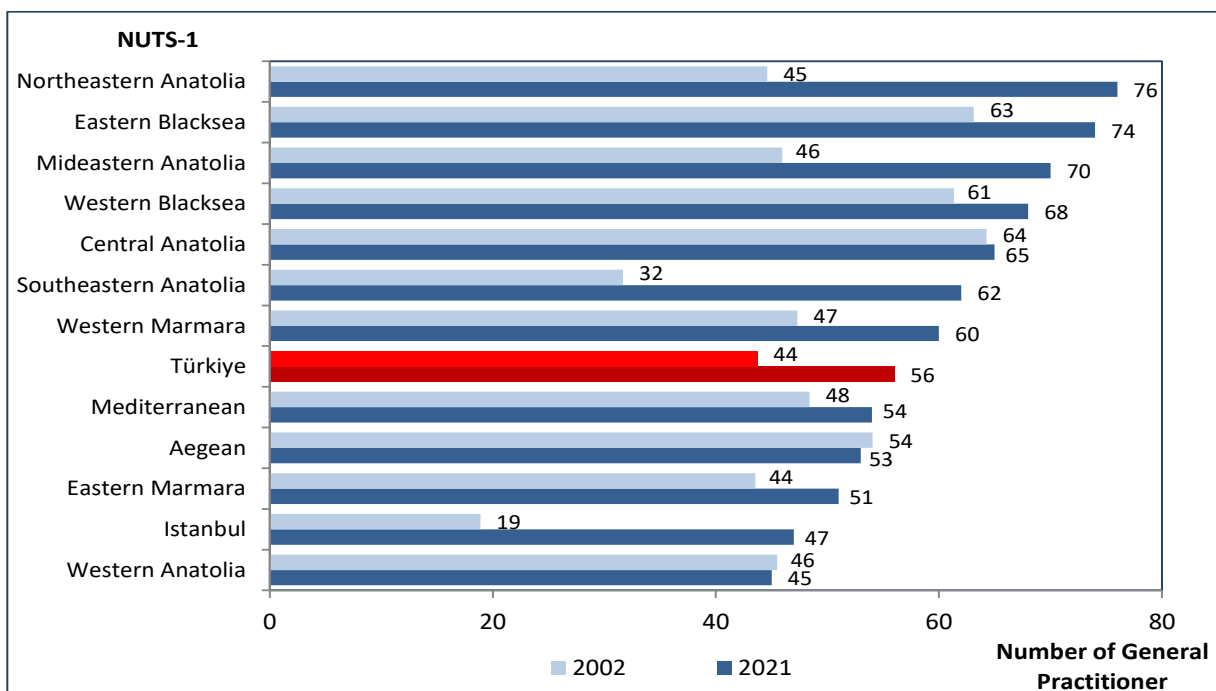
Source: General Directorate of Health Services, OECD Health Data 2022, EUROSTAT Database  
 \* Türkiye's data belong to the year 2021.

Figure 10.18. Number of Total Physicians per 100.000 Population by NUTS-1, MoH, 2002, 2021



Source: General Directorate of Health Services

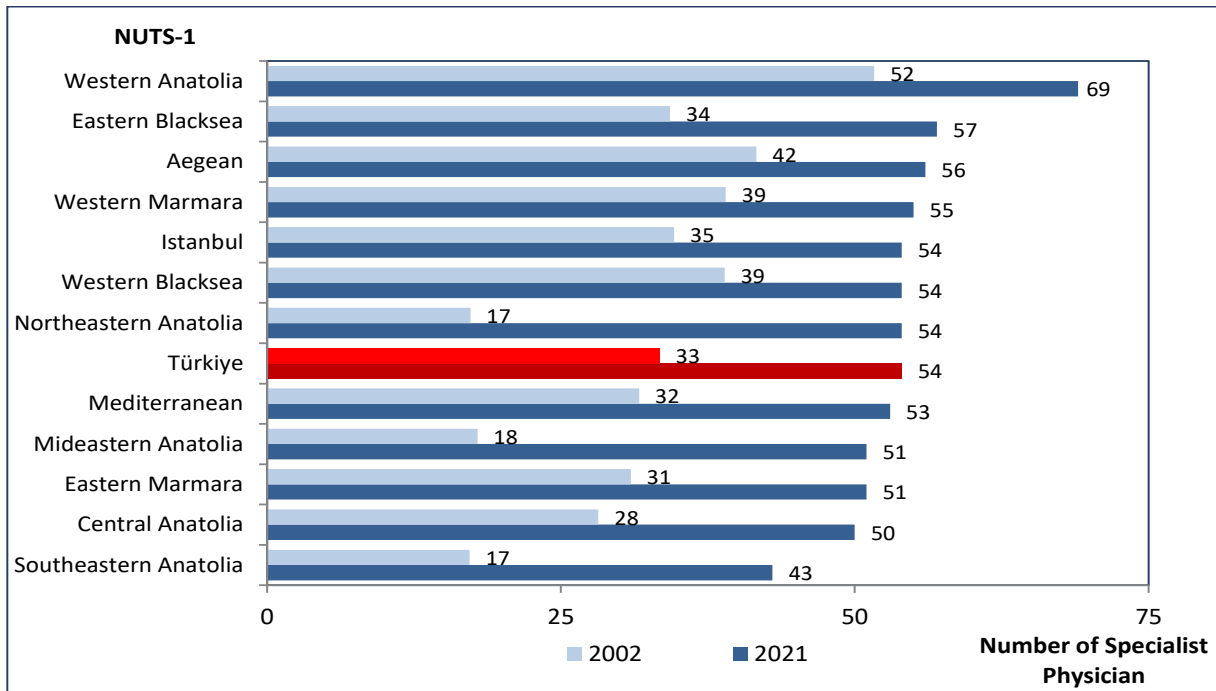
Figure 10.19. Number of General Practitioners per 100.000 Population by NUTS-1, MoH, 2002, 2021



Source: General Directorate of Health Service

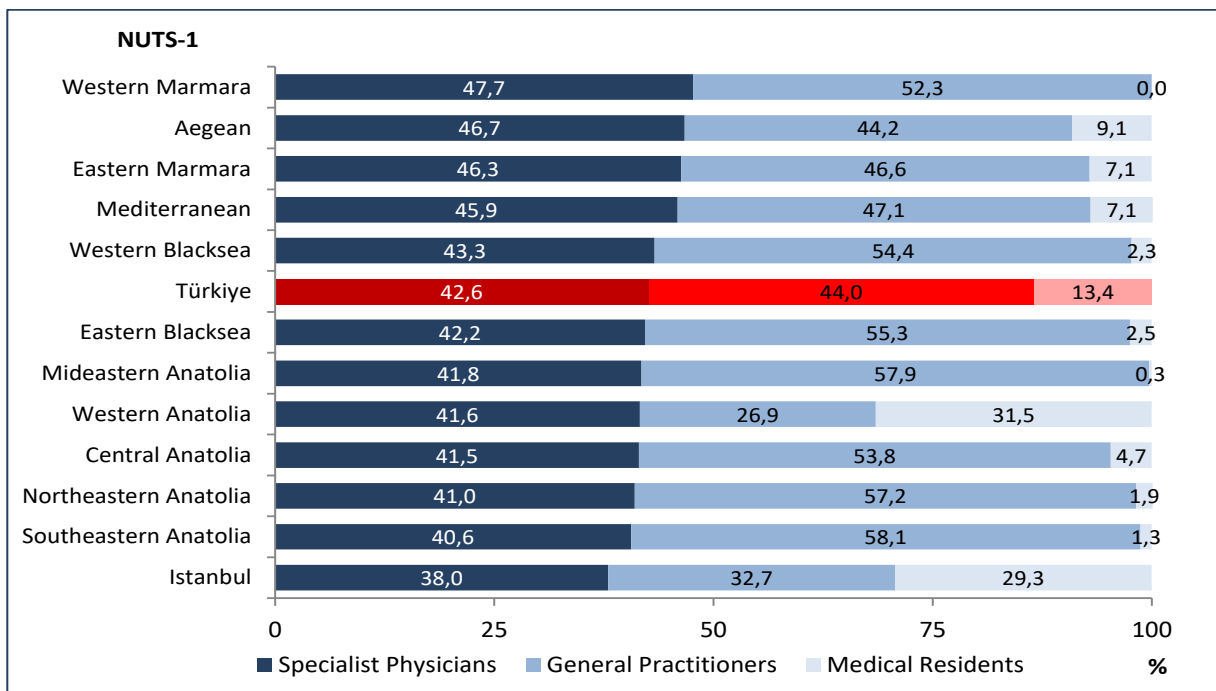


Figure 10.20. Number of Specialist Physicians per 100.000 Population by NUTS-1, MoH, 2002, 2021



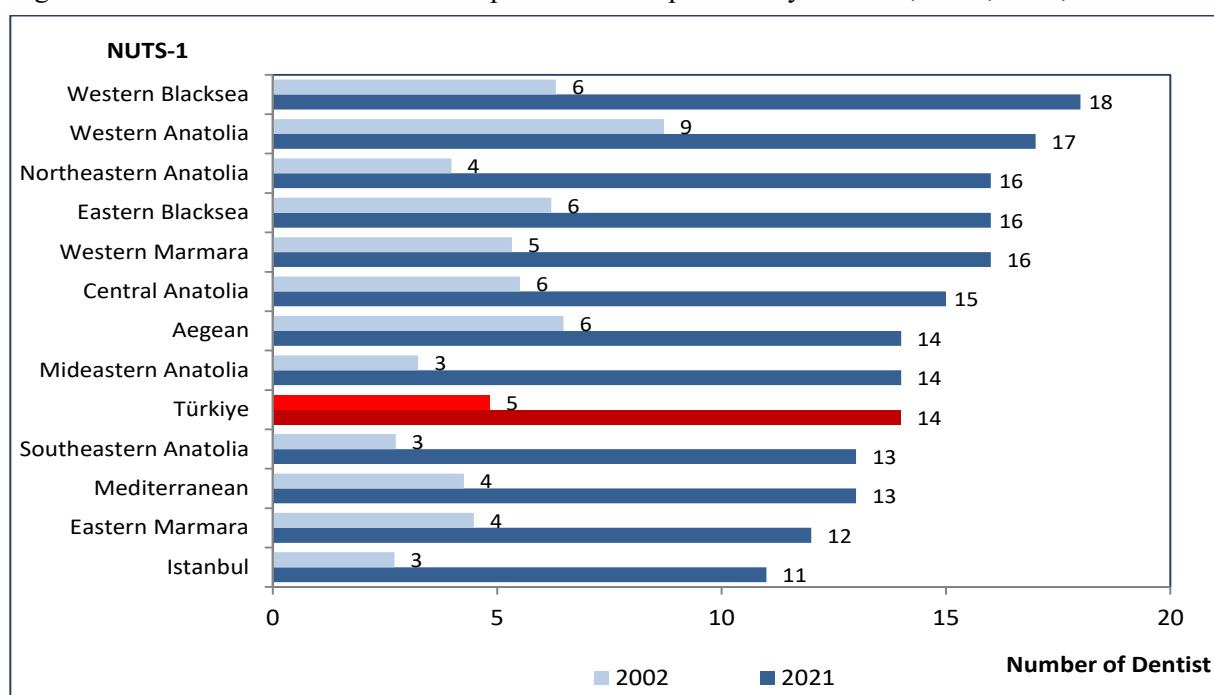
Source: General Directorate of Health Services

Figure 10.21. Distribution of Specialist Physicians, General Practitioners and Medical Residents by NUTS-1, MoH, (%), 2021



Source: General Directorate of Health Services

Figure 10.22. Number of Total Dentists per 100.000 Population by NUTS-1, MoH, 2002, 2021



Source: General Directorate of Health Services

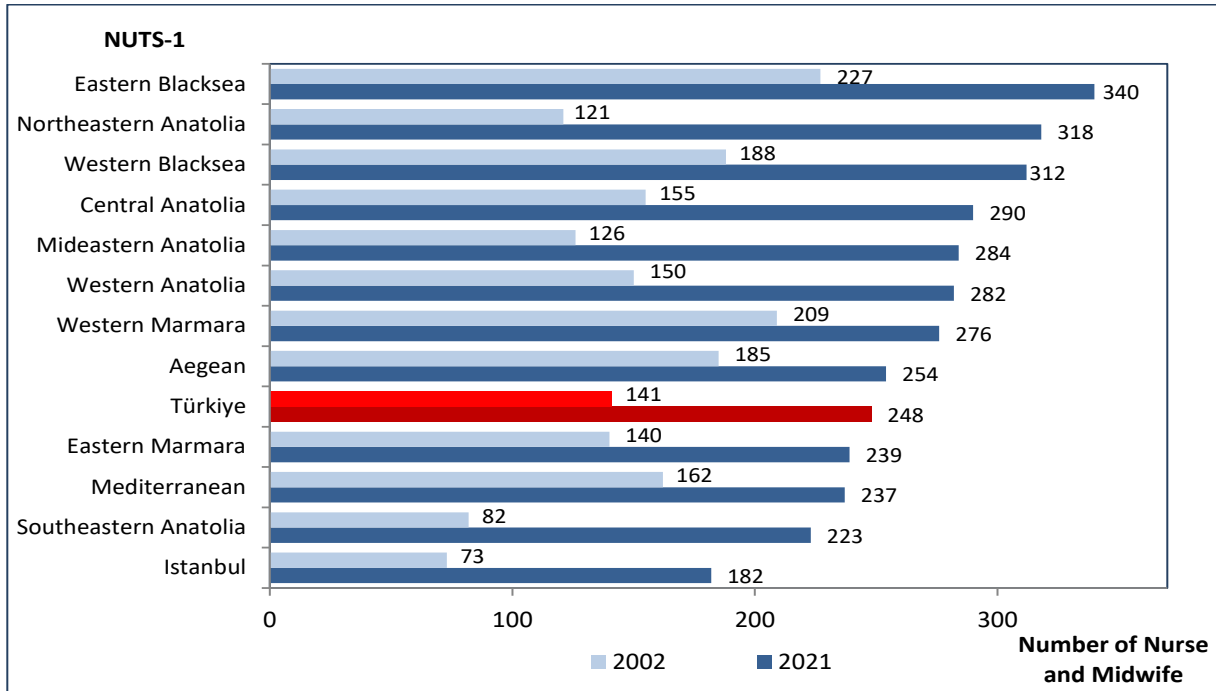
Note: Data for 2002 does not include dental residents.

Table 10.6. Distribution of Dentists, Specialist Dentists and Dental Residents by NUTS-1, MoH, (%), 2021

NUTS-1	Specialist Dentist	Dentist	Dental Resident
Istanbul	11,8	88,1	0,1
Western Marmara	6,6	93,4	0,0
Aegean	10,5	89,0	0,5
Eastern Marmara	8,3	91,7	0,0
Western Anatolia	18,0	80,8	1,1
Mediterranean	9,9	89,9	0,2
Central Anatolia	7,3	92,5	0,2
Western Blacksea	6,0	94,0	0,0
Eastern Blacksea	7,5	92,5	0,0
Northeastern Anatolia	1,7	98,3	0,0
Mideastern Anatolia	3,3	96,7	0,0
Southeastern Anatolia	4,0	96,0	0,0
Türkiye	9,3	90,5	0,3

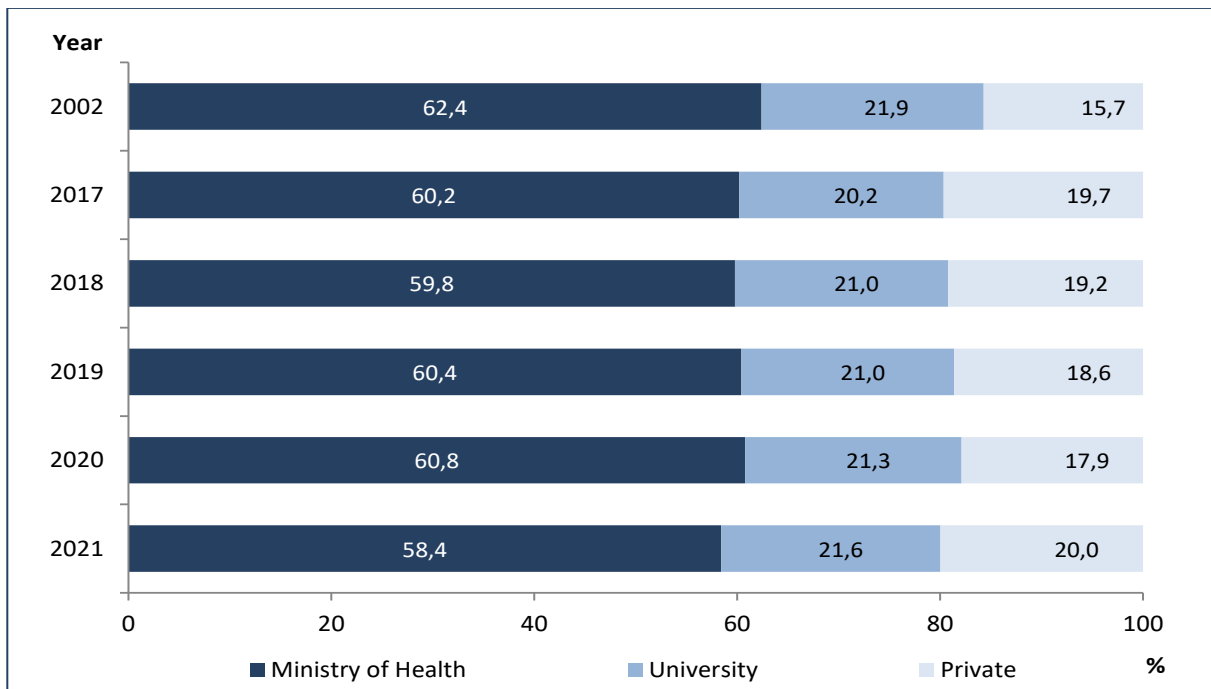
Source: General Directorate of Health Services

Figure 10.23. Number of Nurses and Midwives per 100.000 Population by NUTS-1, MoH, 2002, 2021



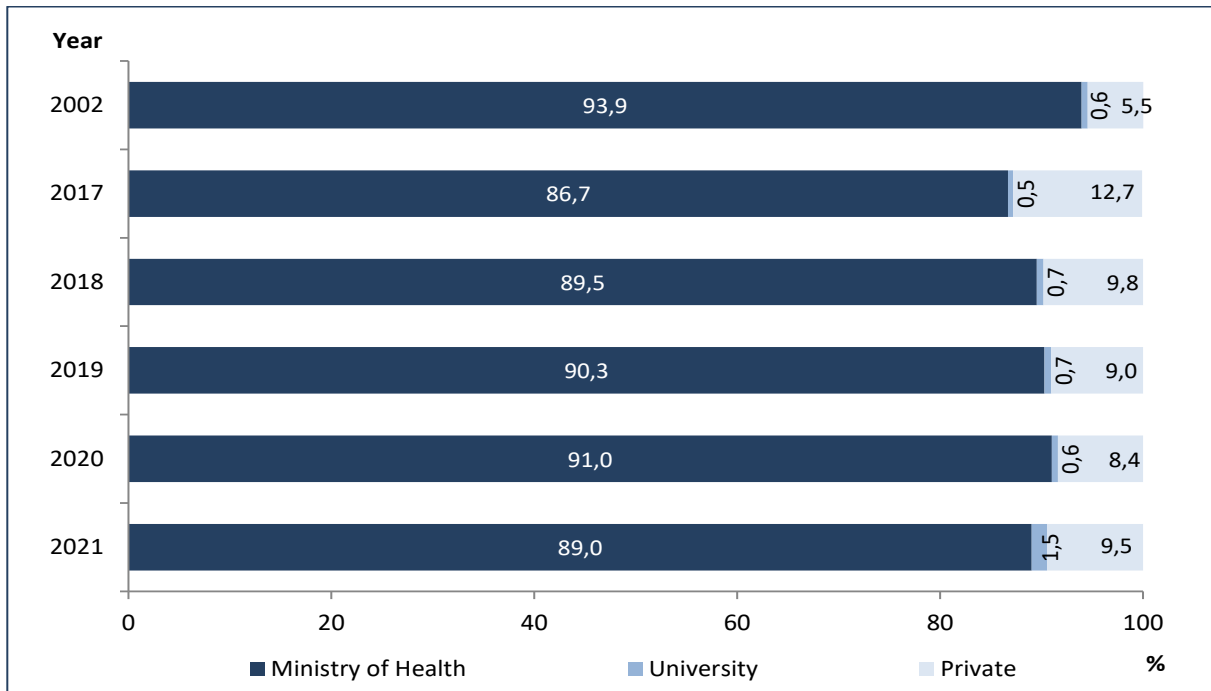
Source: General Directorate of Health Services

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



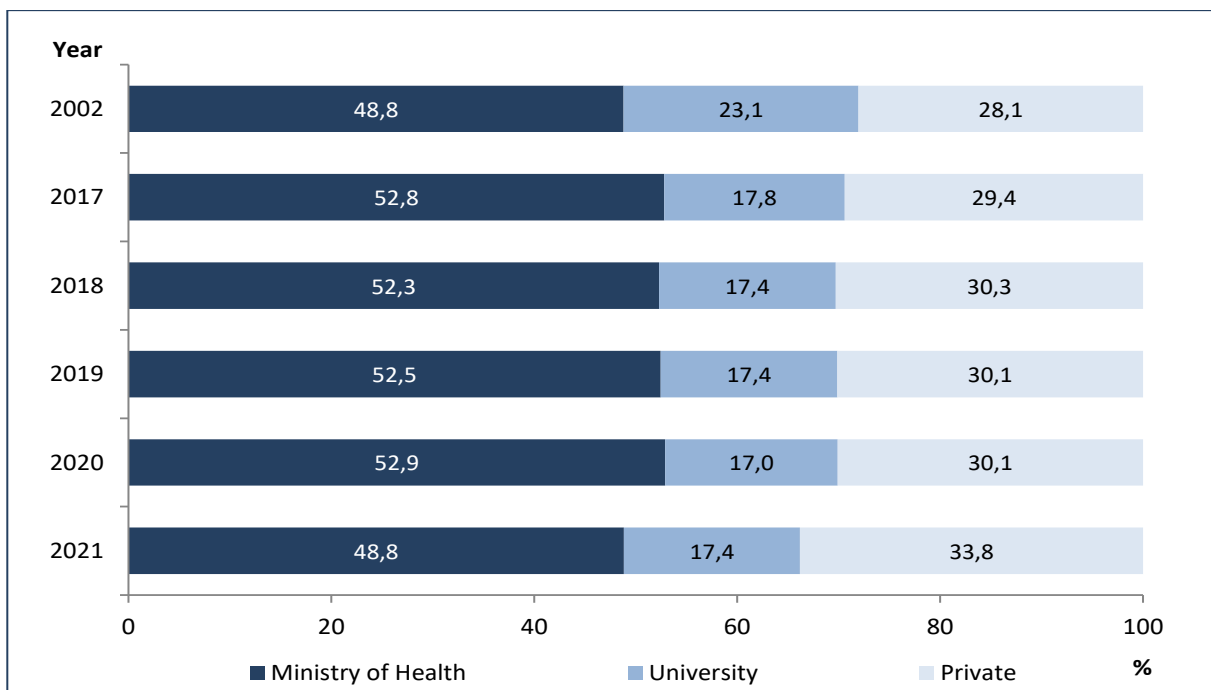
Source: General Directorate of Health Services

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



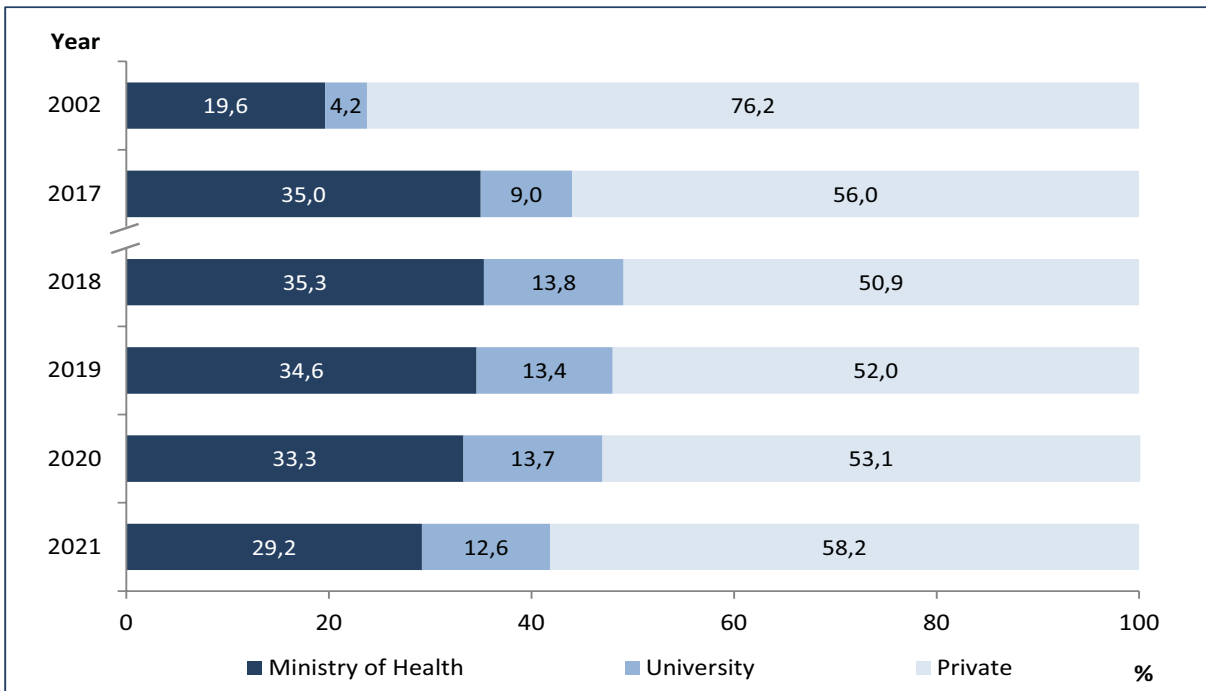
Source: General Directorate of Health Services

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



Source: General Directorate of Health Services

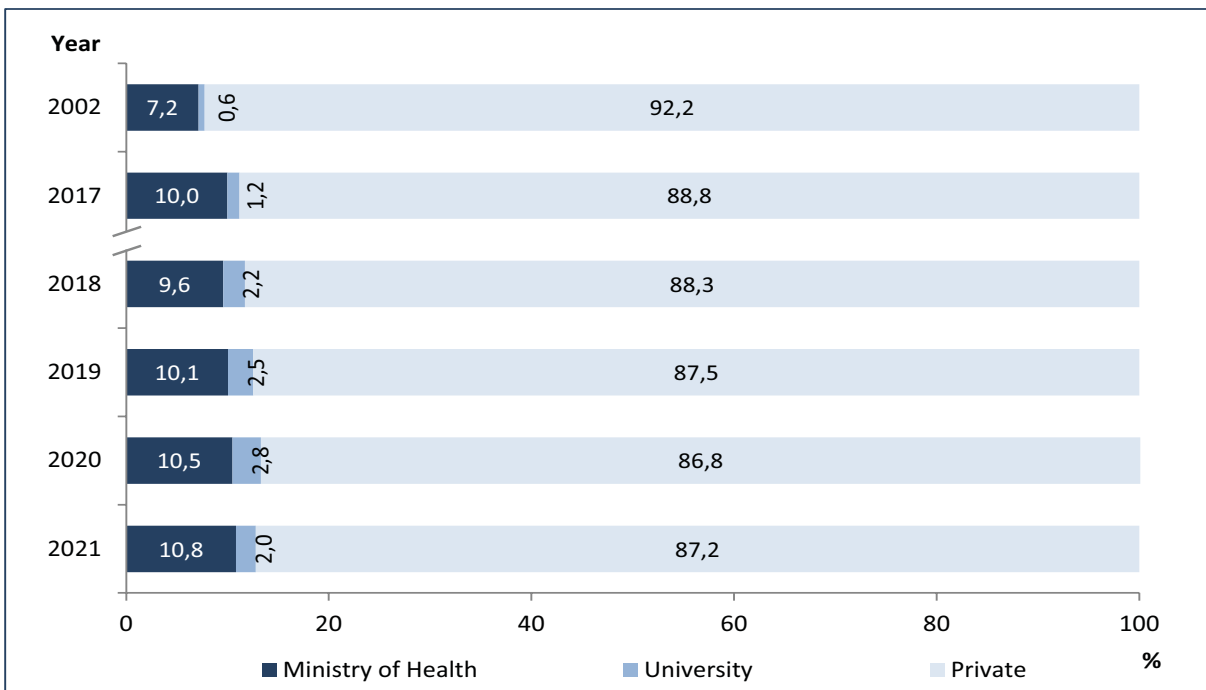
Figure 10.27. Distribution of Total Dentists by Years and Sectors, (%)



Source: General Directorate of Health Services

Note: Unlike the previous years, the total number of dentists includes the number of assistant dentists, as of 2018. When the assistant dentist is not included, the distribution of the total number of dentists in 2021 is 31,1% for the Ministry of Health, 6,7% for the University and 62,2% for the Private.

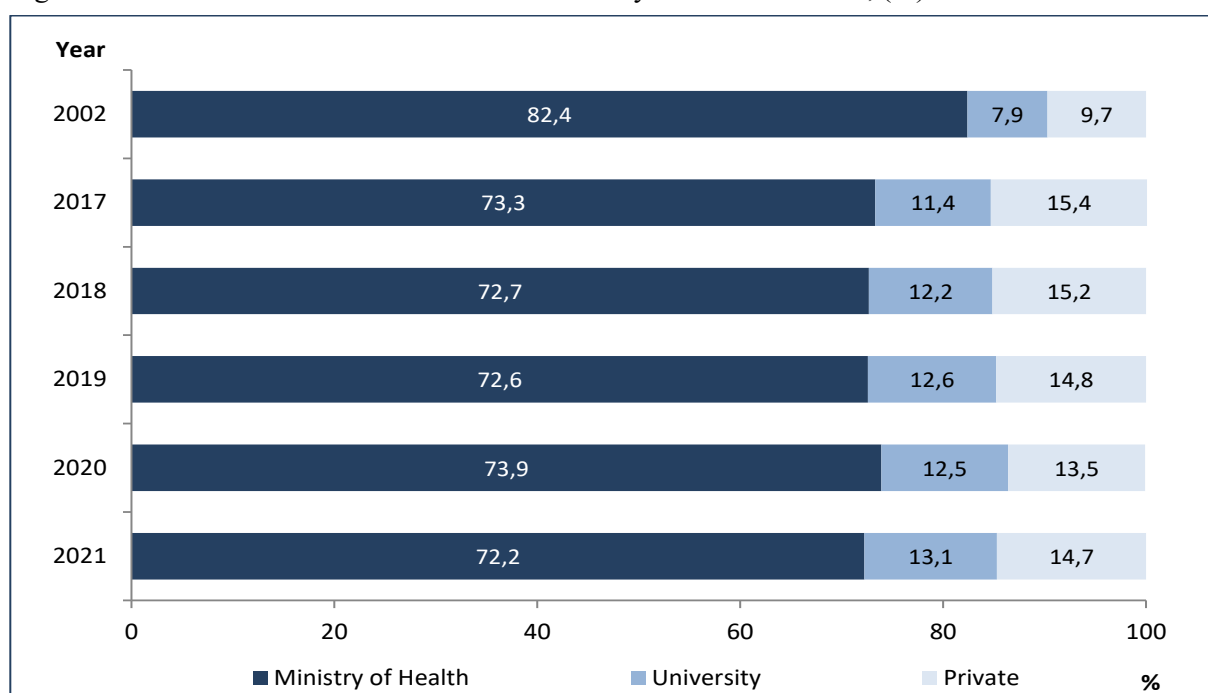
Figure 10.28. Distribution of Pharmacists by Years and Sectors, (%)



Source: General Directorate of Health Services

Note: Unlike previous years, the total number of pharmacists also includes the number of second pharmacists and assistant pharmacists working in community pharmacies, as of 2018. When the second pharmacist and assistant pharmacist are not included, the distribution of the number of pharmacists in 2021 is 11,6% for the Ministry of Health, 2,1% for the University and 86,3% for the Private.

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



Source: General Directorate of Health Services

Table 10.7. Distribution of MoH Personnel by Service Units, 2021

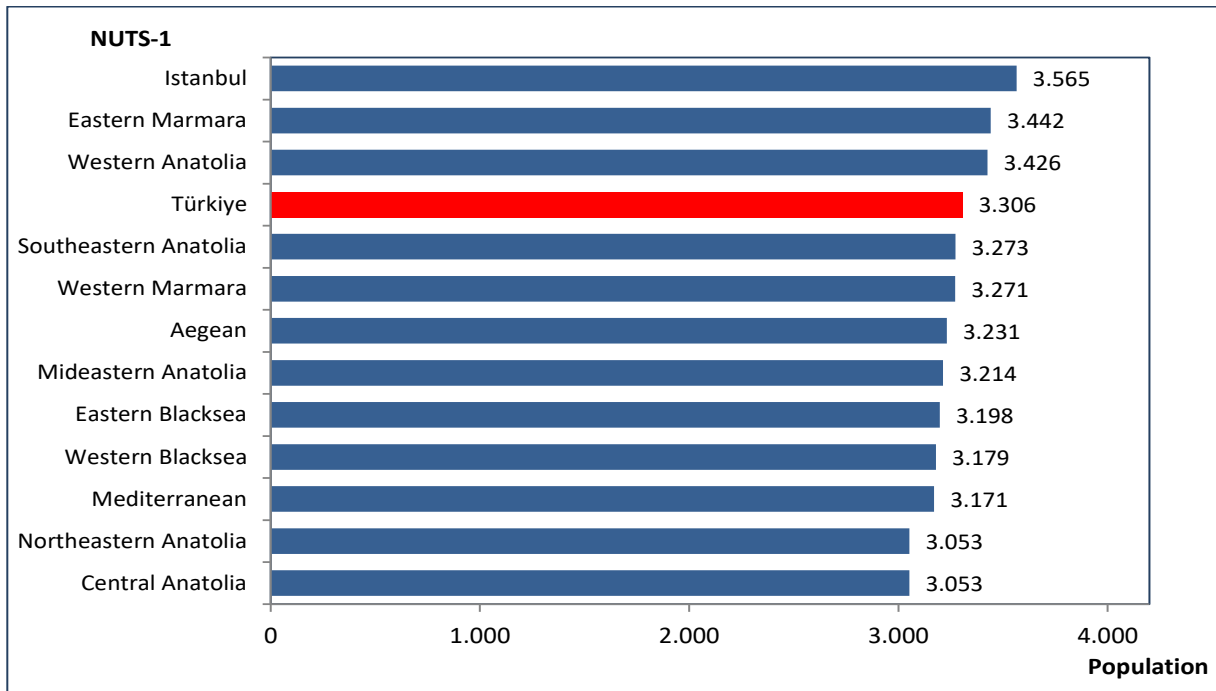
	Hospitals*	Family Medicine Unit	Other Facilities	Total
Specialist Physicians	41.700	2.609	1.363	45.672
General Practitioners	15.768	23.002	8.446	47.216
Medical Residents	14.360	-	-	14.360
<b>Total Physicians</b>	<b>71.828</b>	<b>25.611</b>	<b>9.809</b>	<b>107.248</b>
Total Dentists	5.257	-	6.378	11.635
Pharmacists	3.610	-	423	4.033
Nurses	139.640	9.628	6.320	155.588
Midwives	30.429	12.368	11.381	54.178
Other Health Personnel	85.133	1.907	55.672	142.712
Other Personnel and Procurement of Services	206.426	19.219	26.981	252.626
<b>Total Personnel</b>	<b>542.323</b>	<b>68.733</b>	<b>116.964</b>	<b>728.020</b>

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

\*The personnel working in E1, E2 and E3 Integrated District State Hospitals are included.



Figure 10.30. Population per Actively Working Family Medicine by NUTS-1, 2021



General Directorate of Public Health

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

Academic Year	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
2017-2018	94	14.555	82.865	8.530	14.133
2018-2019	96	15.859	89.356	9.395	14.810
2019-2020	103	17.076	95.035	10.854	15.842
2020-2021	115	18.954	102.549	11.909	16.474
2021-2022	120	20.910	108.786	13.239	17.037

Source: Council of Higher Education, Higher Education Statistics

Note: Graduate numbers belong to previous academic year.



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

Academic Year	Number of Faculties	Number of Student			Number of Academic Staff Member
		Recently Enrolled	Total	Graduates	
2002-2003	14	975	5.256	813	605
2017-2018	50	4.895	21.285	2.584	1.723
2018-2019	63	6.612	24.896	2.980	1.930
2019-2020	76	7.442	28.941	3.119	2.118
2020-2021	79	8.866	33.875	3.859	2.297
2021-2022	88	10.460	39.573	4.171	2.425

Source: Council of Higher Education, Higher Education Statistics

Note: Graduate numbers belong to previous academic year.

Table 10.10. Number of Students and Academic Staff Member in Faculties of Pharmacy by Education Terms

Academic Year	Number of Faculties	Number of Student			Number of Academic Staff Member
		Recently Enrolled	Total	Graduates	
2002-2003	11	939	4.120	919	354
2017-2018	31	2.613	11.953	1.545	786
2018-2019	35	3.605	13.943	1.723	862
2019-2020	37	3.883	15.880	1.759	949
2020-2021	39	4.613	18.383	2.082	1.037
2021-2022	39	5.195	20.902	2.352	1.106

Source: Council of Higher Education, Higher Education Statistics

Note: Graduate numbers belong to previous academic year.

Table 10.11. Some Health Indicators by Provinces, 2021

City	Specialist Physician	General Practitioner	Medical Resident	Total Physician	Total Dentist	Pharmacist	Nurse	Midwife	Other Health Personnel
Adana	2.607	1.291	988	4.886	959	1.081	6.069	1.496	6.090
Adıyaman	479	460	108	1.047	226	242	1.560	590	1.609
Afyonkarahisar	594	517	200	1.311	253	312	2.124	564	1.976
Ağrı	271	340	1	612	89	127	822	299	907
Amasya	241	245	11	497	120	145	854	333	1.081
Ankara	10.525	2.897	7.528	20.950	4.207	3.042	20.582	3.500	17.345
Antalya	3.379	1.475	1.104	5.958	1.789	1.490	6.392	1.776	7.236
Artvin	122	164	0	286	37	57	442	212	600
Aydın	1.130	703	358	2.191	515	540	2.907	999	2.768
Balıkesir	1.141	828	124	2.093	489	572	3.326	1.305	3.261
Bilecik	151	166	0	317	77	78	581	190	709
Bingöl	160	230	0	390	87	96	702	320	813
Bitlis	212	303	0	515	74	92	927	284	821
Bolu	399	245	240	884	214	151	1.161	287	1.083
Burdur	182	226	0	408	96	132	726	317	896
Bursa	3.117	1.639	1.140	5.896	1.501	1.313	7.842	1.807	6.651
Çanakkale	585	385	265	1.235	220	239	1.672	622	1.734
Çankırı	125	158	0	283	74	69	433	148	724
Çorum	414	396	93	903	163	212	1.608	511	1.513
Denizli	1.191	621	474	2.286	488	559	2.757	986	2.975
Diyarbakır	1.411	1.076	593	3.080	559	614	4.520	1.077	3.811
Edirne	527	296	486	1.309	199	218	1.646	376	1.349
Elazığ	681	437	303	1.421	260	228	2.402	602	1.831
Erzincan	246	191	79	516	94	80	675	261	786
Erzurum	748	611	431	1.790	300	298	3.165	688	2.418
Eskişehir	1.140	549	500	2.189	455	464	3.441	703	2.936
Gaziantep	1.785	1.191	465	3.441	688	827	5.521	1.191	4.235
Giresun	384	376	69	829	120	217	1.571	500	1.693
Gümüşhane	101	141	0	242	45	44	351	131	497
Hakkari	182	279	0	461	54	52	462	179	640
Hatay	1.309	1.289	228	2.826	557	727	3.802	1.076	3.562
Isparta	622	330	372	1.324	278	220	1.943	540	1.701
Mersin	1.758	1.072	405	3.235	771	884	4.591	1.619	4.296
İstanbul	23.490	9.153	9.625	42.268	10.083	7.445	42.410	6.279	39.415
İzmir	6.692	2.332	3.200	12.224	2.571	2.253	12.618	2.698	12.000
Kars	213	217	48	478	55	71	700	375	775
Kastamonu	249	351	1	601	105	140	948	305	1.137
Kayseri	1.435	823	760	3.018	669	722	4.333	1.084	3.960
Kırklareli	350	267	0	617	133	167	879	323	886
Kırşehir	183	188	31	402	73	96	625	253	818
Kocaeli	2.017	1.102	598	3.717	922	696	5.121	1.245	4.877

Source: General Directorate of Health Services

Table 10.11. Some Health Indicators by Provinces, 2021 - Continued

City	Specialist Physician	General Practitioner	Medical Resident	Total Physician	Total Dentist	Pharmacist	Nurse	Midwife	Other Health Personnel
Konya	2.178	1.413	1.250	4.841	1.005	1.028	7.172	1.604	5.944
Kütahya	435	441	147	1.023	226	230	1.992	635	1.850
Malatya	898	540	377	1.815	366	367	2.833	915	2.532
Manisa	1.370	905	433	2.708	440	643	3.719	1.144	3.281
Kahramanmaraş	824	699	308	1.831	354	439	2.966	837	2.825
Mardin	467	676	0	1.143	221	298	1.504	563	1.700
Muğla	1.112	688	189	1.989	544	535	2.403	890	2.649
Muş	205	283	0	488	64	87	693	254	726
Nevşehir	217	219	5	441	104	137	786	273	949
Niğde	241	251	2	494	99	147	782	323	992
Ordu	631	571	52	1.254	275	328	1.955	656	2.071
Rize	353	264	153	770	184	146	1.021	277	976
Sakarya	857	657	247	1.761	440	397	2.374	754	2.084
Samsun	1.600	908	693	3.201	670	633	4.588	1.089	4.190
Siirt	202	245	0	447	76	105	689	227	777
Sinop	149	195	0	344	73	96	636	219	746
Sivas	614	503	286	1.403	290	263	2.336	673	2.118
Tekirdağ	907	616	212	1.735	432	401	2.405	660	2.351
Tokat	457	406	125	988	236	249	1.906	556	1.822
Trabzon	981	599	543	2.123	401	399	3.060	695	2.974
Tunceli	70	112	0	182	45	25	237	144	403
Şanlıurfa	1.105	1.318	200	2.623	396	781	3.858	1.031	3.333
Uşak	308	240	17	565	193	158	1.018	515	965
Van	726	688	300	1.714	295	308	2.941	692	2.439
Yozgat	305	372	54	731	113	146	1.227	420	1.208
Zonguldak	541	385	214	1.140	250	250	1.890	456	1.689
Aksaray	311	298	0	609	104	175	973	319	1.034
Bayburt	68	83	0	151	26	22	260	85	330
Karaman	198	195	1	394	90	115	651	240	699
Kırıkkale	299	228	134	661	163	116	891	265	1.303
Batman	415	434	0	849	146	215	1.615	442	1.480
Şırnak	274	418	1	693	108	121	776	264	819
Bartın	130	155	0	285	60	90	507	173	517
Ardahan	75	89	0	164	30	26	230	126	344
İğdır	114	156	0	270	54	60	379	148	454
Yalova	262	204	0	466	140	113	689	182	883
Karabük	247	210	49	506	112	99	730	241	826
Kilis	122	200	0	322	40	61	506	182	468
Osmaniye	333	377	1	711	194	250	1.167	452	1.575
Düzce	368	234	196	798	123	140	866	236	889
Türkiye	93.517	53.035	37.017	183.569	39.851	37.211	232.442	57.908	219.630

Source: General Directorate of Health Services

## Explanations for Chapter 10

☑ Data collection method was changed in 2018-2020 and personnel data were obtained from Health Personnel Tracking System (SPTS) Database. As of 2021 year, Integrated Corporate Transaction Platform (EKIP) has started to be used.

☑ As of 2018, the personnel data in the department does not include the personnel data working in the Central Organization of the Ministry of Health. 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 MoH 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 scale was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the scale intervals. The value of the provinces was rounded up to the closest whole number (except Map 10.5). The value of the provinces was rounded up to 1 decimal place while making Map 10.5. These whole numbers were considered while creating 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 be changed due to TURKSTAT's population revision.

☑ **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": Anesthesia Technician, Anesthesia Repairmen, Audiologist, Audiometric Repairman, Audiometric Technician, Biologist, Child Development Specialist, Clinical Psychologist, Dental Prosthetic Repairmen, Dental Technician, Dialysis Repairmen, Dietitian, Electroneurophysiology Repairmen, Emergency and First Aid Technician, Environmental Health Technician, First and Emergency Care Repairman, Forensic Repairmen, Health Officer of the War, Health Physicist, Health Repairman, Health Technician, Healthcare Repairmen, Heart-Lung Pump Operation Technician, Laboratory Repairman, Laboratory Technician, Mammography Repairmen, Medical Imaging Repairmen, Medical Imaging Technician, Medical Laboratory and Pathology Repairmen, Medical Laboratory and Pathology Technician, Medical Prosthesis and Orthotics Repairmen, Medical Prosthesis and Orthotics Technician, Medical Secretary, Medical Technologist, Occupational Therapist, Occupational Therapy Repairmen, Operating Room Repairmen, Oral and Dental Health Repairmen, Orthopedic Technician, Pathological Anatomy Technician, Perfusion Pump Technician, Perfusionist, Pharmacy Repairmen, Physical Therapy Technician, Physiotherapist, Physiotherapy Repairmen, Podologist, Prosthetic Technician, Psychologist, Public Health Technician, Radiographer, Radiotherapy Repairmen, Social Worker, Speech and Language Therapist, Surgery Technician.

\***Repairmen:** Person graduated from Vocational High School

\***Technician:** Person graduated from High School

- "Other Institutions" indicated in the distribution of the Ministry of Health personnel: include Emergency Care Center, Community Health Center, Tuberculosis Dispensary, Cancer Early Diagnosis and Screening Center, Public Health Laboratory, CEKUS Unit, Oral and Dental Health Center and Provincial Directorate of Health 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/associate/assistant professors are included in the number of academic staff member in faculty.



# CHAPTER 11

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## 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 ₺	362.110	18.331	5,1	443	0,1	18.774	5,2
	Million US \$	238.145	12.056		291		12.347	
	Million PPP US \$	677.953	34.320		829		35.149	
2008	Million ₺	1.002.756	52.320	5,2	5.420	0,5	57.740	5,8
	Million US \$	782.865	40.847		4.231		45.078	
	Million PPP US \$	1.099.023	57.342		5.940		63.283	
2009	Million ₺	1.006.372	55.294	5,5	2.616	0,3	57.911	5,8
	Million US \$	651.543	35.799		1.694		37.492	
	Million PPP US \$	1.068.666	58.717		2.778		61.495	
2010	Million ₺	1.167.664	58.623	5,0	3.054	0,3	61.678	5,3
	Million US \$	777.461	39.033		2.034		41.067	
	Million PPP US \$	1.229.053	61.705		3.215		64.920	
2011	Million ₺	1.404.928	65.372	4,7	3.236	0,2	68.607	4,9
	Million US \$	837.924	38.989		1.930		40.919	
	Million PPP US \$	1.417.005	65.934		3.264		69.197	
2012	Million ₺	1.581.479	70.288	4,4	3.901	0,2	74.189	4,7
	Million US \$	877.676	39.008		2.165		41.173	
	Million PPP US \$	1.513.424	67.263		3.733		70.996	
2013	Million ₺	1.823.427	79.702	4,4	4.688	0,3	84.390	4,6
	Million US \$	958.125	41.880		2.463		44.343	
	Million PPP US \$	1.651.069	72.168		4.245		76.413	
2014	Million ₺	2.054.898	88.878	4,3	5.871	0,3	94.750	4,6
	Million US \$	939.923	40.654		2.685		43.339	
	Million PPP US \$	1.796.555	77.705		5.133		82.838	
2015	Million ₺	2.350.941	96.786	4,1	7.782	0,3	104.568	4,4
	Million US \$	867.071	35.696		2.870		38.566	
	Million PPP US \$	1.976.144	81.356		6.541		87.897	
2016	Million ₺	2.626.560	112.540	4,3	7.216	0,3	119.756	4,6
	Million US \$	869.241	37.244		2.388		39.632	
	Million PPP US \$	2.088.486	89.485		5.737		95.223	
2017	Million ₺	3.133.704	130.981	4,2	9.666	0,3	140.647	4,5
	Million US \$	859.055	35.906		2.650		38.556	
	Million PPP US \$	2.258.990	94.420		6.968		101.388	
2018	Million ₺	3.758.774	154.998	4,1	10.236	0,3	165.234	4,4
	Million US \$	797.221	32.875		2.171		35.045	
	Million PPP US \$	2.379.465	98.121		6.480		104.600	
2019	Million ₺	4.311.733	188.237	4,4	12.794	0,3	201.031	4,7
	Million US \$	759.289	33.148		2.253		35.401	
	Million PPP US \$	2.329.706	101.708		6.913		108.620	
2020	Million ₺	5.048.220	233.062	4,6	16.870	0,3	249.932	5,0
	Million US \$	717.092	33.106		2.396		35.502	
	Million PPP US \$	2.356.495	108.793		7.875		116.667	
2021	Million ₺	7.248.789	330.928	4,6	23.013	0,3	353.941	4,9
	Million US \$	807.106	36.847		2.562		39.409	
	Million PPP US \$	2.874.536	131.231		9.126		140.357	

Source: TURKSTAT, OECD Health Data 2022

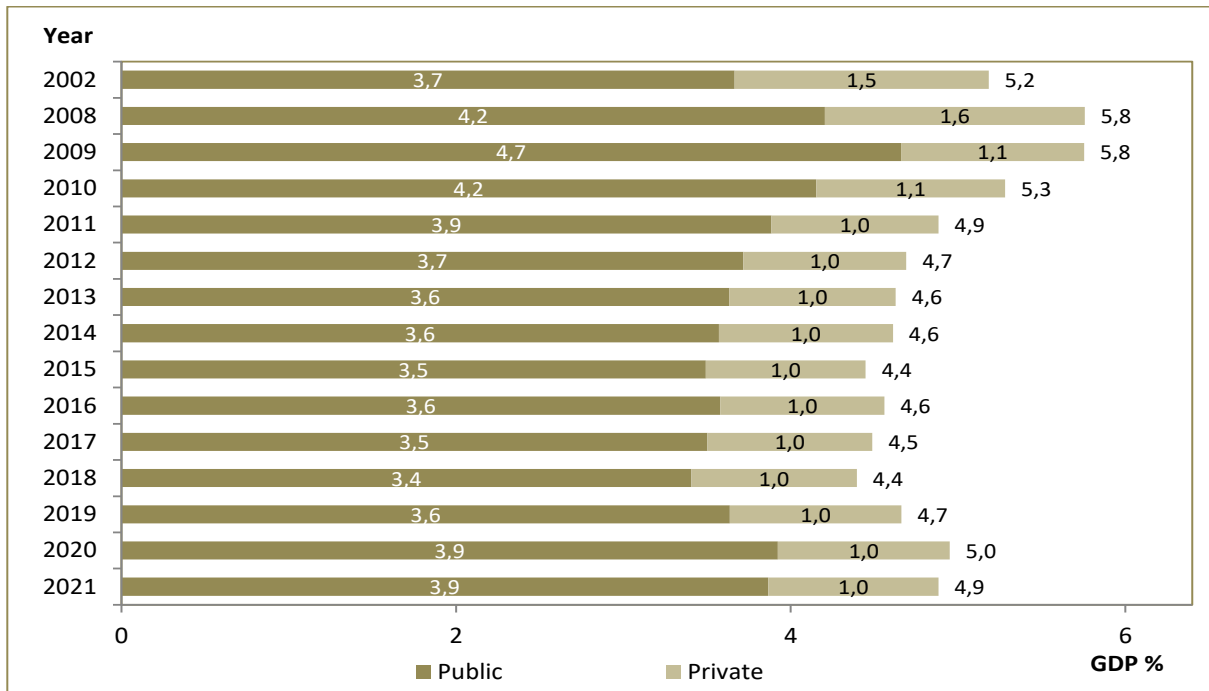
Table 11.2. Public Current, Public Investment and Total Public Health Expenditure by Years

Year	Unit	GDP	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 ₺	362.110	12.827		443		13.270	
	Million US \$	238.145	8.436	3,5	291	0,1	8.727	3,7
	Million PPP US \$	677.953	24.015		829		24.844	
2008	Million ₺	1.002.756	38.033		4.126		42.159	
	Million US \$	782.865	29.693	3,8	3.221	0,4	32.914	4,2
	Million PPP US \$	1.099.023	41.684		4.522		46.206	
2009	Million ₺	1.006.372	44.511		2.379		46.890	
	Million US \$	651.543	28.817	4,4	1.540	0,2	30.357	4,7
	Million PPP US \$	1.068.666	47.266		2.526		49.792	
2010	Million ₺	1.167.664	45.726		2.756		48.482	
	Million US \$	777.461	30.445	3,9	1.835	0,2	32.280	4,2
	Million PPP US \$	1.229.053	48.130		2.901		51.030	
2011	Million ₺	1.404.928	51.728		2.852		54.580	
	Million US \$	837.924	30.851	3,7	1.701	0,2	32.552	3,9
	Million PPP US \$	1.417.005	52.172		2.876		55.049	
2012	Million ₺	1.581.479	55.648		3.137		58.785	
	Million US \$	877.676	30.883	3,5	1.741	0,2	32.624	3,7
	Million PPP US \$	1.513.424	53.253		3.002		56.255	
2013	Million ₺	1.823.427	62.447		3.781		66.228	
	Million US \$	958.125	32.813	3,4	1.987	0,2	34.800	3,6
	Million PPP US \$	1.651.069	56.544		3.424		59.968	
2014	Million ₺	2.054.898	68.974		4.407		73.382	
	Million US \$	939.923	31.549	3,4	2.016	0,2	33.565	3,6
	Million PPP US \$	1.796.555	60.303		3.853		64.156	
2015	Million ₺	2.350.941	75.622		6.499		82.121	
	Million US \$	867.071	27.891	3,2	2.397	0,3	30.288	3,5
	Million PPP US \$	1.976.144	63.566		5.463		69.029	
2016	Million ₺	2.626.560	88.279		5.733		94.012	
	Million US \$	869.241	29.215	3,4	1.897	0,2	31.112	3,6
	Million PPP US \$	2.088.486	70.194		4.558		74.753	
2017	Million ₺	3.133.704	101.786		7.958		109.744	
	Million US \$	859.055	27.903	3,2	2.181	0,3	30.084	3,5
	Million PPP US \$	2.258.990	73.374		5.736		79.111	
2018	Million ₺	3.758.774	119.941		8.080		128.021	
	Million US \$	797.221	25.439	3,2	1.714	0,2	27.153	3,4
	Million PPP US \$	2.379.465	75.928		5.115		81.043	
2019	Million ₺	4.311.733	146.232		10.586		156.819	
	Million US \$	759.289	25.751	3,4	1.864	0,2	27.616	3,6
	Million PPP US \$	2.329.706	79.012		5.720		84.732	
2020	Million ₺	5.048.220	183.759		14.304		198.062	
	Million US \$	717.092	26.103	3,6	2.032	0,3	28.134	3,9
	Million PPP US \$	2.356.495	85.778		6.677		92.455	
2021	Million ₺	7.248.789	260.777		19.442		280.220	
	Million US \$	807.106	29.036	3,6	2.165	0,3	31.201	3,9
	Million PPP US \$	2.874.536	103.412		7.710		111.122	

Source: TURKSTAT, OECD Health Data 2022

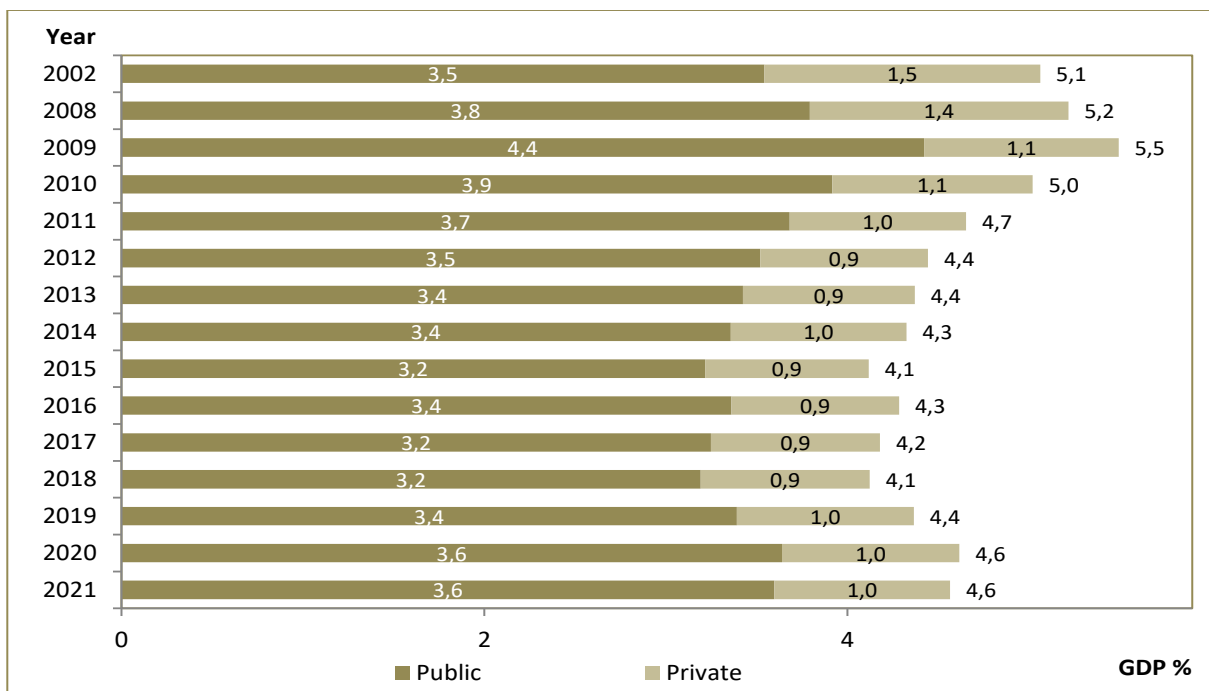


Figure 11.1. Public and Private Health Expenditure as a Share of GDP by Years, (%)



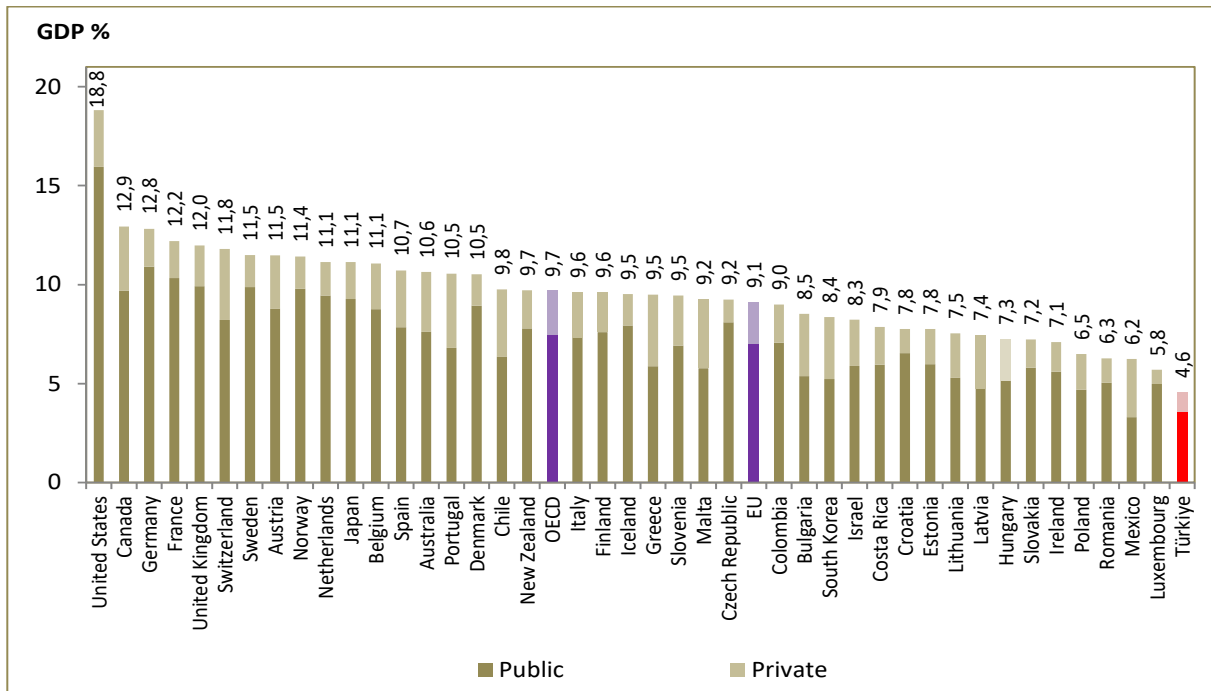
Source: TURKSTAT

Figure 11.2. Public and Private Current Health Expenditure as a Share of GDP by Years, (%)



Source: TURKSTAT

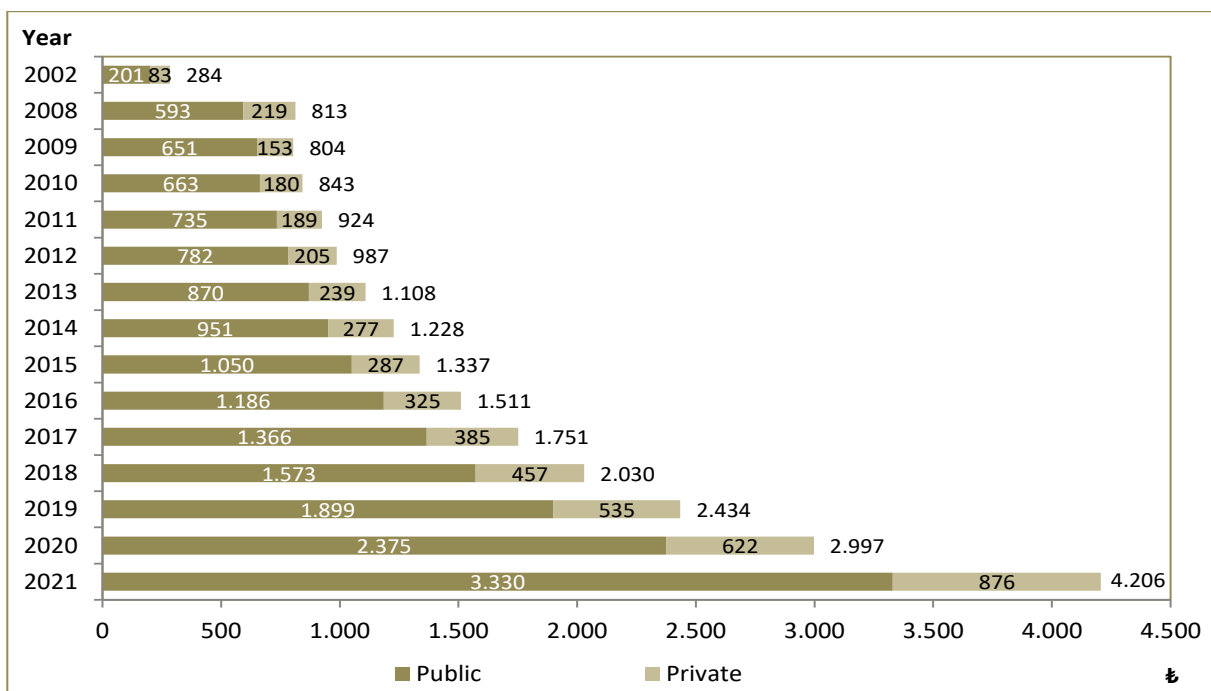
Figure 11.3. International Comparison of Current Health Expenditure as a Share of GDP, (%), 2020



Source: TURKSTAT, OECD Health Data 2022

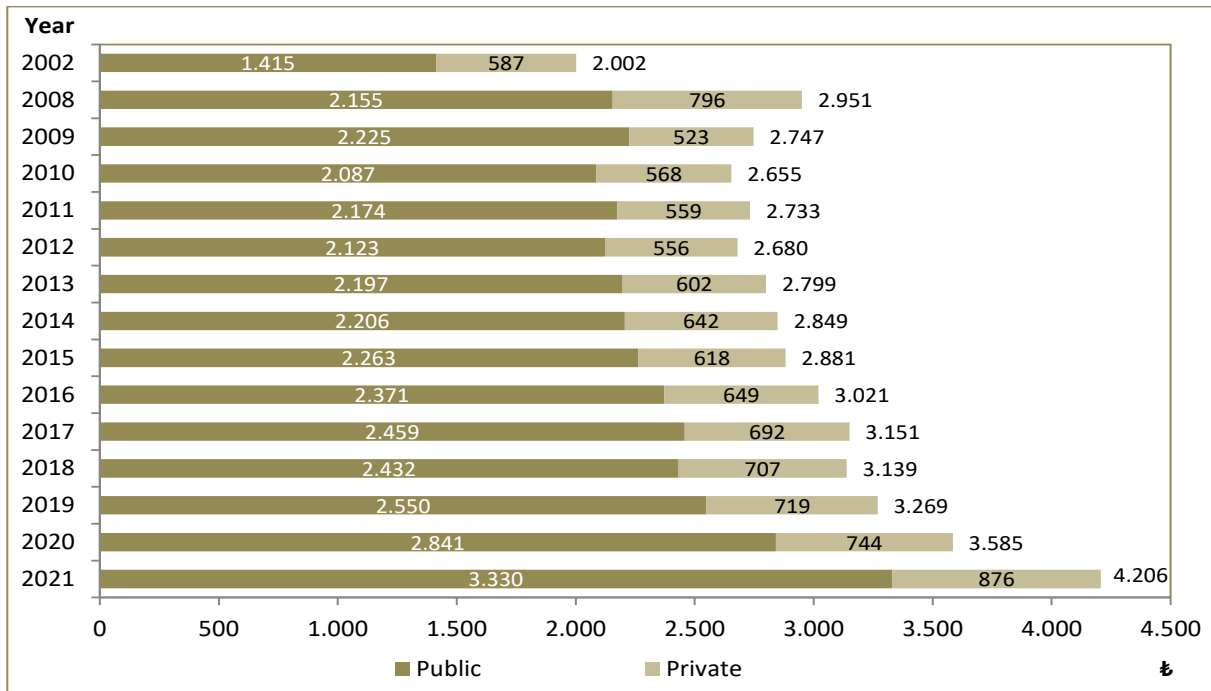
Note: Türkiye's data belong to the year 2021. Countries' data belong to the year 2020 or nearest.

Figure 11.4. Public and Private Health Expenditure per Capita by Years, Nominal, in ₺



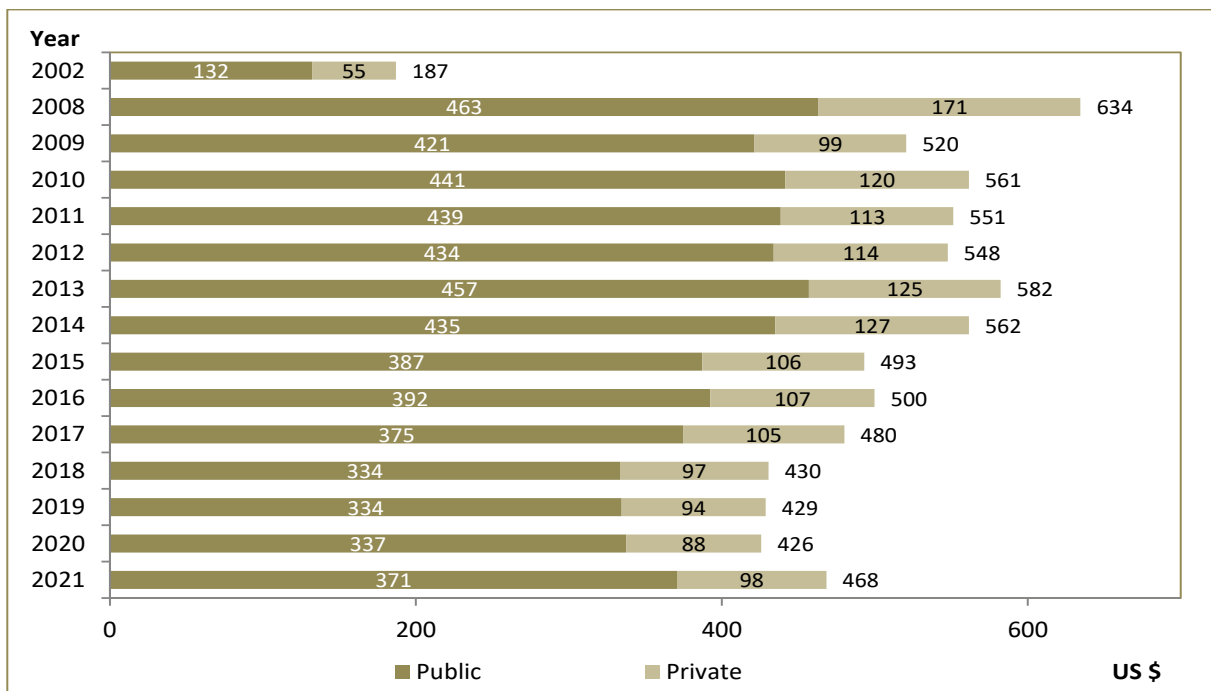
Source: TURKSTAT

Figure 11.5. Public and Private Health Expenditure per Capita at 2021 Price Level by Years, Real, in ₺



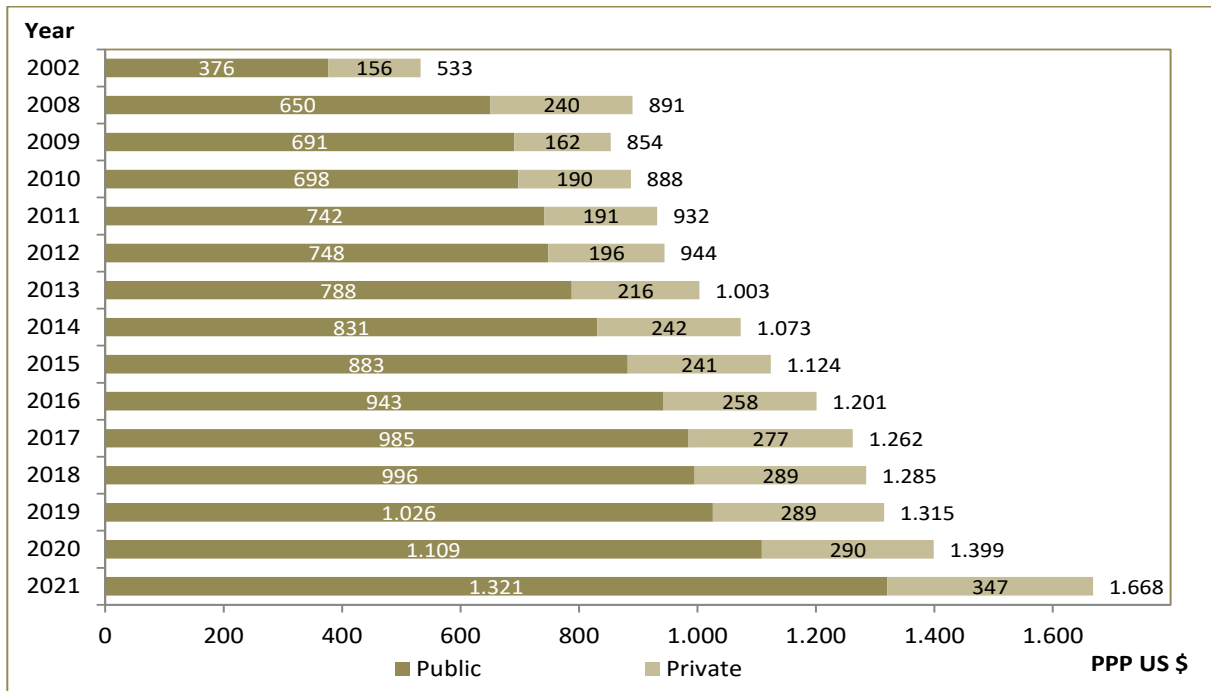
Source: TURKSTAT

Figure 11.6. Public and Private Health Expenditure per Capita by Years, in US \$



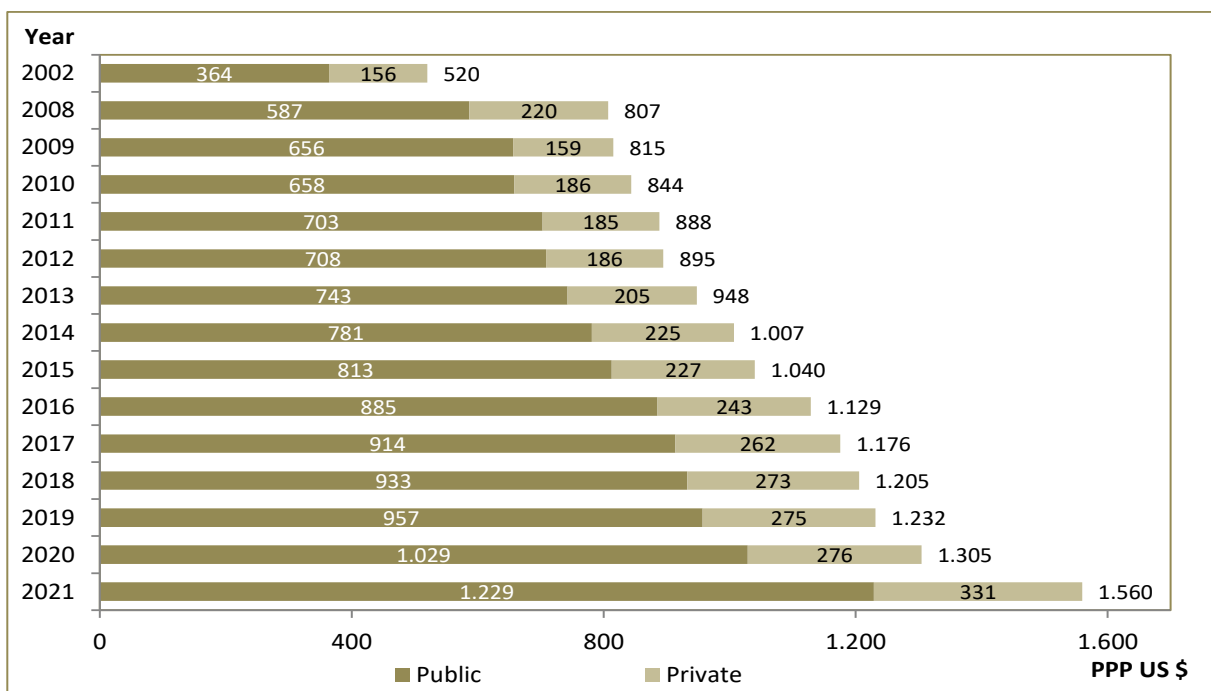
Source: TURKSTAT

Figure 11.7. Public and Private Health Expenditure per Capita by Years, PPP US \$



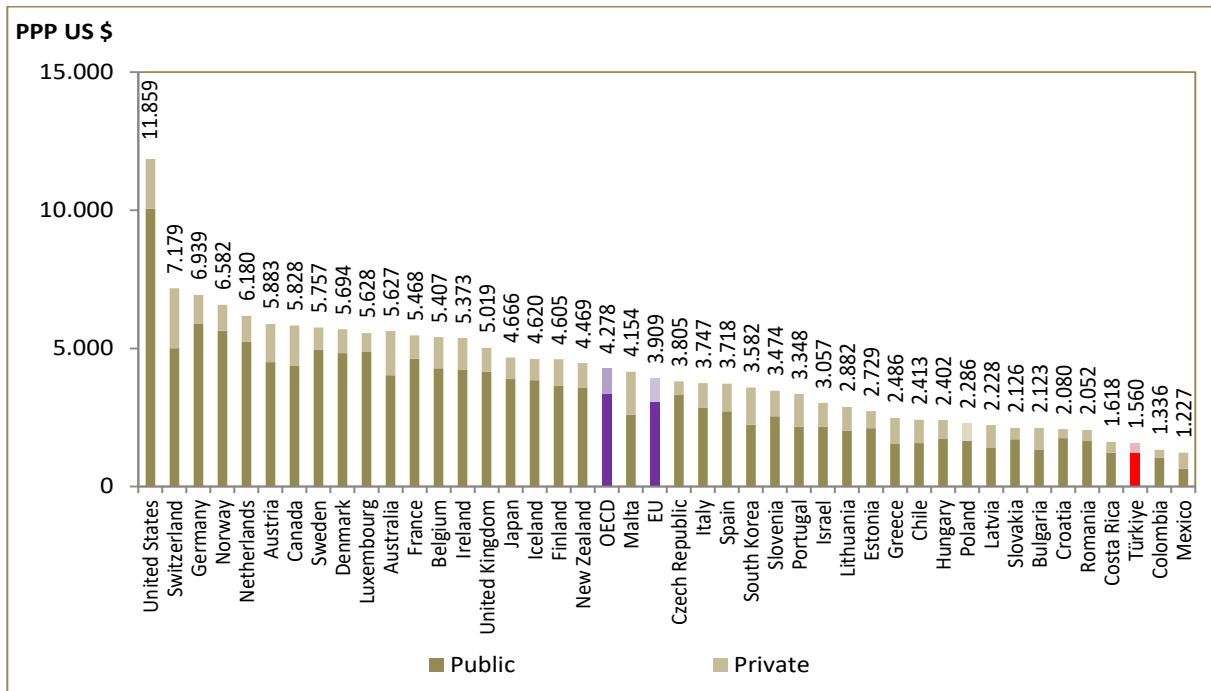
Source: TURKSTAT, OECD Health Data 2022

Figure 11.8. Public and Private Current Health Expenditure per Capita by Years, PPP US \$



Source: TURKSTAT, OECD Health Data 2022

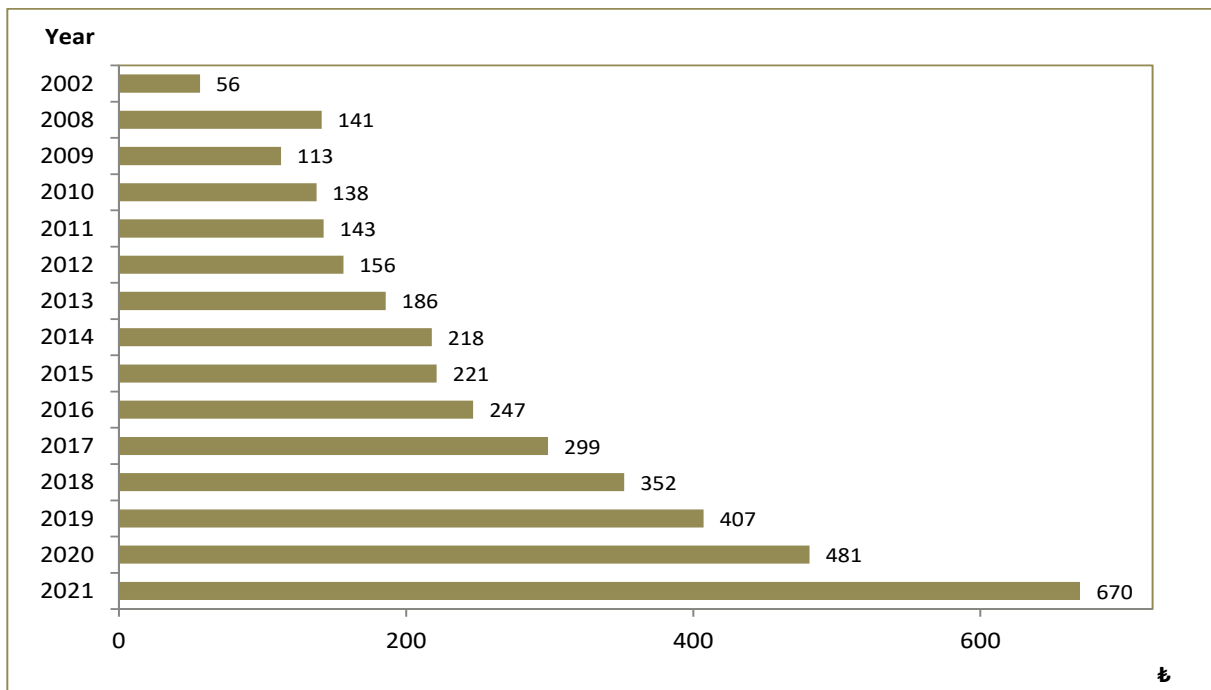
Figure 11.9. International Comparison of Current Health Expenditure per Capita, PPP US \$, 2020



Source: TURKSTAT, OECD Health Data 2022

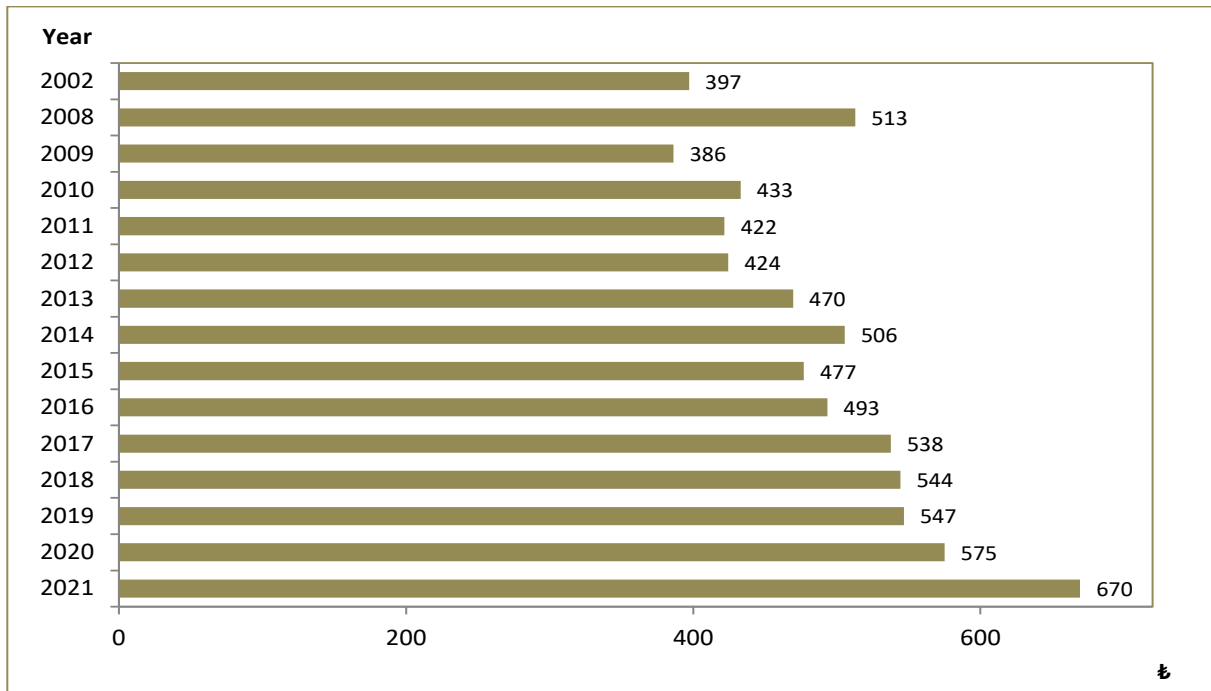
Note: Türkiye's data belong to the year 2021. Countries' data belong to the year 2020 or nearest.

Figure 11.10. Out-of-Pocket Health Expenditure per Capita by Years, Nominal, in ₺



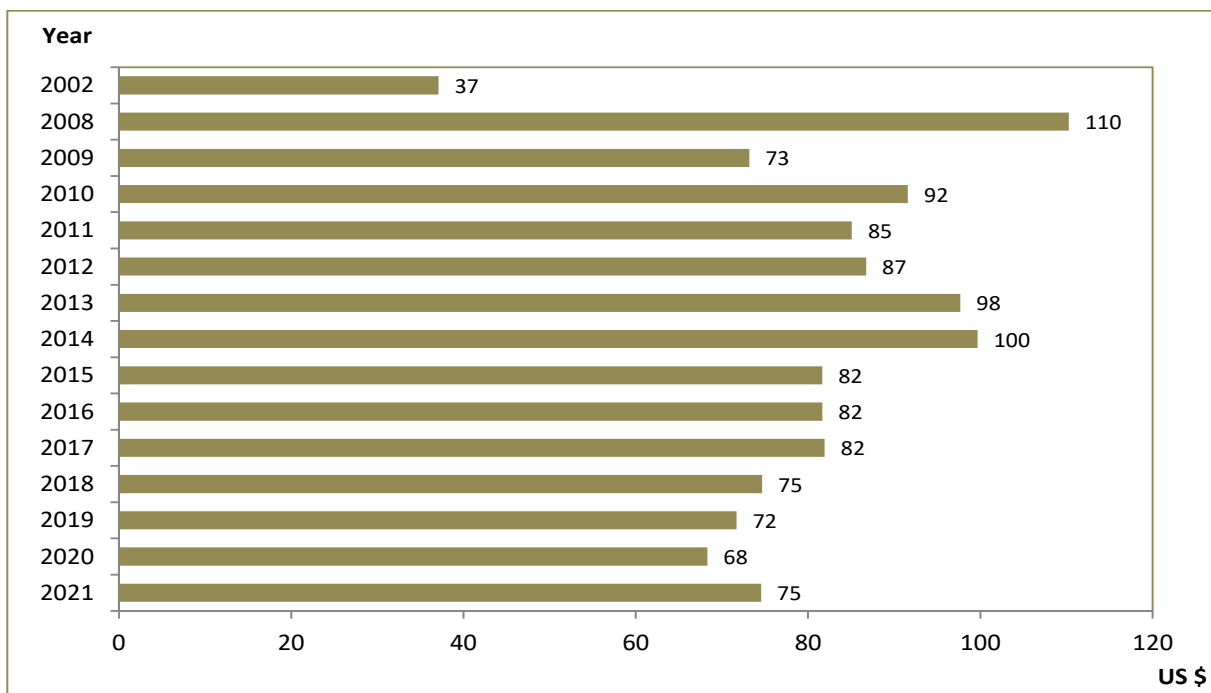
Source: TURKSTAT

Figure 11.11. Out-of-Pocket Health Expenditure per Capita at 2021 Price Level, Real, in ₺



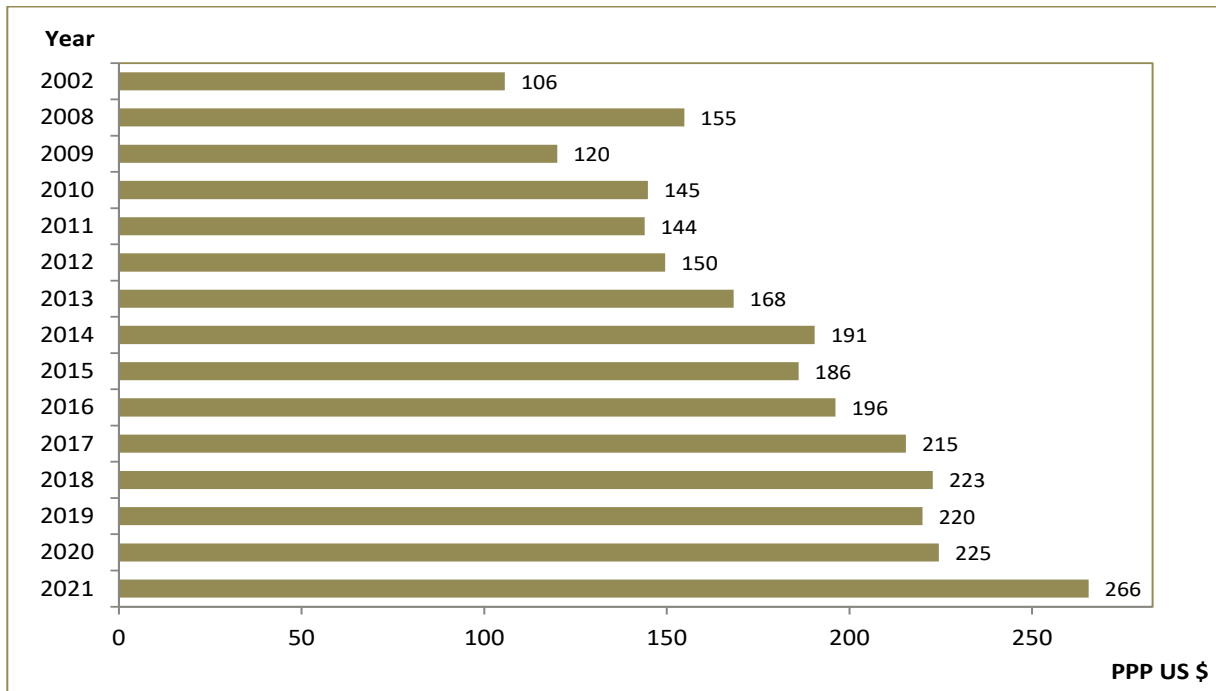
Source: TURKSTAT

Figure 11.12. Out-of-Pocket Health Expenditure per Capita by Years, in US \$



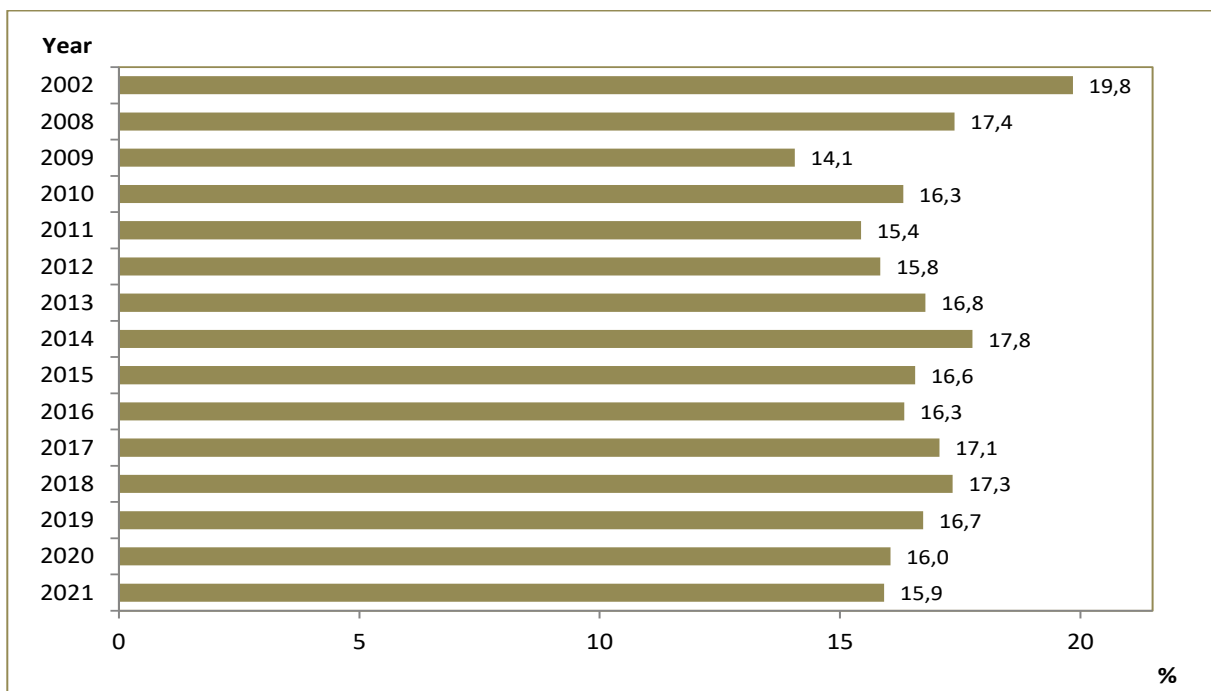
Source: TURKSTAT

Figure 11.13. Out-of-Pocket Health Expenditure per Capita by Years, PPP US \$



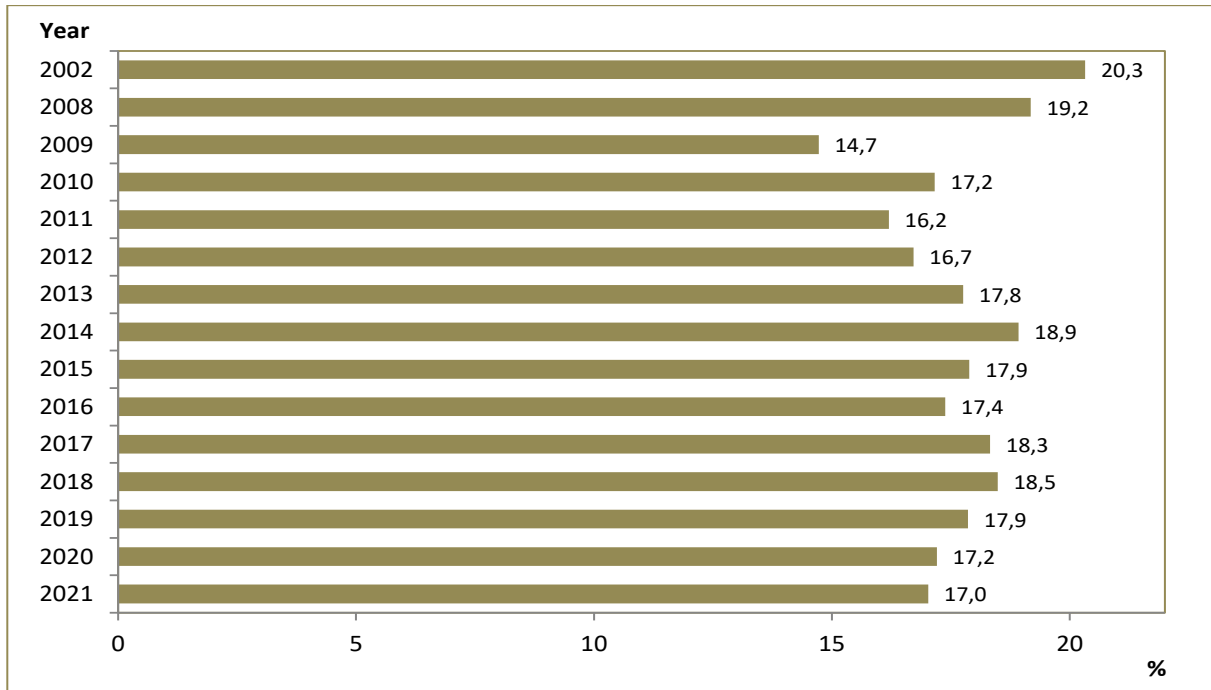
Source: TURKSTAT, OECD Health Data 2022

Figure 11.14. Out-of-Pocket Health Expenditure as a Share of Total Health Expenditure by Years, (%)



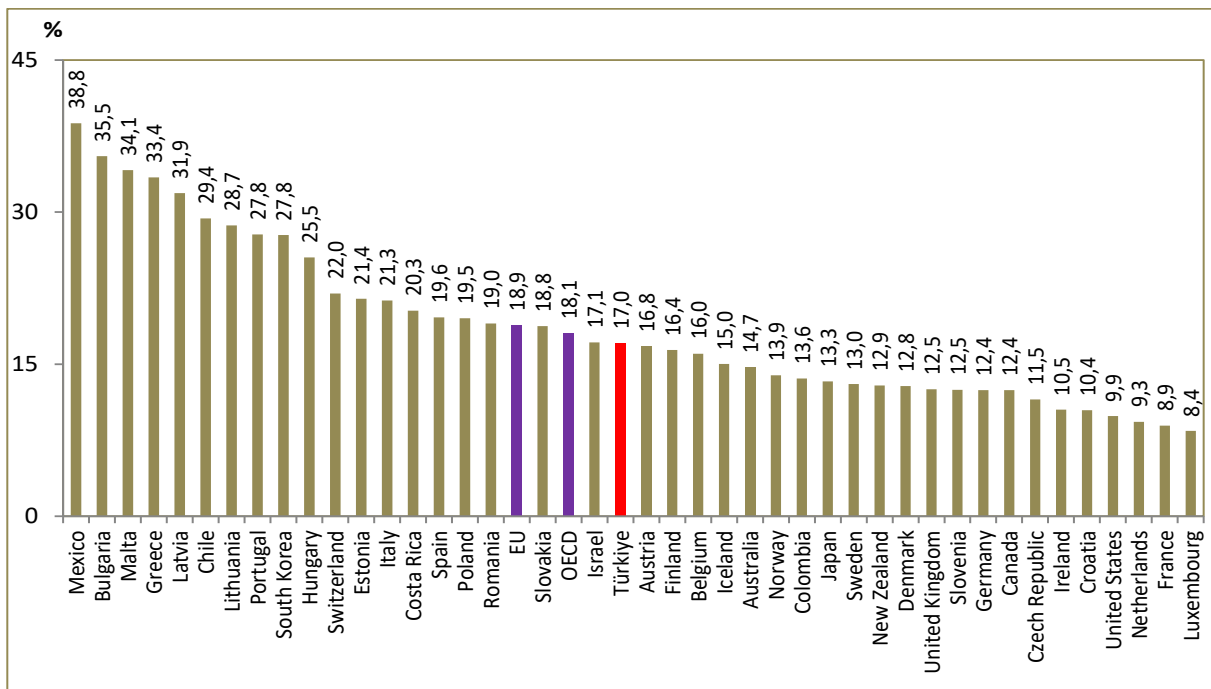
Source: TURKSTAT

Figure 11.15. Out-of-Pocket Health Expenditure as a Share of Total Current Health Expenditure by Years, (%)



Source: TURKSTAT

Figure 11.16. International Comparison of Out-of-Pocket Health Expenditure as a Share of Current Health Expenditure, (%), 2020

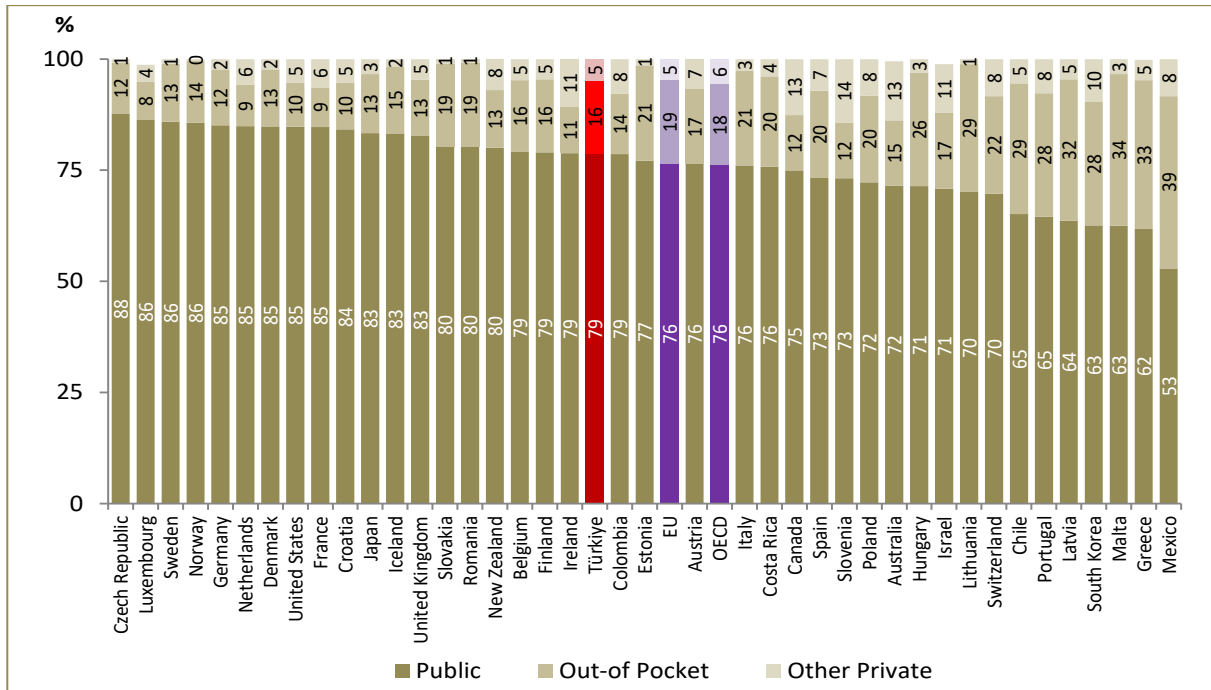


Source: TURKSTAT, OECD Health Data 2022

Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest.



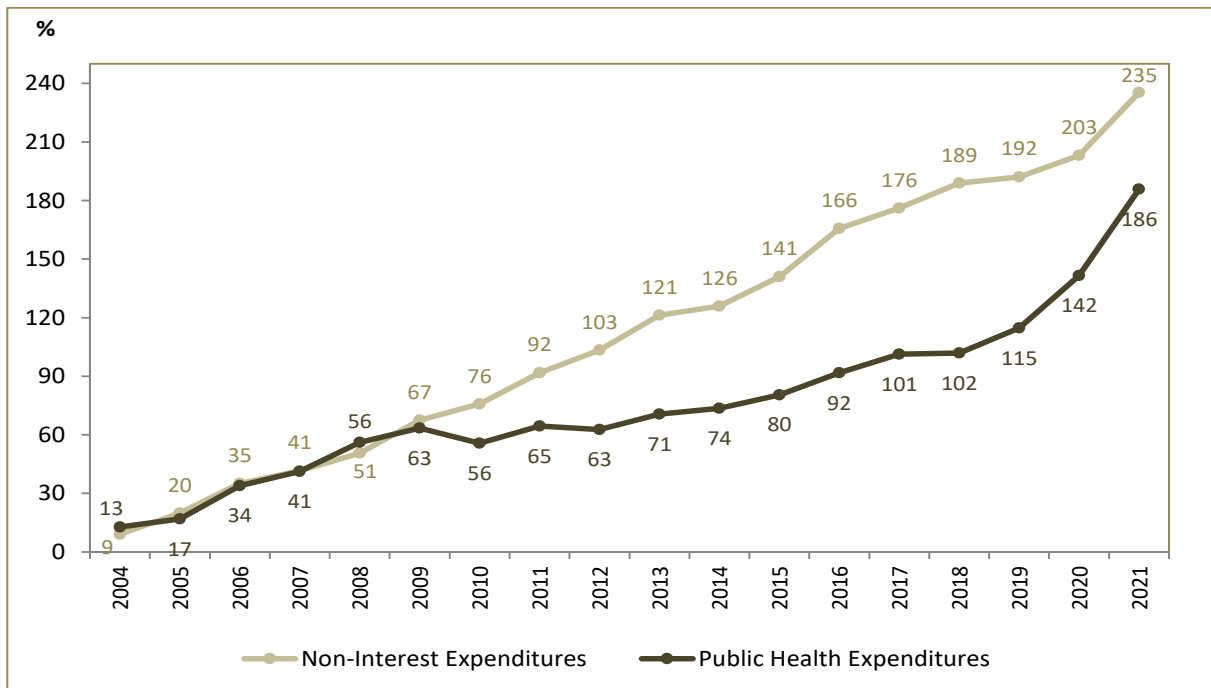
Figure 11.17. International Comparison of Distribution of Current Health Expenditure by Financing Type, (%), 2020



Source: TURKSTAT, OECD Health Data 2022

Note: Türkiye's data belong to the year 2021. Countries' data belong to the year 2020 or nearest. Some countries' total does not give 100% due to having some other financing types.

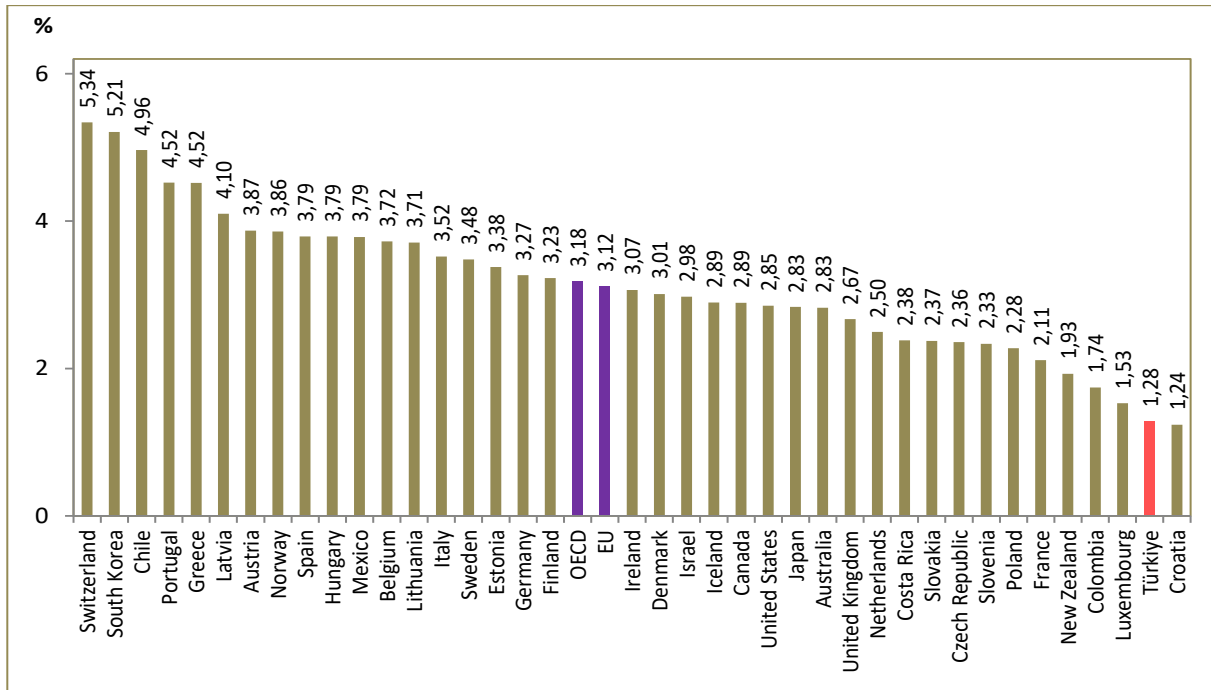
Figure 11.18. Rates of Increase of Non-Interest Expenditures and Public Health Expenditures by Years, (%)



Source: TURKSTAT, Presidency of Türkiye, Directorate of Strategy and Budgeting

Note: Rates of increase were calculated based on the year 2003. The "Non-Interest Expenditure" value for the year 2021 is the "Realization Forecast" value.

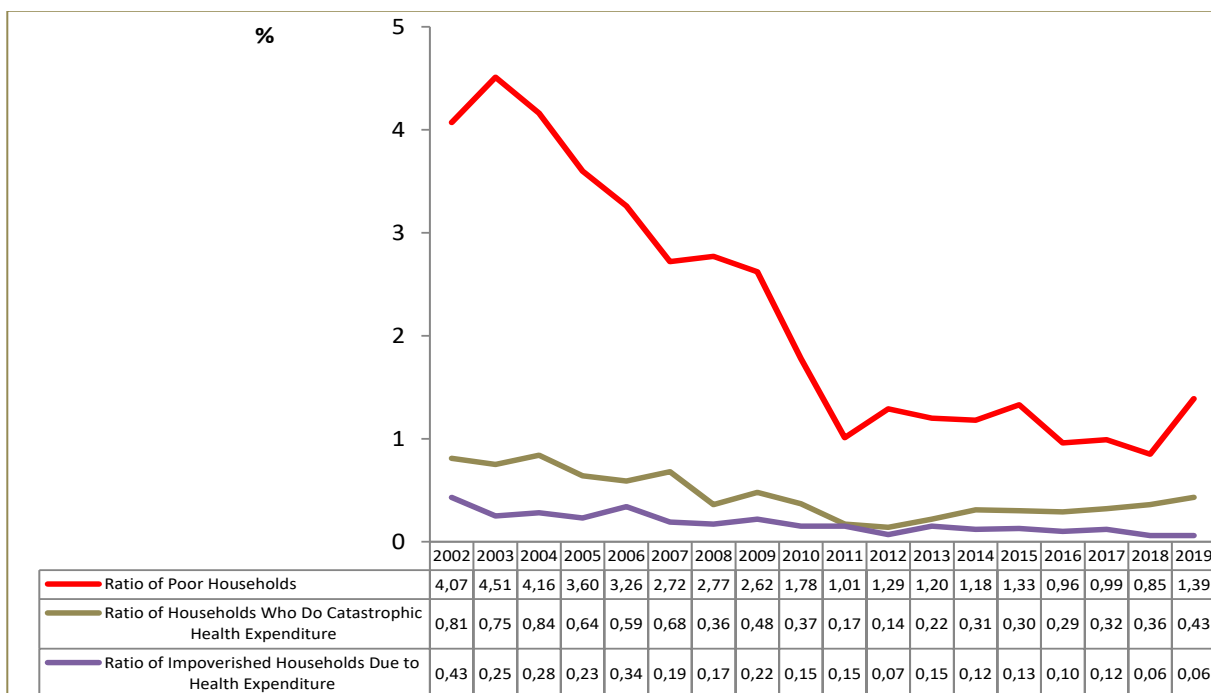
Figure 11.19. International Comparison of Ratio of Out-of-Pocket Health Expenditure in Household Final Consumption Expenditure, 2020



Source: TURKSTAT, OECD Health Data 2022

Note: Türkiye's data belongs to the year 2021. Countries' data belong to the year 2020 or nearest.

Figure 11.20. Catastrophic Health Expenditure by Years, (%)



Source: TURKSTAT, Household Budget Survey Micro Data Set

## Explanations for Chapter 11

- ☑ Tables and figures 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.
- ☑ Basically, 2 methods are used in the calculation of SGP. The first is calculated on the basis of GDP. This method covers both final consumption expenditures (household and government) and gross capital formation. The second method is the calculation based on actual individual consumption expenditures. This method covers all household consumption expenditure and that part of government final expenditure which covers services it supplies to individual households such as housing, health, education, and social protection. In other words, it does not include government final expenditure on those services it supplies to household collectively such as defense, police, and environment protection. Countries heavily dependent on the trade of commodities such as oil, or cereals where prices are subject to more volatility have unstable PPPs based on GDP. Since these prices do not directly affect the consumption of health services, the PPP method based on actual individual consumption, which is a more consistent measure with the general consumption of goods and services in the economy, is also preferred by the OECD. It is also preferred in order to comply with international standards, PPP based indicators will be calculated according to the actual individual consumption method in the Health Statistics Annuals to be published in this year and in the following years.

<b>Year</b>	<b>Mid-year Population (in thousand)</b>	<b>US \$</b>	<b>PPP US \$ (Based on Actual Individual Consumption)</b>	<b>CPI</b>
2002	66.003	1,521	0,534	7,037
2003	66.795	1,492	0,695	5,616
2004	67.599	1,432	0,758	5,171
2005	68.435	1,348	0,827	4,780
2006	69.295	1,441	0,871	4,362
2007	70.158	1,300	0,904	4,011
2008	71.052	1,281	0,912	3,631
2009	72.039	1,545	0,942	3,418
2010	73.142	1,502	0,950	3,148
2011	74.224	1,677	0,991	2,957
2012	75.176	1,802	1,045	2,715
2013	76.148	1,903	1,104	2,526
2014	77.182	2,186	1,144	2,321
2015	78.218	2,711	1,190	2,155
2016	79.278	3,022	1,258	2,000
2017	80.313	3,648	1,387	1,799
2018	81.407	4,715	1,580	1,547
2019	82.579	5,679	1,851	1,343
2020	83.385	7,040	2,142	1,196
2021	84.147	8,981	2,522	1,000

Source: TURKSTAT, OECD Health Data 2022

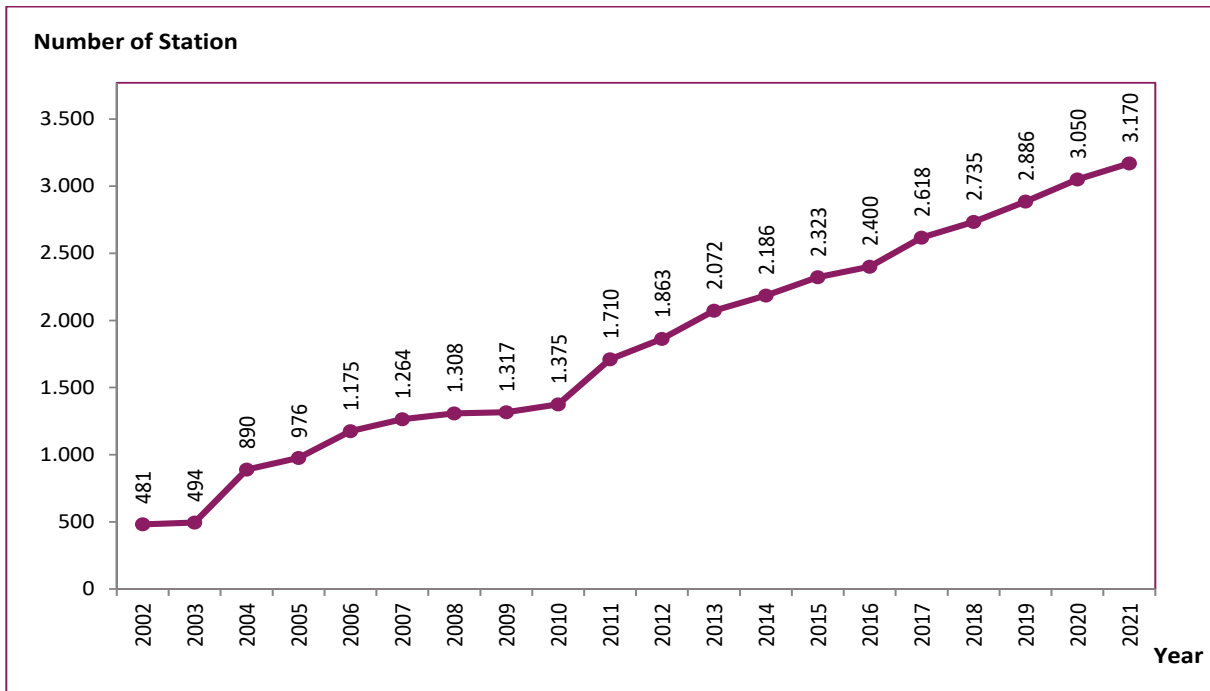
An abstract graphic on the left side of the page, consisting of a complex network of thin, dark lines connecting various nodes. The nodes are represented by small, semi-transparent circles in shades of purple and pink. The overall effect is a dense, interconnected web that fades into the background.

# CHAPTER 12

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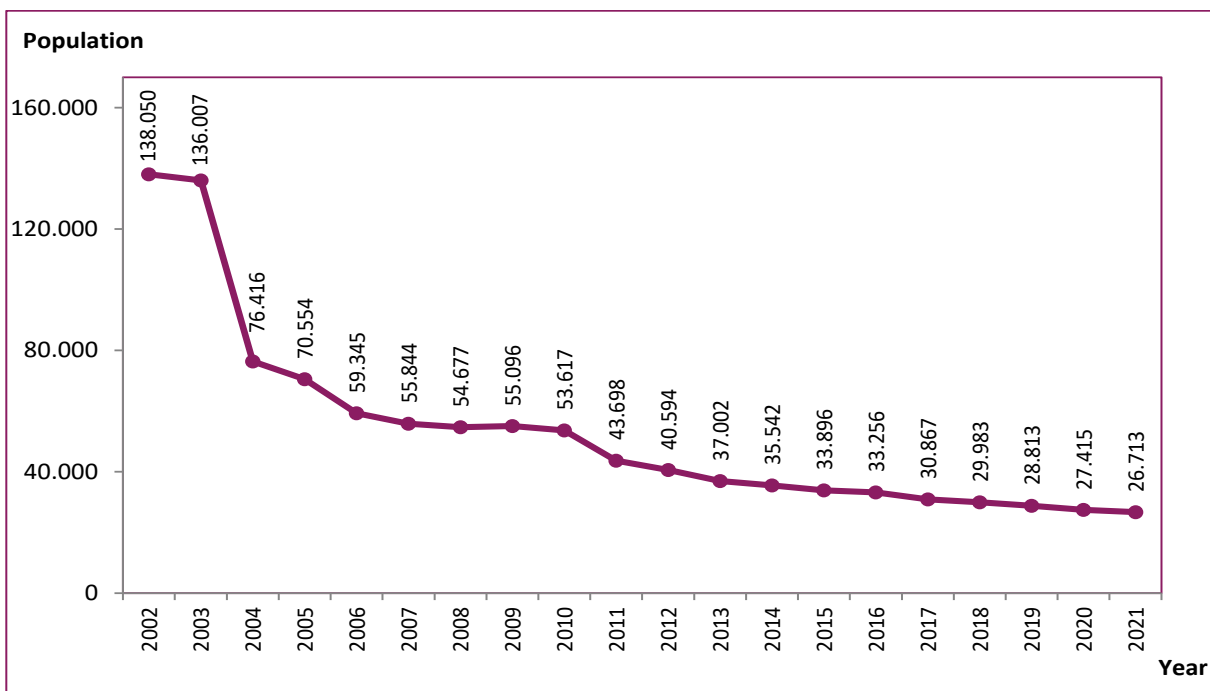
## Emergency Health Services

Figure 12.1. Number of Emergency Care Station by Years, Ministry of Health



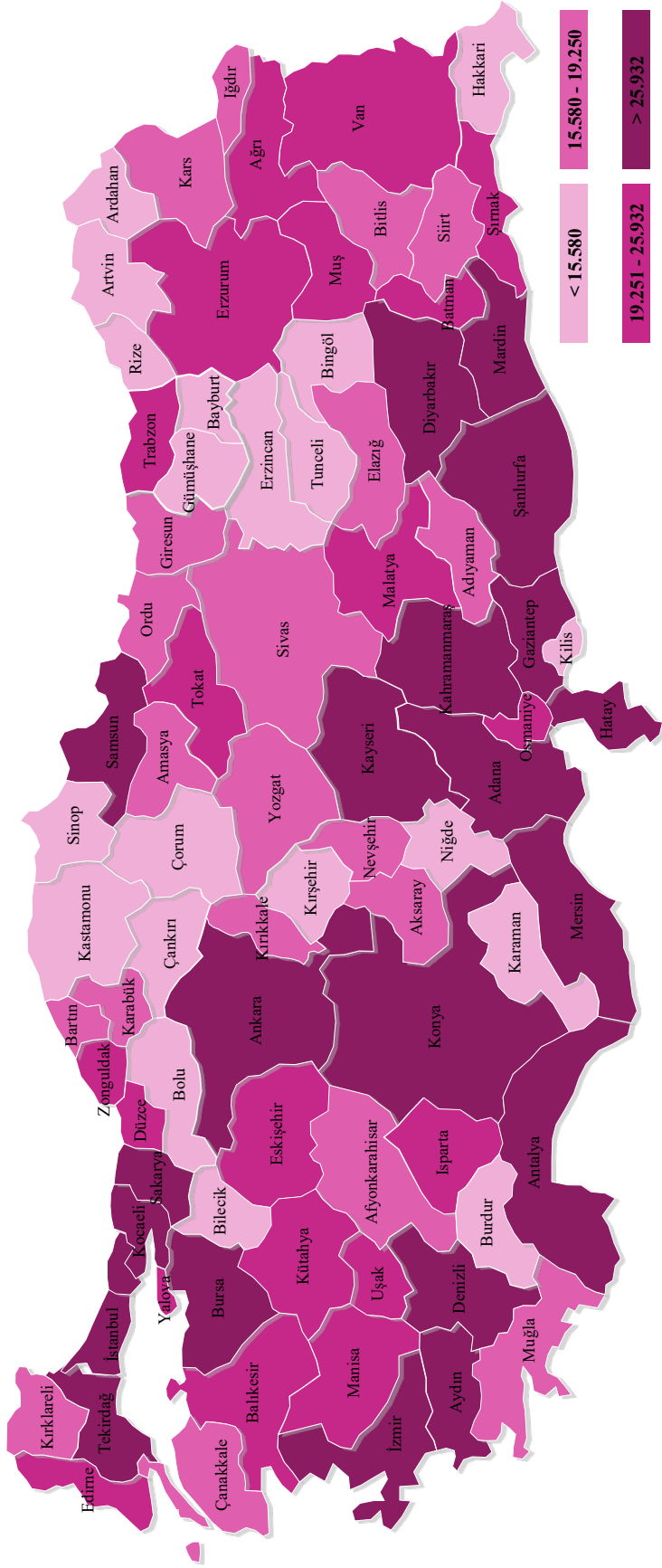
Source: General Directorate of Emergency Health Services

Figure 12.2. Population per Emergency Care Station by Years, Ministry of Health



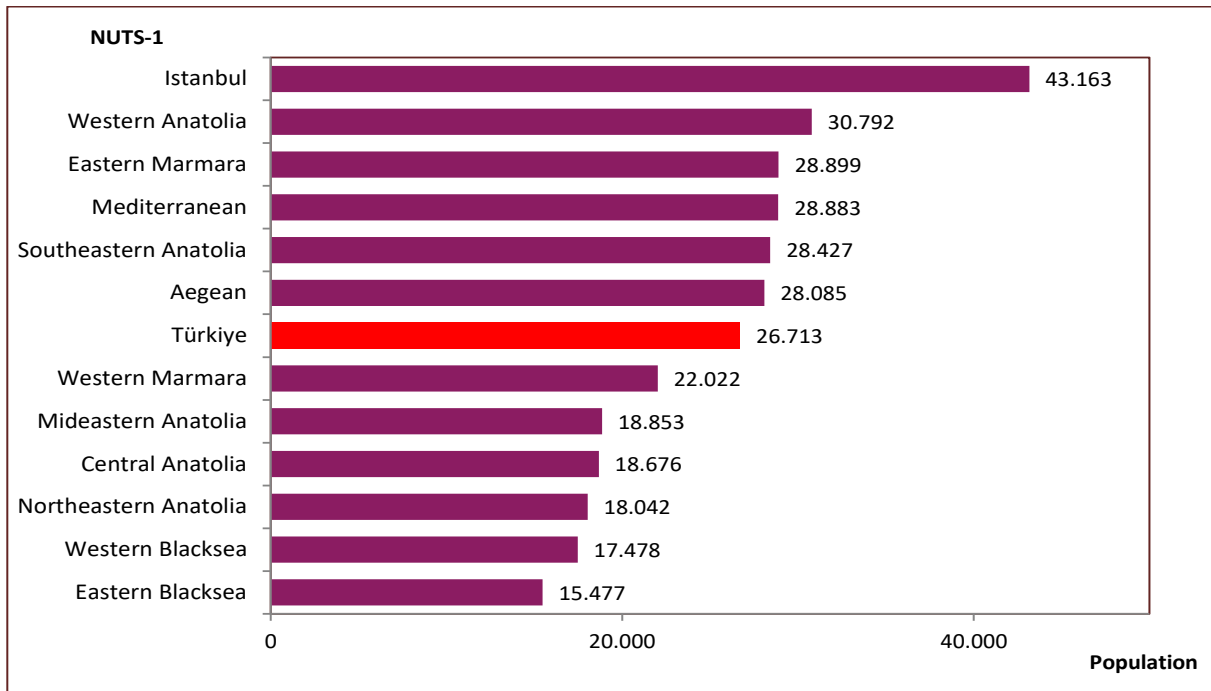
Source: General Directorate of Emergency Health Services

Map 12.1.1. Population per Emergency Care Station by Provinces, Ministry of Health, 2021



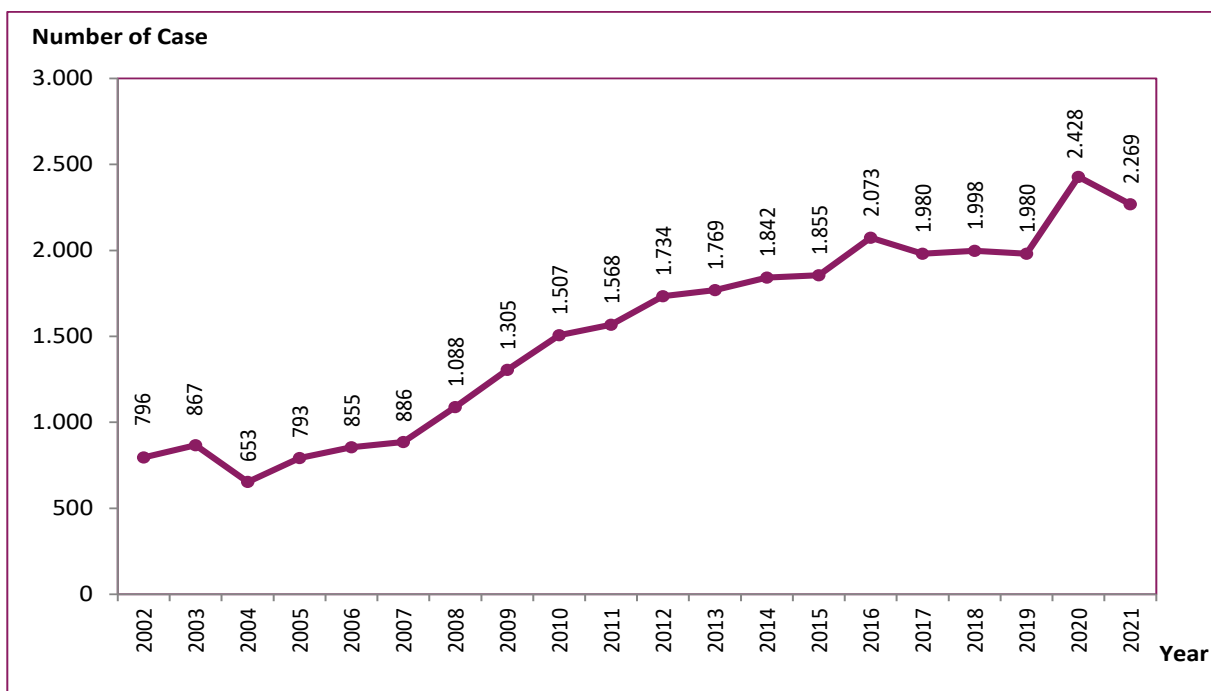
Source: General Directorate of Emergency Health Services

Figure 12.3. Population per Emergency Care Station by NUTS-1, Ministry of Health, 2021



Source: General Directorate of Emergency Health Services

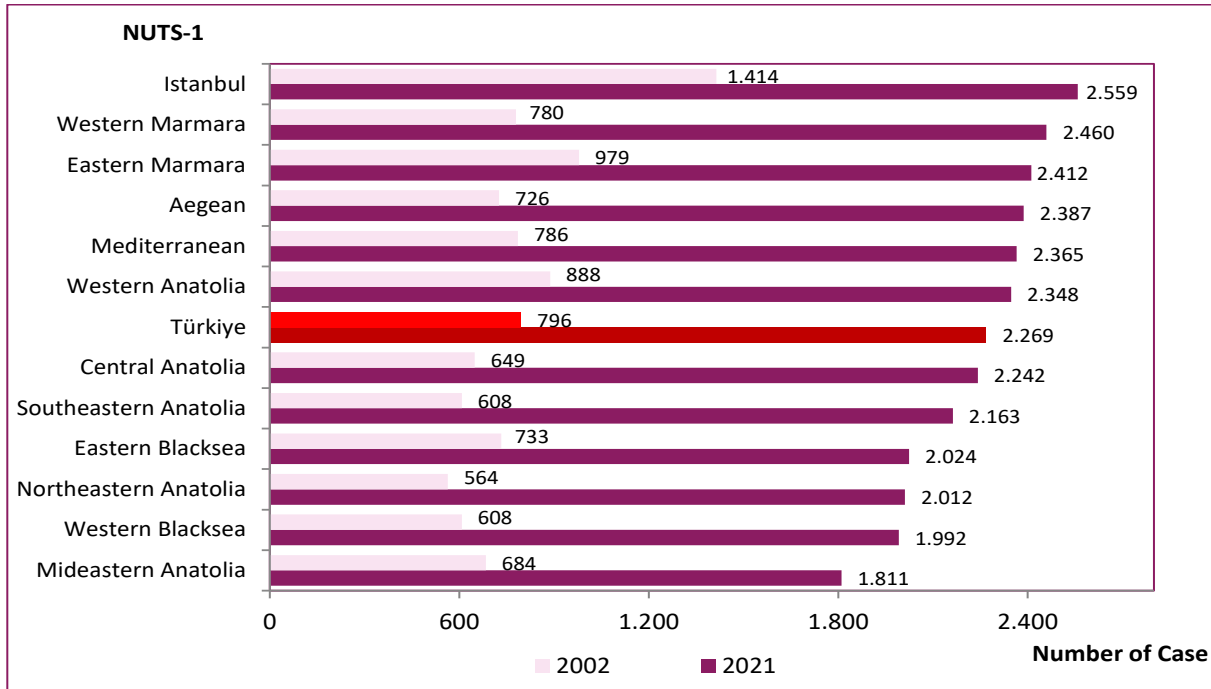
Figure 12.4. Number of Case per Emergency Care Station by Years, Ministry of Health



Source: General Directorate of Emergency Health Services

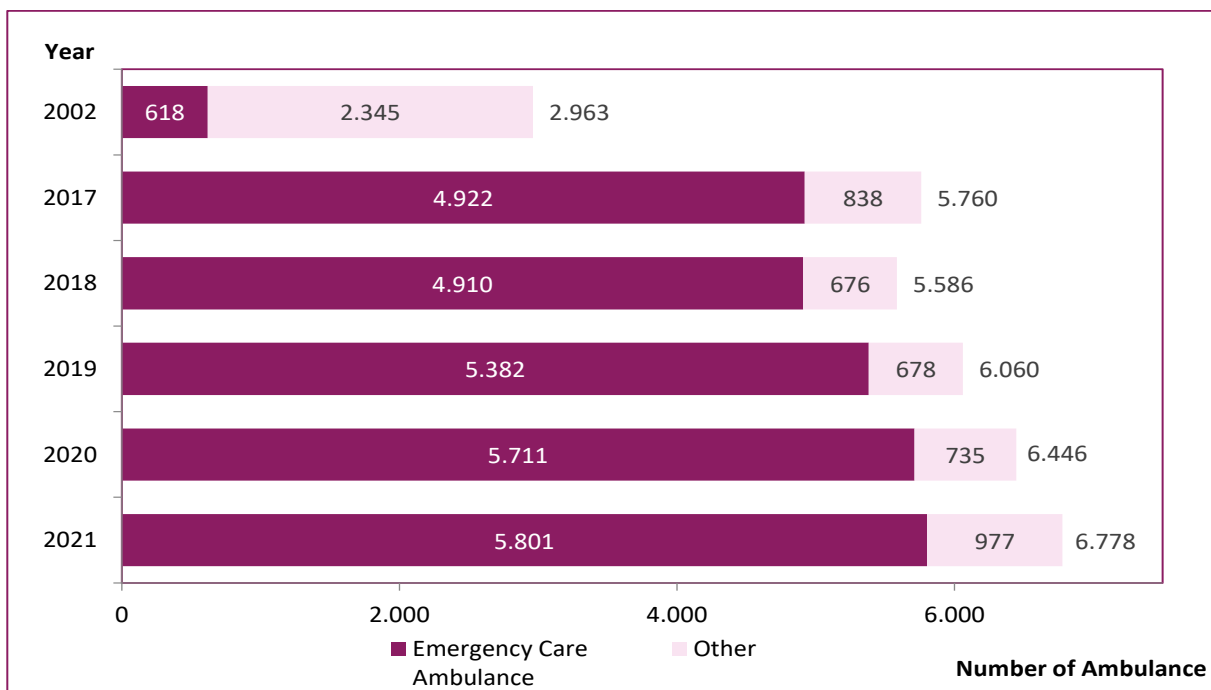


Figure 12.5. Number of Case per Emergency Care Station by NUTS-1, Ministry of Health, 2002, 2021



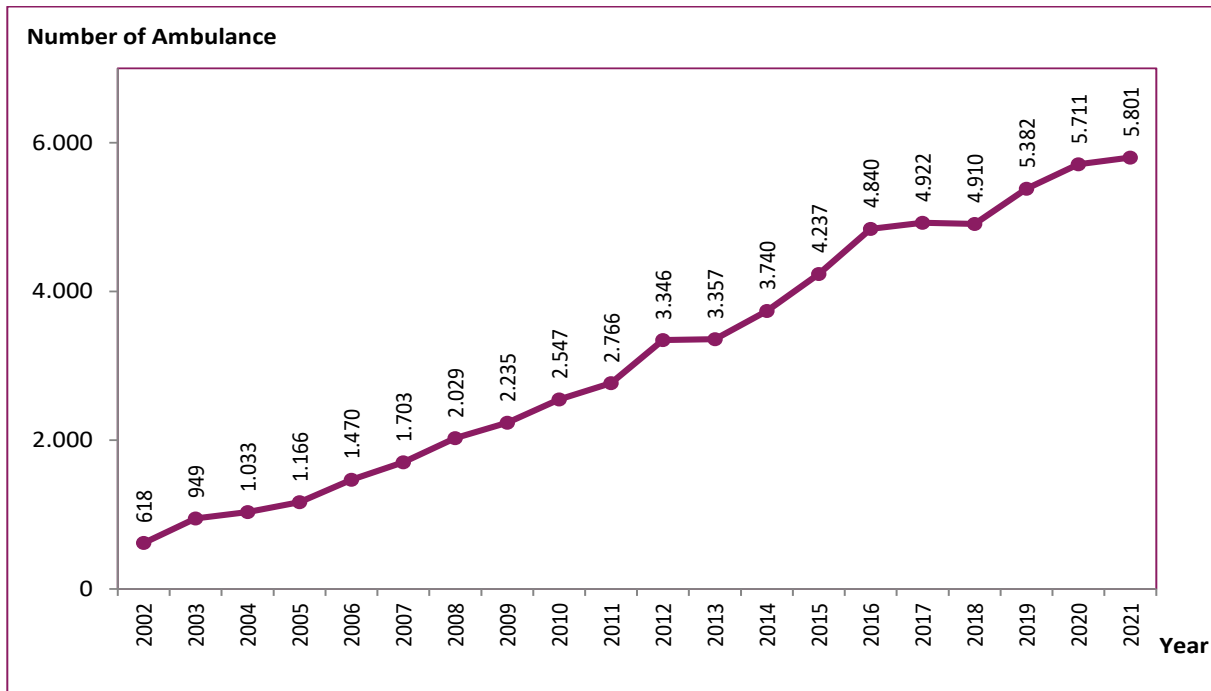
Source: General Directorate of Emergency Health Services

Figure 12.6. Number of Ambulance by Years, Ministry of Health



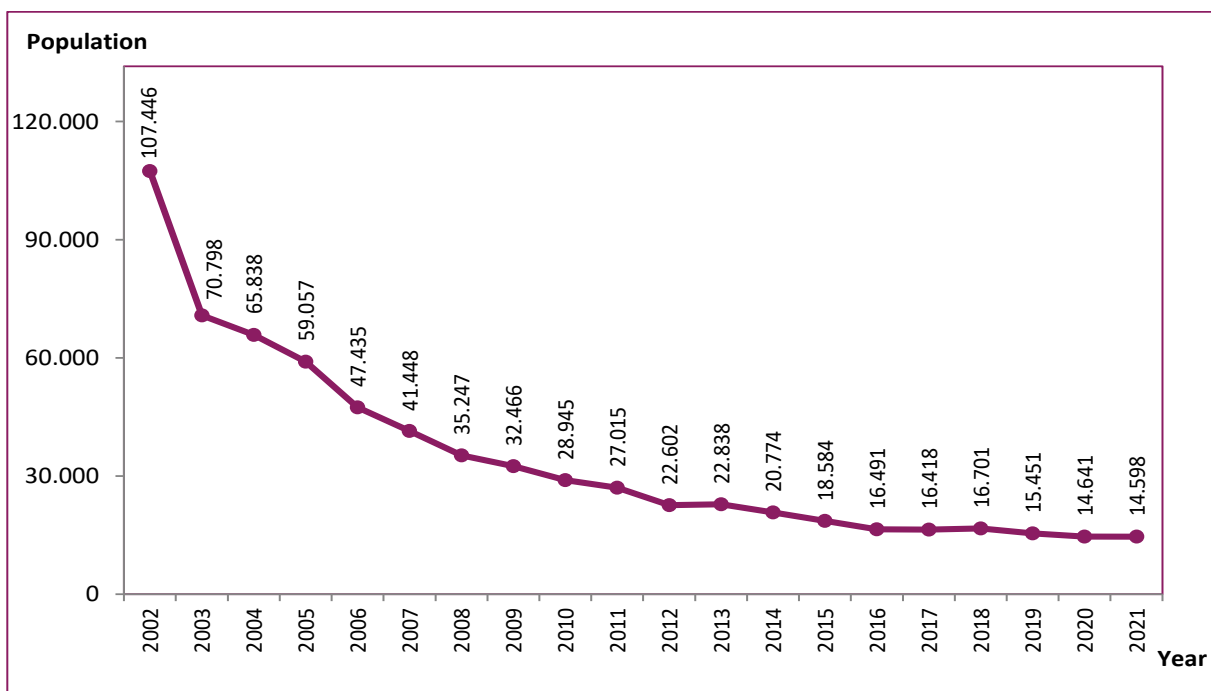
Source: General Directorate of Emergency Health Services

Figure 12.7. Number of Emergency Care Ambulance by Years, Ministry of Health



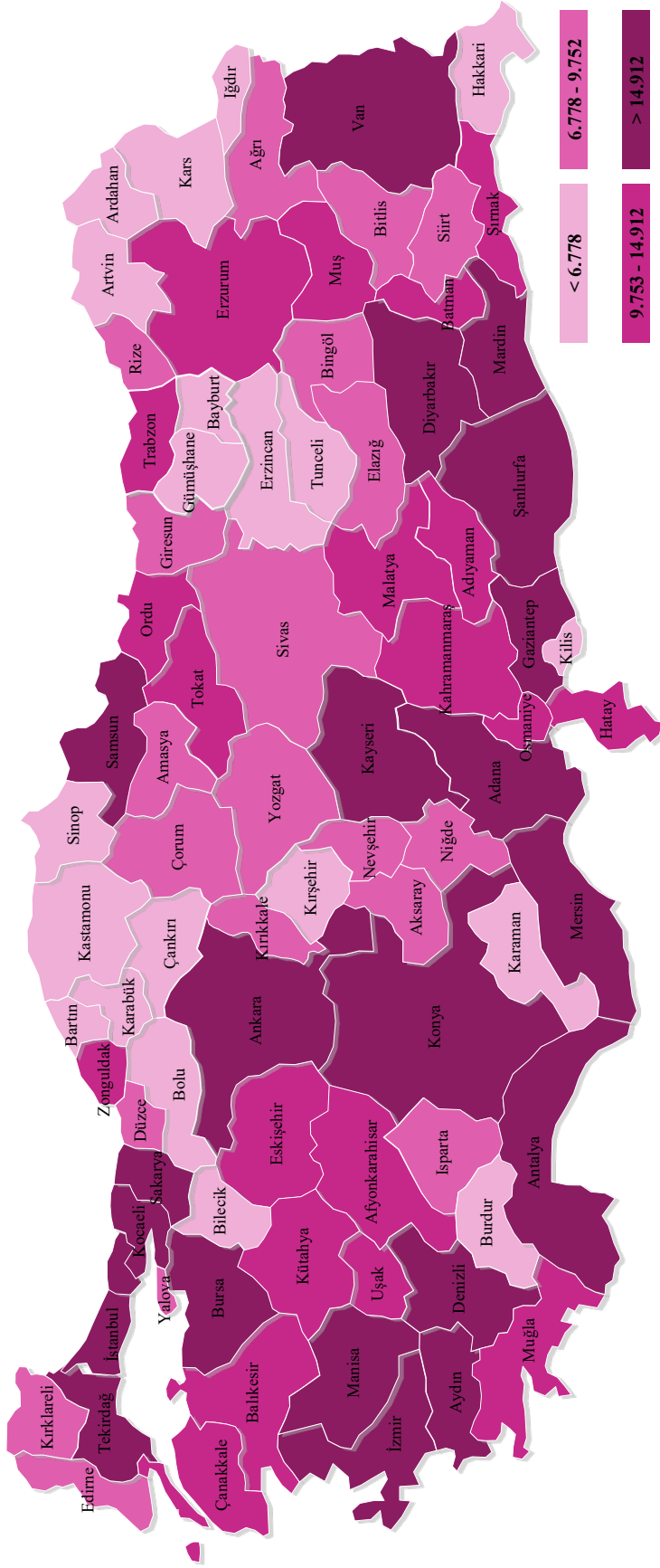
Source: General Directorate of Emergency Health Services

Figure 12.8. Population per Emergency Care Ambulance by Years, Ministry of Health



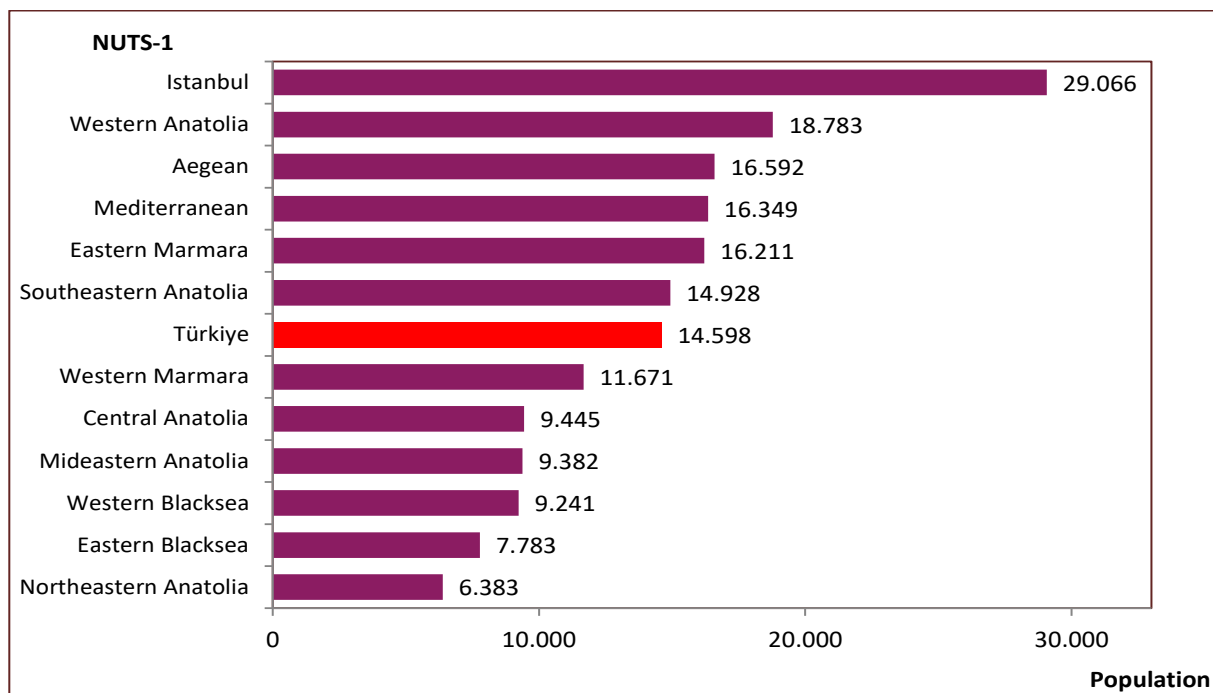
Source: General Directorate of Emergency Health Services

Map 12.2. Population per Emergency Care Ambulance by Provinces, Ministry of Health, 2021



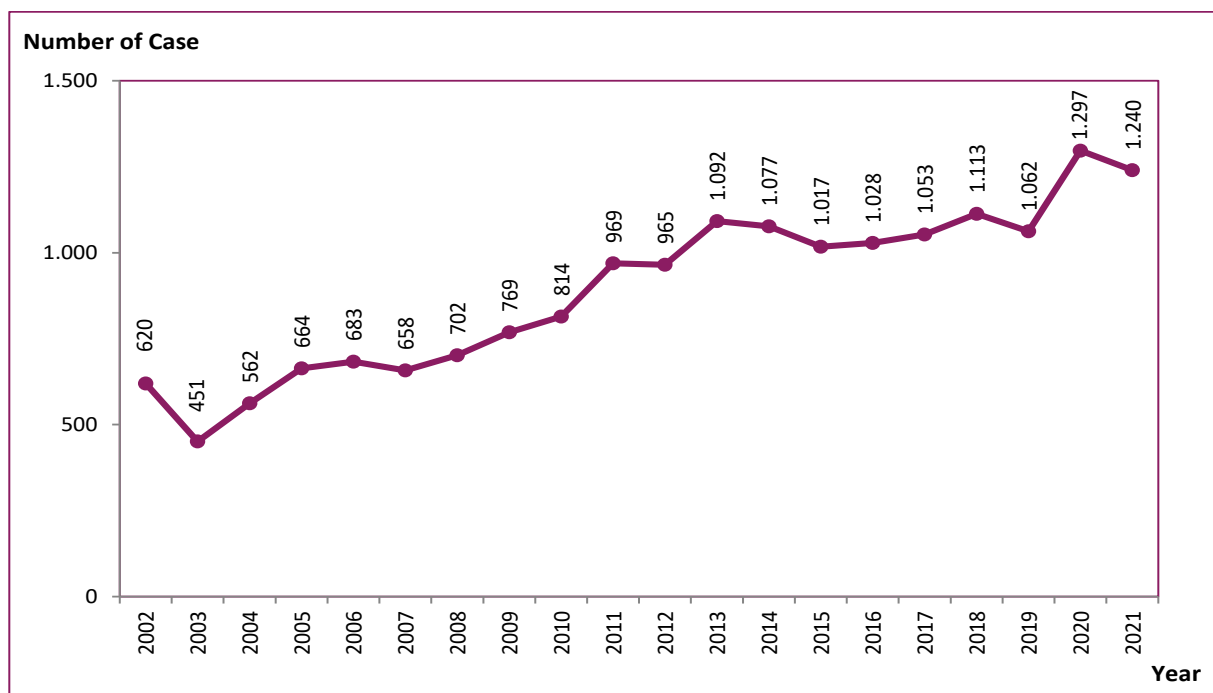
Source: General Directorate of Emergency Health Services

Figure 12.9. Population per Emergency Care Ambulance by NUTS-1, Ministry of Health, 2021



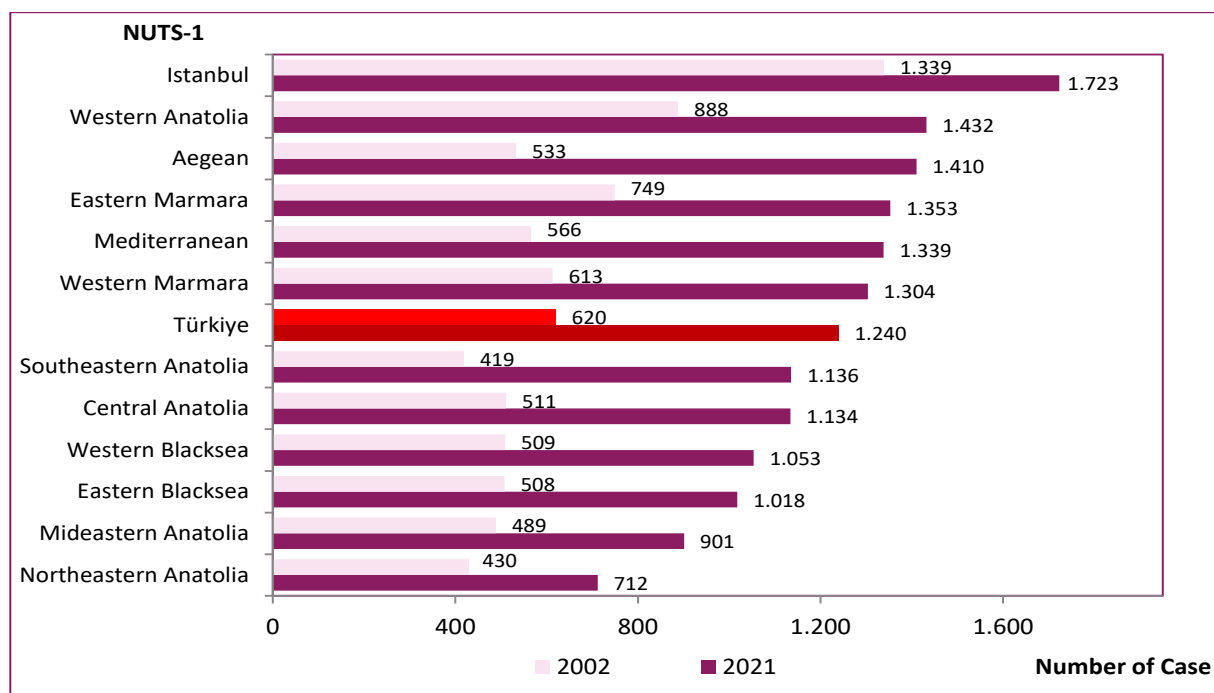
Source: General Directorate of Emergency Health Services

Figure 12.10. Total Number of Case per Emergency Care Ambulance by Years, Ministry of Health



Source: General Directorate of Emergency Health Services

Figure 12.11. Total Number of Case per Emergency Care Ambulance by NUTS-1, Ministry of Health, 2002, 2021



Source: General Directorate of Emergency Health Services

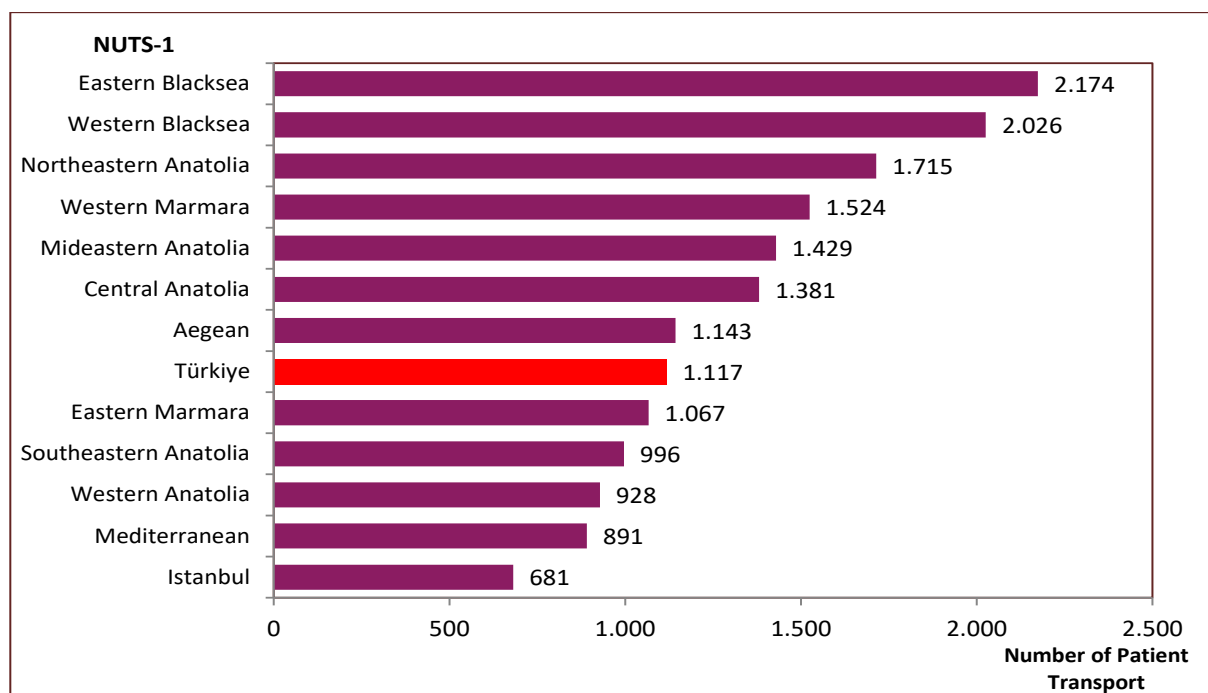
Table 12.1. Number of Vehicle and Transferred Patients by Types of Specialized Ambulance, Ministry of Health, 2021

	Number of Vehicle	Number of Transferred Patients
Snow-Pallet Ambulance	237	6.691
Intensive Care & Bariatric Ambulance	92	9.080
Ambulance with 4 Stretchers	62	2.289
Motorcycle Ambulance	61	11.040
Newborn Ambulance	50	24.488
Snow Track Ambulance	21	20
Helicopter Ambulance	12	2.980
Sea Ambulance	6	3.954
Air Ambulance	3	1.204

Source: General Directorate of Emergency Health Services

Note: Number of specialized ambulances except helicopter, air and sea ambulances is included in the number of emergency care ambulances.

Figure 12.12. Number of Total Patient Transport per 100.000 Population by NUTS-1, Ministry of Health, 2021



Source: General Directorate of Emergency Health Services

Table 12.2. Distribution of Top 10 Reasons of Patient Transport Within the City and Out of the City by Emergency Care Ambulance, MoH, (%), 2021

Rank	Reason	within the city	Rank	Reason	out of the city
1	Requirement of Advanced Specialized Physician	36,48	1	Requirement of Advanced Specialized Physician	34,57
2	Requirement of Specialist Physician	28,43	2	Requirement of Specialist Physician	18,35
3	Requirement of Intensive Care	11,99	3	Requirement of Intensive Care	17,20
4	No Space	9,73	4	Requirement of Medical Equipment	8,49
5	Requirement of Medical Equipment	6,66	5	No Space	6,22
6	Referral to a Higher-Level Intensive Care	2,58	6	Referral to a Higher-Level Intensive Care	6,18
7	Referral to Service	0,84	7	Patient Demand	2,30
8	Patient Demand	0,77	8	Referral to Advanced Center (Newborn Transport)	2,13
9	Requirement of Subspecialty Specialist Physicians	0,76	9	Requirement of Subspecialty Specialist Physicians	1,16
10	Referral to a Same Level Intensive Care	0,46	10	Requirement of Burn Unit	0,81

Source: General Directorate of Emergency Health Services

Table 12.3. The Rate of Unfounded Incidents to Emergency Call Center by Years and NUTS-1, MoH, (%)

NUTS-1	2019	2020	2021
Western Anatolia	17,8	15,1	15,5
Istanbul	18,2	12,1	13,6
<b>Türkiye</b>	<b>12,0</b>	<b>8,5</b>	<b>9,4</b>
Southeastern Anatolia	11,8	8,1	9,4
Aegean	11,3	7,9	9,2
Southeastern Anatolia	13,3	8,1	9,0
Mediterranean	10,2	8,0	8,6
Mideastern Anatolia	12,1	7,9	8,5
Western Marmara	10,3	7,6	7,9
Eastern Marmara	9,0	7,0	7,3
Eastern Blacksea	8,7	5,9	6,9
Central Anatolia	7,6	5,0	5,5
Western Blacksea	7,5	4,4	5,1

Source: General Directorate of Emergency Health Services

Table 12.4. Some Health Indicators by Provinces, MoH, 2021

City	Number of Emergency Care Station	Population per Emergency Care Station	Number of Emergency Care Ambulance	Population per Emergency Care Ambulance	The Rate of Unfounded Incidents (%)
Adana	63	35.927	98	23.096	12,1
Adıyaman	34	18.593	57	11.090	5,3
Afyonkarahisar	40	18.604	69	10.785	6,6
Ağrı	23	22.811	57	9.204	9,0
Amasya	21	15.968	43	7.798	5,7
Ankara	167	34.415	279	20.600	20,8
Antalya	68	38.527	108	24.258	9,8
Artvin	24	7.064	49	3.460	6,1
Aydın	40	28.351	69	16.435	6,4
Balıkesir	59	21.197	91	13.743	6,2
Bilecik	15	15.222	36	6.343	5,3
Bingöl	19	14.901	40	7.078	7,9
Bitlis	19	18.541	40	8.807	8,7
Bolu	24	13.334	49	6.531	6,9
Burdur	23	11.901	44	6.221	4,7
Bursa	90	34.976	144	21.860	10,0
Çanakkale	29	19.216	55	10.132	8,8
Çankırı	19	10.343	45	4.367	3,2
Çorum	36	14.619	59	8.920	4,2
Denizli	35	30.030	63	16.683	6,5
Diyarbakır	62	28.893	110	16.285	9,3
Edirne	19	21.690	54	7.632	8,9
Elazığ	34	17.297	63	9.335	7,0
Erzincan	19	12.492	57	4.164	8,3
Erzurum	31	24.416	76	9.959	10,1
Eskişehir	39	23.035	68	13.211	4,3
Gaziantep	57	37.376	103	20.684	10,0
Giresun	28	16.077	61	7.380	7,3
Gümüşhane	15	10.008	44	3.412	5,9
Hakkari	25	11.129	50	5.564	12,1
Hatay	63	26.519	123	13.583	6,5
Isparta	23	19.377	52	8.571	4,6
Mersin	65	29.095	113	16.736	8,3
İstanbul	367	43.163	545	29.066	13,6
İzmir	107	41.363	178	24.864	13,2
Kars	16	17.567	44	6.388	11,0
Kastamonu	35	10.731	64	5.869	5,5
Kayseri	55	26.079	88	16.300	4,4
Kırklareli	22	16.653	50	7.327	7,8
Kırşehir	18	13.497	43	5.650	5,4
Kocaeli	51	39.871	83	24.499	6,3

Source: General Directorate of Emergency Health Services



Table 12.4. Some Health Indicators by Provinces, MoH, 2021- Continued

City	Number of Emergency Care Station	Population per Emergency Care Station	Number of Emergency Care Ambulance	Population per Emergency Care Ambulance	The Rate of Unfounded Incidents (%)
Konya	85	26.788	122	18.664	5,4
Kütahya	28	20.666	46	12.579	5,7
Malatya	38	21.281	76	10.641	6,6
Manisa	57	25.555	96	15.173	6,7
Kahramanmaraş	45	26.029	81	14.460	6,8
Mardin	29	29.750	46	18.756	8,6
Muğla	58	17.606	91	11.221	10,6
Muş	17	23.837	41	9.884	8,7
Nevşehir	16	19.250	41	7.512	7,6
Niğde	24	15.155	50	7.275	6,1
Ordu	44	17.293	70	10.870	8,3
Rize	24	14.403	51	6.778	4,6
Sakarya	39	27.202	63	16.839	6,4
Samsun	49	27.985	75	18.284	5,0
Siirt	19	17.473	45	7.377	8,0
Sinop	23	9.496	47	4.647	5,8
Sivas	39	16.311	77	8.261	6,5
Tekirdağ	39	28.549	67	16.618	9,7
Tokat	30	20.086	50	12.051	4,1
Trabzon	39	20.941	71	11.503	6,8
Tunceli	13	6.434	34	2.460	7,5
Şanlıurfa	58	36.949	126	17.008	9,9
Uşak	19	19.641	38	9.821	5,1
Van	44	25.932	76	15.013	9,9
Yozgat	26	16.096	55	7.609	4,2
Zonguldak	26	22.680	49	12.034	6,8
Aksaray	25	17.163	44	9.752	7,8
Bayburt	8	10.630	34	2.501	3,0
Karaman	17	15.226	40	6.471	4,2
Kırıkkale	17	16.233	37	7.459	4,5
Batman	26	24.089	42	14.912	8,4
Şırnak	25	21.864	49	11.155	14,4
Bartın	12	16.809	32	6.303	4,6
Ardahan	12	7.911	42	2.260	5,3
Iğdır	12	16.930	32	6.349	10,8
Yalova	13	22.385	32	9.094	5,7
Karabük	16	15.580	41	6.080	5,8
Kilis	14	10.416	39	3.739	10,8
Osmaniye	27	20.482	47	11.766	5,4
Düzce	19	21.104	42	9.547	5,2
Türkiye	3.170	26.713	5.801	14.598	9,4

Source: General Directorate of Emergency Health Services

## Explanations for Chapter 12

- ☑ 4-point Likert scale was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the scale intervals.
- ☑ 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 change due to TURKSTAT's population revision.
- ☑ As of 02/09/2021, calls for police, gendarmerie, fire department, AFAD, forestry and emergency health were merged under the roof of 112.
- ☑ **Emergency Care Ambulance:** A land vehicle with an ambulance crew, technical and medical Device 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. Number of specialized ambulances except helicopter, air and sea ambulances is included in the number of emergency care ambulances.
- ☑ **Other Ambulance:** Ambulances belonging to the General Directorate of Public Health and the General Directorate of Public Hospitals. The private sector ambulances are not included in the total.
- ☑ **Unfounded Incidents to the Emergency Call Center:** Once the emergency call center gets an emergency health call, ambulance team determines whether an ambulance is assigned. Although assigned ambulance arrives at the specified address, there is no case considered as emergency. This situation is called Unfounded Incidents to the emergency call center
- ☑ **The Number of Unfounded Incidents to the Emergency Call Center:** It is calculated as: (Total Number of Emergency Care Ambulance Outputs - Total Number of Emergency Care Ambulance Cases).
- ☑ **The Rate of Unfounded Incidents to the Emergency Call Center, (%):** It is calculated as: (The Number of Unfounded Incidents x100)/(Total Number of Emergency Care Ambulance Outputs).
- ☑ **Patient Transport:** Due to requirement of leading privatized physician, specialist physician, medical equipment, advanced examination, intervention, caring services and treatment, lack of hospital beds, it is the process of transporting patients to and from different health care facilities in order to provide necessary health care.

## **General Information on Some Systems Used in Ministry of Health**

### **e-Nabız Personal Health Record System**

e-Nabız is a personal health record system , where the Ministry of Health integrates the information systems of all health institutions. With e-Nabız, all citizens can access health records containing all kinds of detailed information about their examinations such as laboratory analyzes, radiological images, prescription and medication information, optical prescription, emergency information, diagnosis, all kinds of reports from their mobile phones, tablets and computers 24/7. Furthermore, within the framework of determined rules, they can share all or a part of them with physicians or relatives as long as they wish. It is the world's largest and most comprehensive health informatics infrastructure that enables the collection of correct data in a standardized way, increases the quality and speed of the diagnosis and treatment process, ensures the establishment of a strong communication network between citizens and physicians, and can be safely accessed on the internet. This system provides opening health records to the access and control of citizens, including individuals in health service delivery, increasing the level of health literacy, and also strengthening cost-effectiveness capacity and ensuring sustainability in health services in the long term. With the e-Nabız system, repetitive transactions and visits can be minimized, ensuring that the cost-effectiveness principle, one of the most important instruments of health service delivery policies, is realized. On the other hand, active decision support is provided to decision makers and policy makers in developing effective health policies.

### **Teleradiology System**

Teleradiology System allows citizens to access their own radiological images and reports regardless of location, report these images remotely, make teleconsultations between radiologists, evaluate the quality of images and reports, and transfer them to the e-Nabız Personal Health Record System and share them with citizens and physicians. Within the scope of the teleradiology system, the Repeated Examination Inquiry Service was activated on September 2, 2019. In this direction, the Teleradiology Repeated Examination Inquiry Service questions whether there is a radiological image or report matching the same SUT code in the last year before another request is made. During this period, if there is an existing image or report, a warning is sent to the physician and the physician can reach this image and report. If the physician finds the image or report sufficient, there is no need to make a new request. However, if necessary, physician can continue the request process. By means of this service, unnecessary exams of imaging devices are avoided and patients are prevented from receiving radiation.

### **Health Statistics and Causal Analysis (SINA)**

SINA is a local decision support system platform of the Ministry of Health, which was developed in order to manage institutional resources more effectively and increase the ability of central and provincial organization users to make effective and fast decisions. SINA is a platform that analyzes the data received from health institutions to the Ministry of Health and enables the reporting of health statistics transmitted from health service providers to the Ministry of Health in all details. Being a local business intelligence platform, SINA allows live monitoring and reporting of digital records of all healthcare service providers. SINA used by both the central administration and provincial, district and hospital managers and physicians continue to spread rapidly throughout the country.

### **Spatial Business Intelligence (MIZ)**

With the application of MIZ, health data are collected from public institutions and organizations and private institutions that provide health services. After data processing, some statistical outputs are obtained. These outputs help to decide fast and accurate on the geographical location about health-related topics. Senior executives and provincial managers affiliated to the Ministry of Health can follow the data on diseases geographical distribution, the rate of treatment in their own province / district, reasons to go to another province, health service differences between regions, visit rate with increased environmental pollution, distribution of infectious diseases , human resource planning, health facility, emergency station, etc. at the level of province, district, health region and hospital by using MIZ.

### **Integrated Corporate Transaction Platform (EKIP)**

This application is a platform where all healthcare personnel can manage all their work and transactions, personal social information and create in-house networks, and are linked to the purpose of monitoring healthcare personnel and health institutions (public, private, foundation, etc.) in an integrated structure. EKIP consists of 3 main components. One of them is Human Resources Management System. Up-to-date recording of the identity, address, personnel information, education, language, discipline, military service, salary accrual, revolving fund information of health workers employed under different laws in the ministry, affiliated institutions, central and provincial organizations exist in this component. With this information, Ministry's senior management can access up-to-date and reliable reports for decision support in line with this information, and all these transactions are carried out online. The integrations between systems in the Ministry of Health and other institutions help to minimize error and creating instant and reliable reports. The other component is Portal. It enables to view personal information, permission and document request, application, in-house communication quickly and easily from a single point. EKIP Portal has web and mobile (Android, IOS) applications and can be accessed from mobile phones, tablets and computers. The last component is Health Facilities Management. The last component is Health Facilities Management. It is the system in which licensing processes in private, university and government health care facilities, physician staff, working physicians, physician initiation procedures, health institution site lists, health institution equipment, inspection procedures are followed.

### **Public Health Management System (HSYS)**

In health service delivery, establishing different applications needed for primary health care service, public health service and preventive health service in an integrated structure, removing duplicate applications, collecting quality data, analyzing and reporting the collected data, making all processes in line with international standards and being manageable from a single center are intended.



**REPUBLIC OF TÜRKİYE**  
**MINISTRY OF HEALTH**  
GENERAL DIRECTORATE OF  
HEALTH INFORMATION SYSTEMS

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