HEALTH STATISTICS YEARBOOK 2023



GENERAL DIRECTORATE OF
HEALTH INFORMATION SYSTEMS

THE MINISTRY of HEALTH of TÜRKİYE

HEALTH STATISTICS YEARBOOK

2023

In Health Statistics Yearbook 2023, statistics were calculated according to international standard definition.

Ankara 2025

THE MINISTRY of HEALTH of TÜRKİYE

HEALTH STATISTICS YEARBOOK

2023

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ISBN : 978-975-590-921-9

Ministry of Health Publication No : 1302

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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
		Kahramanmaraş
		Osmaniye
Western Anatolia	**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

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

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

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General Explanations on Health Statistics Yearbook 2023

While the values of the indicators in the Health Statistics Yearbook 2023 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, values which are reported from the countries and projected data 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, North Macedonia, Malta, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia, San Marino, Serbia, Slovakia, Slovenia, South Cyprus, Spain, Sweden, Switzerland, Republic of Tajikistan, Turkmenistan, Türkiye, Ukraine, United Kingdom, Uzbekistan.

2. **Upper Middle Income Group Countries (Countries with GNI per capita between $4.516 and $14.005):** Albania, Algeria, Argentina, Armenia, Azerbaijan, Belarus, Belize, Bosnia and Herzegovina, Botswana, Brazil, China, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Equatorial Guinea, Fiji, Gabon, Georgia, Grenada, Guatemala, Indonesia, Iraq, Iran, Jamaica, Kazakhstan, Kosovo, Libya, North Macedonia, Malaysia, Maldives, Marshall Islands, Mauritius, Mexico, Moldova, Mongolia, Montenegro, Namibia, Paraguay, Peru, Serbia, South Africa, St. Lucia, St. Vincent and the Grenadines, Suriname, Thailand, Tonga, Turkmenistan, Tuvalu, Türkiye, Ukraine.

3. **High Income Group Countries (Countries with GNI per capita of bigger than $14.006):** American Samoa, Andorra, Antigua and Barbuda, Aruba, Australia, Austria, Bahamas, Bahrain, Barbados, Belgium, Bermuda, British Virgin Islands, Brunei Darussalam, Bulgaria, Canada, Cayman Islands, Channel Islands, Chile, Croatia, Curacao, Czech Republic, Denmark, Estonia, Faeroe Islands, Finland, France, French Polynesia, Germany, Gibraltar, Greece, Greenland, Guam, Guyana, 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, Palau, Panama, Poland, Portugal, Puerto Rico, Qatar, Romania, Russia, 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, 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 2025 fiscal year and 2023 calendar year, the countries are defined below.

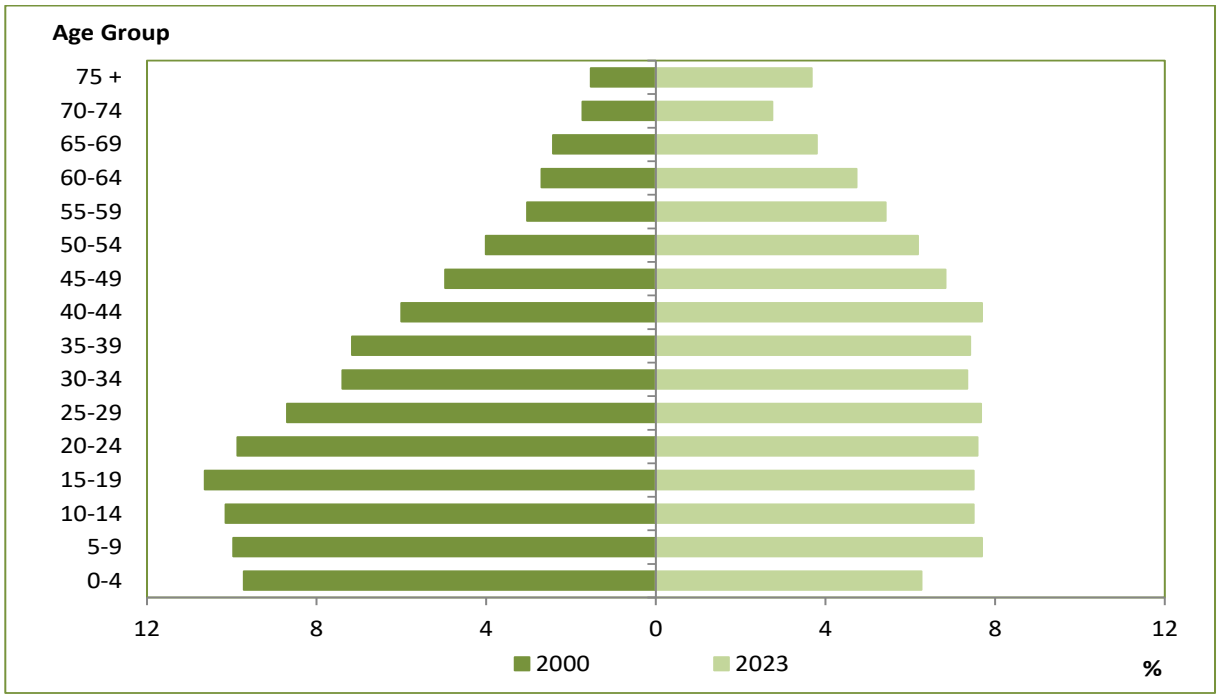
Income Groups	Low	Lower-Middle	Middle-Upper	High
GNI (per capita) (US $)	≤ 1.145	1.146 – 4.515	4.516 – 14.005	14.006 ≤



CHAPTER 1

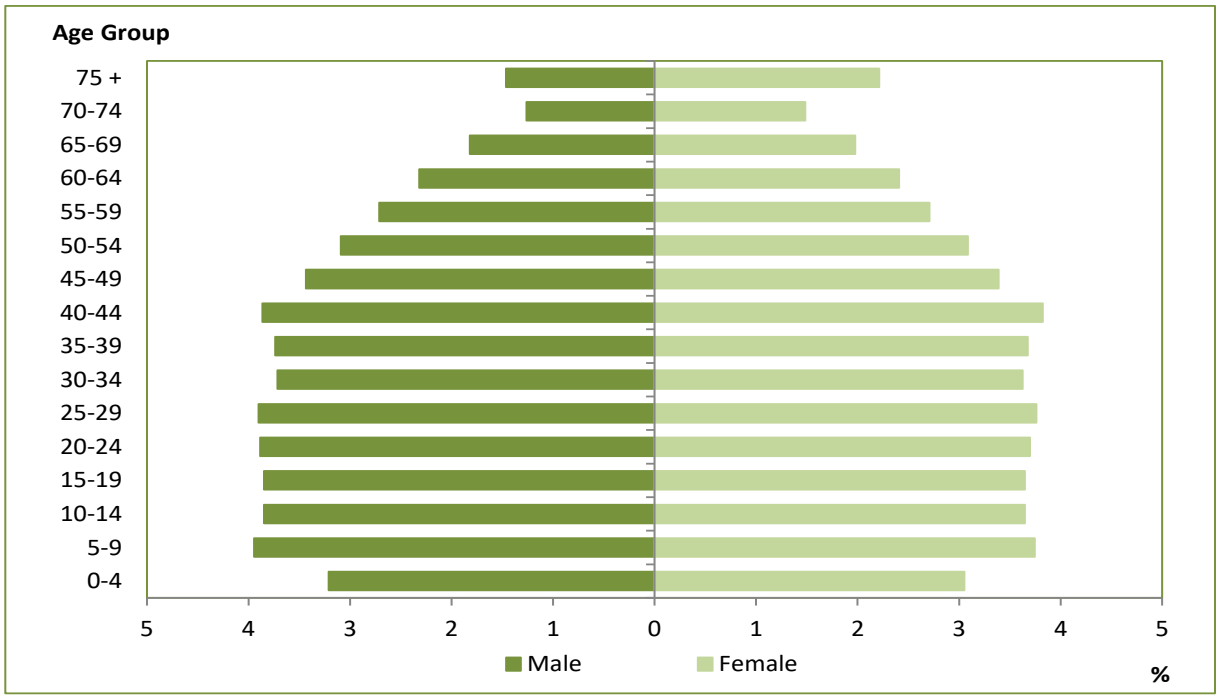
General Demographic Indicators

Figure 1.1. Population Pyramid, (%), 2000, 2023



Source: TURKSTAT

Figure 1.2. Population Pyramid by Sex, (%), 2023



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	2020	2021	2022	2023
Total Population	56.473.035	67.803.927	83.614.362	84.680.273	85.279.553	85.372.377
Rural Population Ratio (%)	48,7	40,8	11,2	10,9	10,8	11,2
Urban Population Ratio (%)	51,3	59,2	88,8	89,1	89,2	88,8
0-14 Aged Population Ratio (%)	35,0	29,8	22,8	22,4	22,0	21,4
65 and Over Aged Population Ratio (%)	4,3	5,7	9,5	9,7	9,9	10,2
Child Dependency Ratio (Aged 0-14) (%)	57,6	46,3	33,7	33,0	32,3	31,4
Elderly Dependency Ratio (Aged 65 and Over) (%)	7,1	8,8	14,1	14,3	14,5	15,0
Total Age Dependency Ratio (%)	64,7	55,1	47,7	47,4	46,8	46,3
Annual Population Growth Rate (‰)	21,7	18,3	5,5	12,7	7,1	1,1
Crude Birth Rate (‰)	24,1	21,6	13,4	12,9	12,2	11,2
Crude Death Rate (‰)	7,1	7,3	6,1	6,7	5,9	6,2
Total Fertility Rate	2,9	2,5	1,8	1,7	1,6	1,5

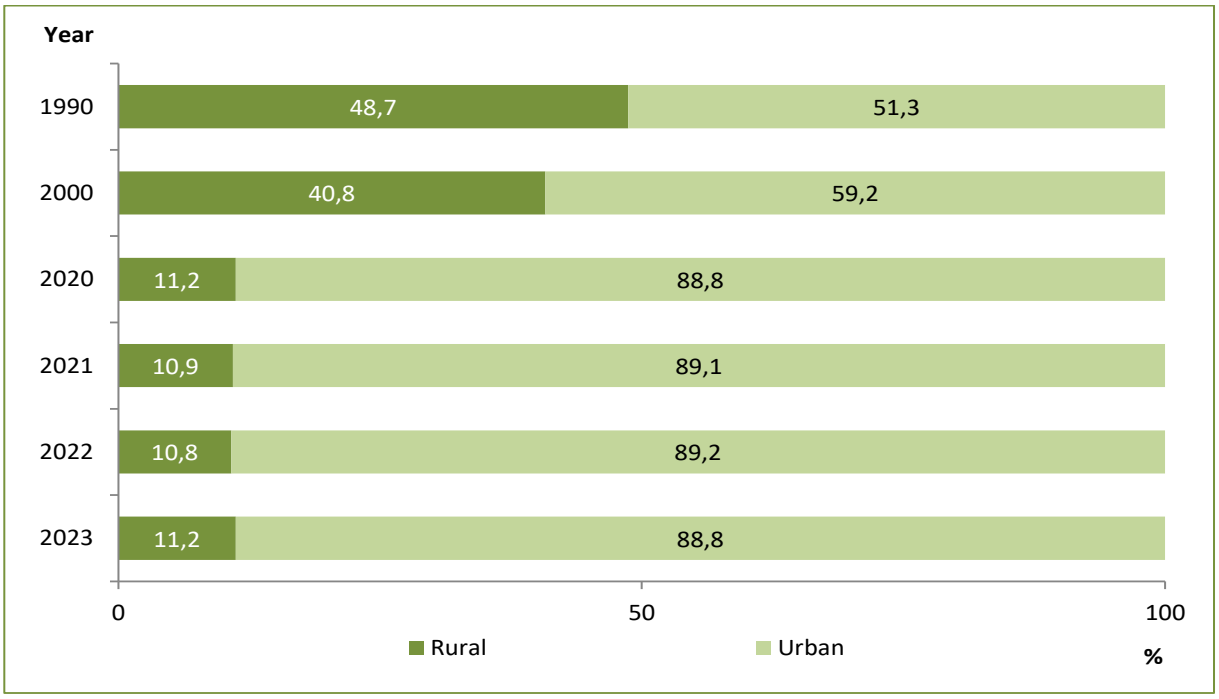
Source: TURKSTAT

Table 1.2. Population by Age Groups, 2000, 2023

Age Group	2000	2023
0-4	6.584.822	5.348.054
5-9	6.756.617	6.566.486
10-14	6.878.656	6.397.093
15-19	7.209.475	6.396.519
20-24	6.690.146	6.475.520
25-29	5.895.255	6.543.061
30-34	5.009.655	6.267.165
35-39	4.854.387	6.329.246
40-44	4.068.756	6.564.638
45-49	3.368.769	5.826.791
50-54	2.717.349	5.272.666
55-59	2.058.422	4.626.522
60-64	1.829.288	4.035.810
65-69	1.645.517	3.240.413
70-74	1.172.643	2.345.341
75 +	1.040.789	3.137.052
Unknown	23.381	-
Türkiye	67.803.927	85.372.377

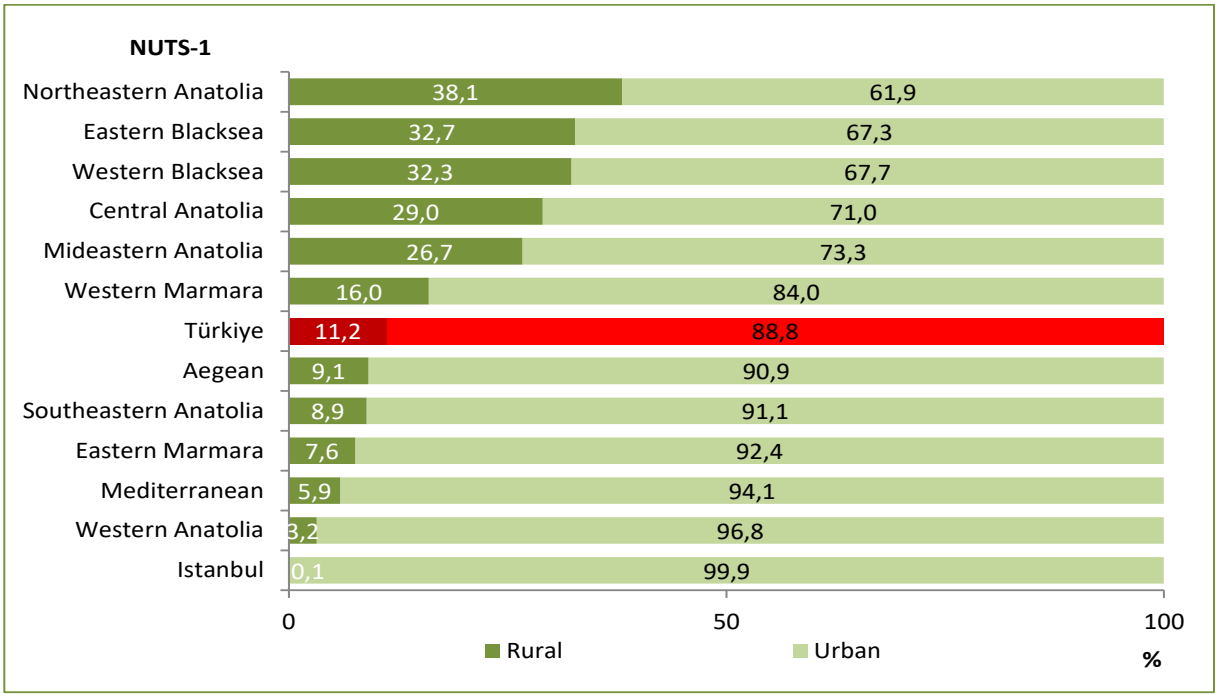
Source: TURKSTAT

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



Source: TURKSTAT

Figure 1.4. Rural and Urban Population Ratio by NUTS-1, (%), 2023

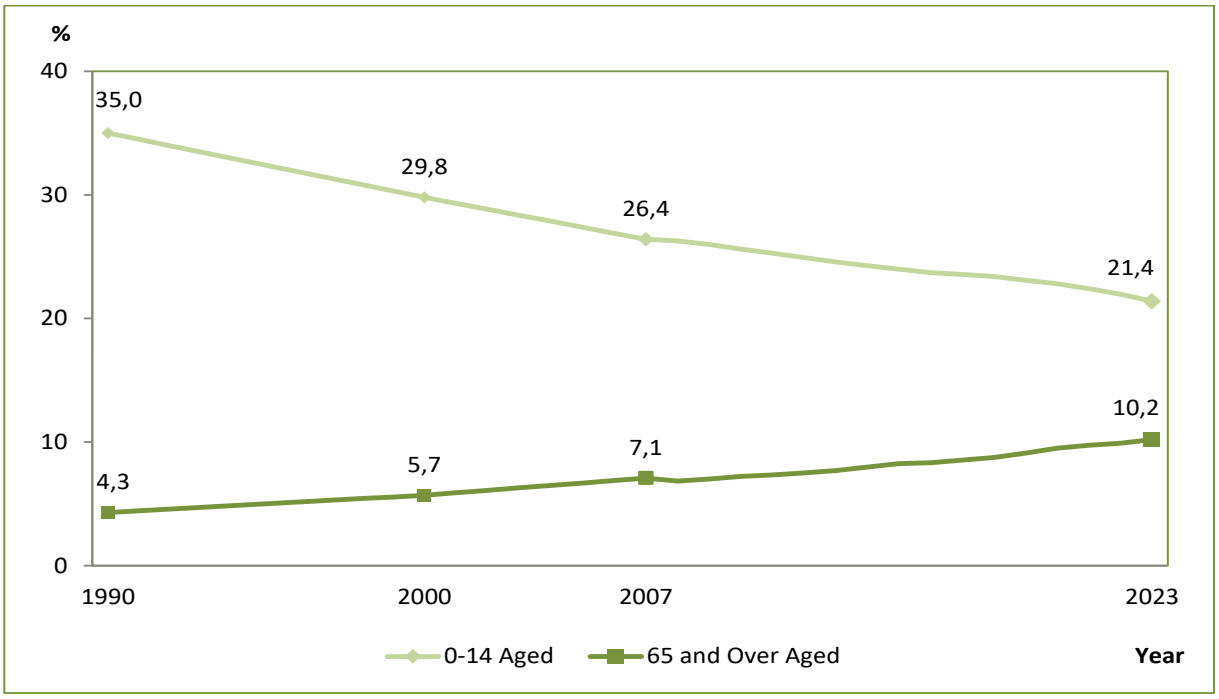


Source: TURKSTAT

Map 1.1. Urban Population Ratio by Provinces, (%), 2023

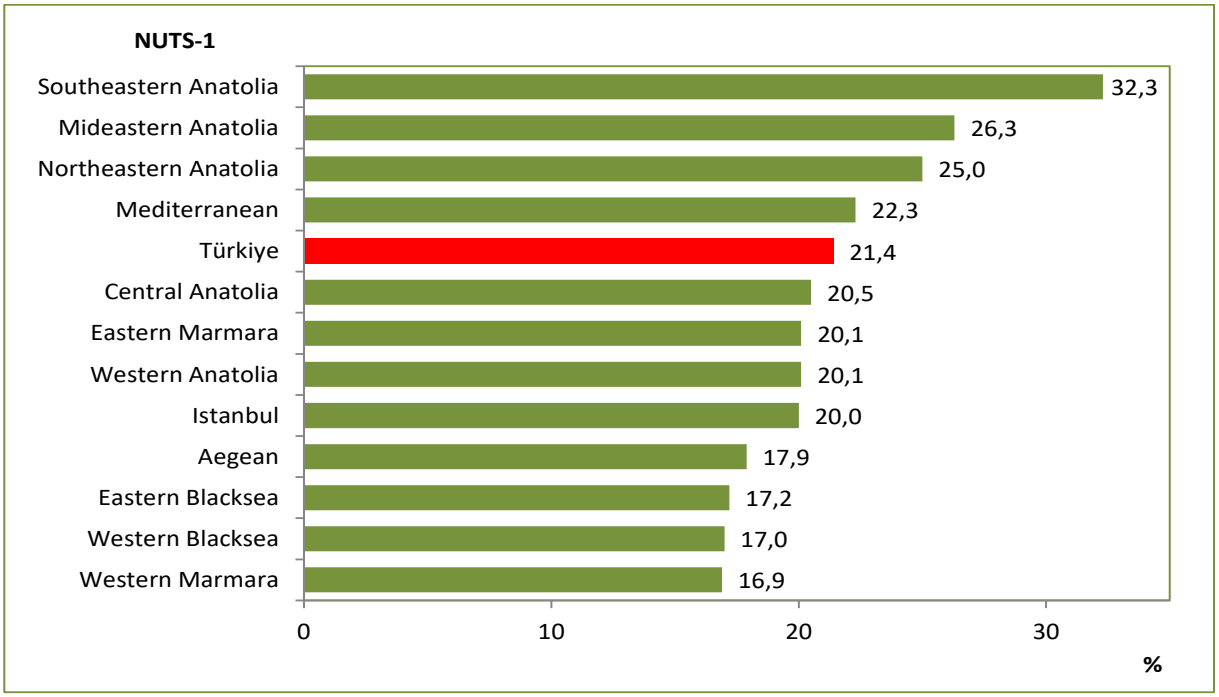
Source: TURKSTAT

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, (%), 2023

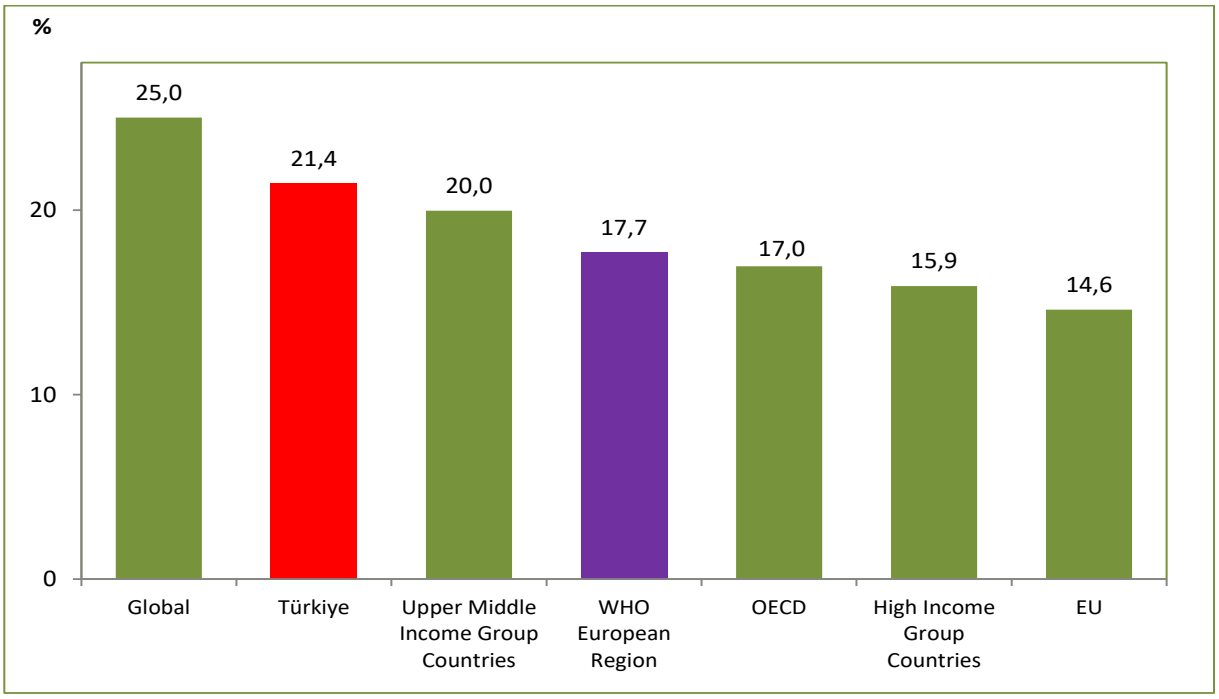


Source: TURKSTAT

Map 1.2. 0-14 Aged Population Ratio by Provinces, (%), 2023

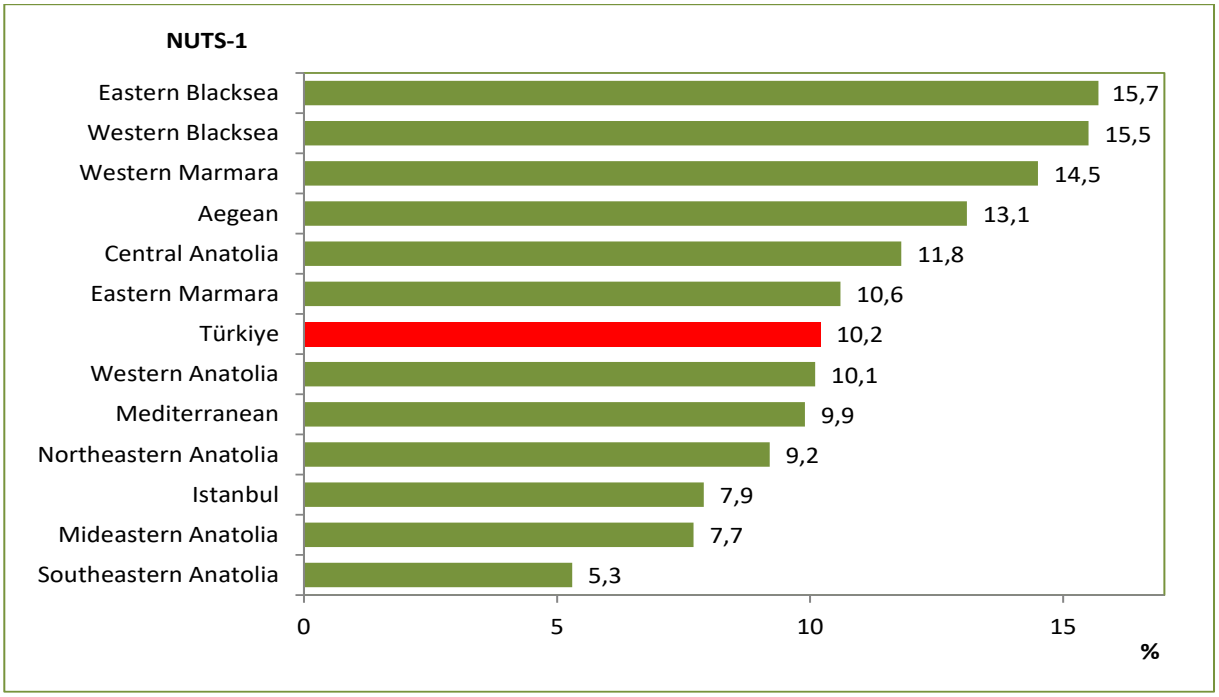
Source: TURKSTAT

Figure 1.7. International Comparison of 0-14 Aged Population Ratio, (%), 2023



Source: TURKSTAT, UNPD

Figure 1.8. 65 and Over Aged Population Ratio by NUTS-1, (%), 2023

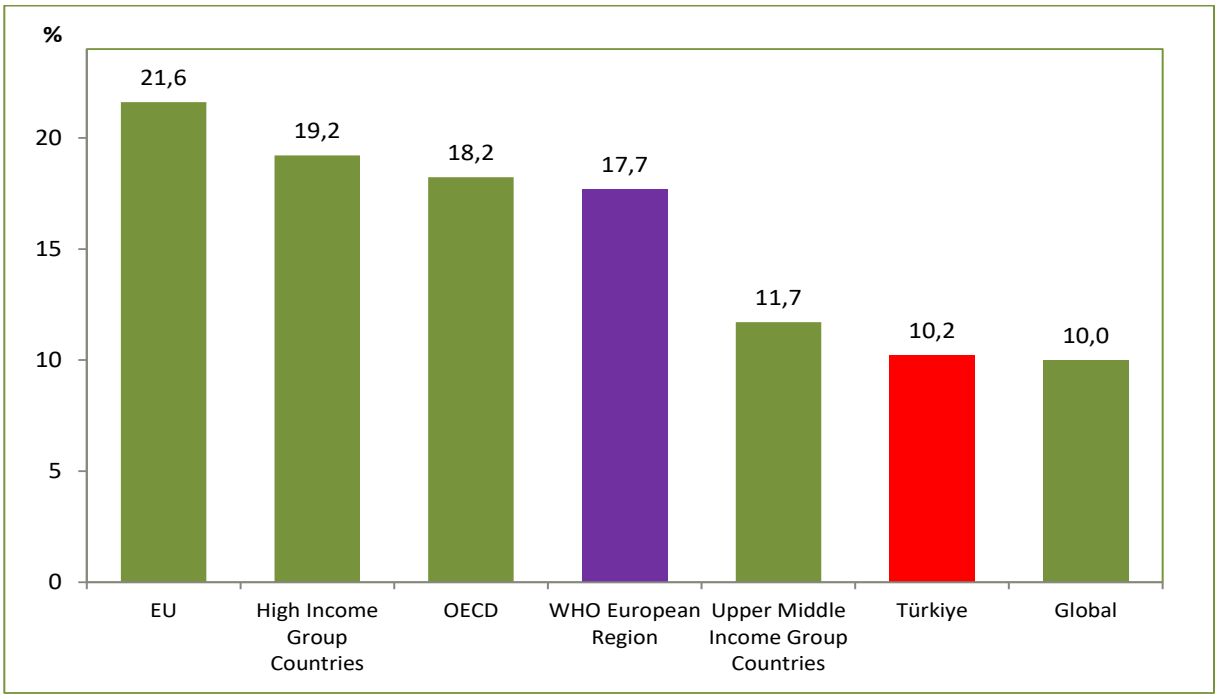


Source: TURKSTAT

Map 1.3. 65 and Over Aged Population Ratio by Provinces, (%), 2023

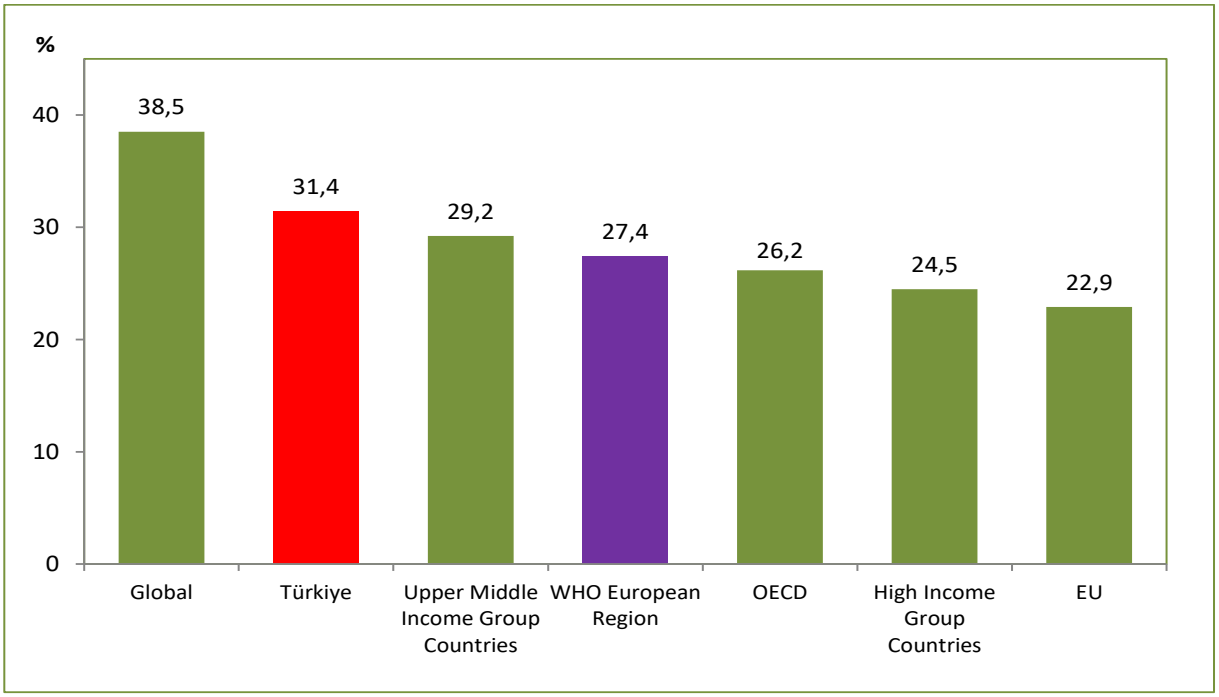
Source: TURKSTAT

Figure 1.9. International Comparison of 65 and Over Aged Population Ratio, (%), 2023



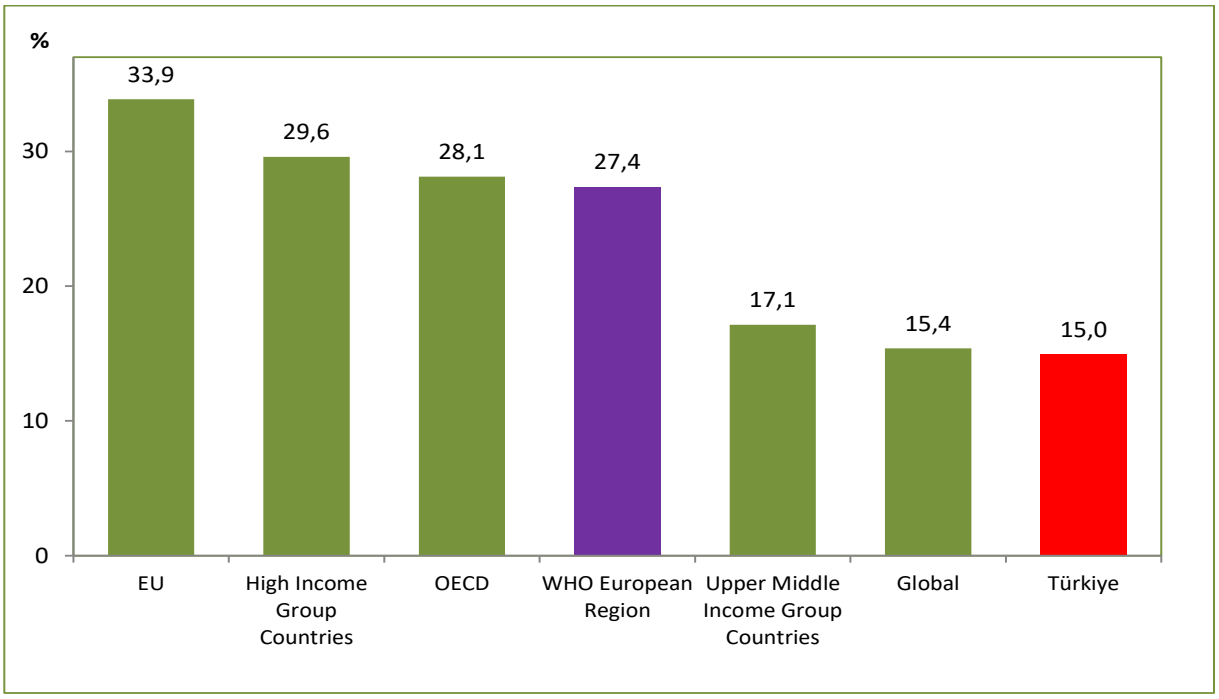
Source: TURKSTAT, UNPD

Figure 1.10. International Comparison of Child Dependency Ratio, (%), 2023



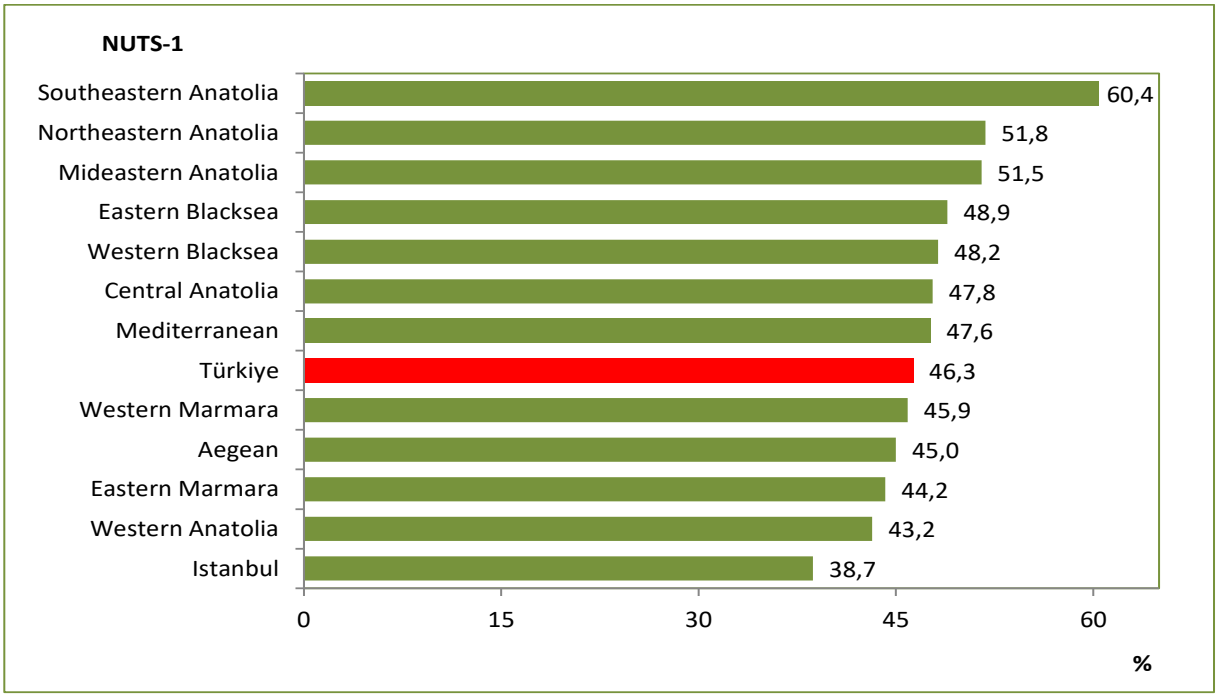
Source: TURKSTAT, UNPD

Figure 1.11. International Comparison of Elderly Dependency Ratio, (%), 2023



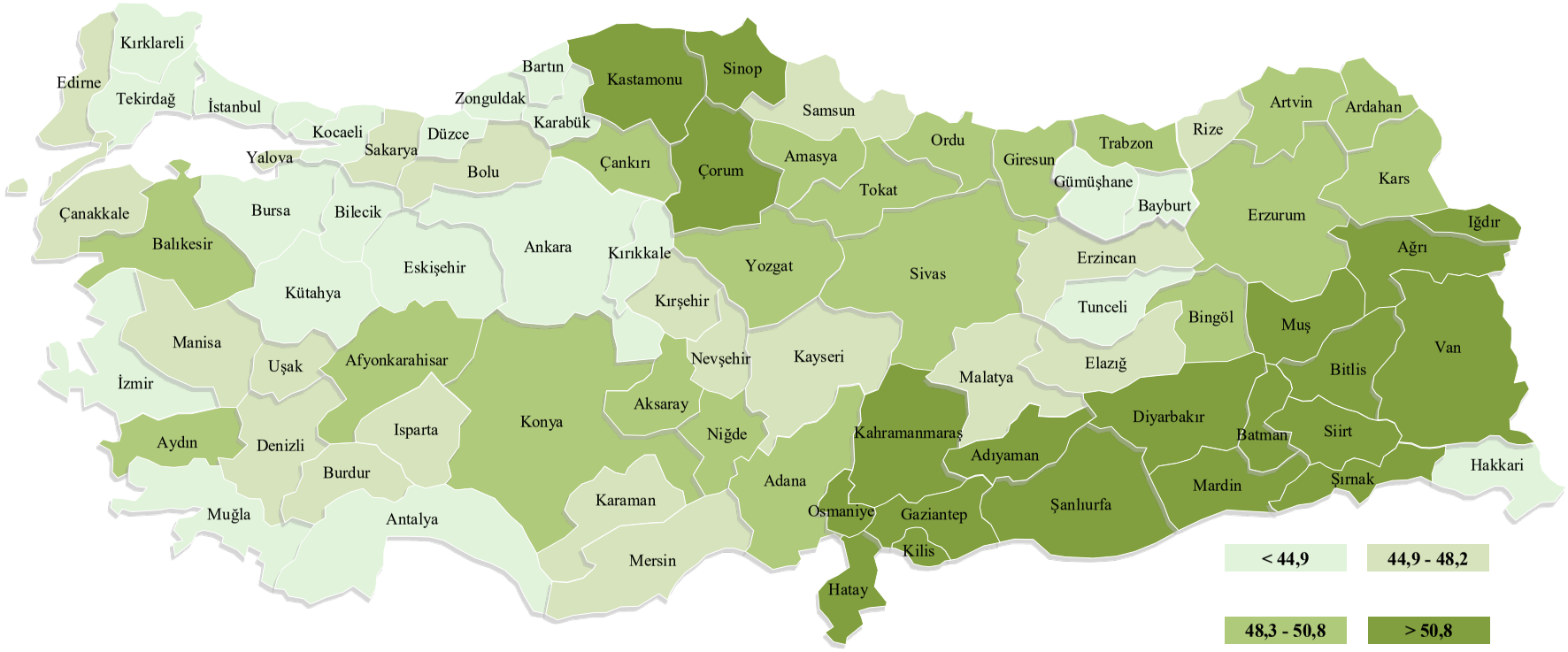
Source: TURKSTAT, UNPD

Figure 1.12. Total Age Dependency Ratio by NUTS-1, (%), 2023



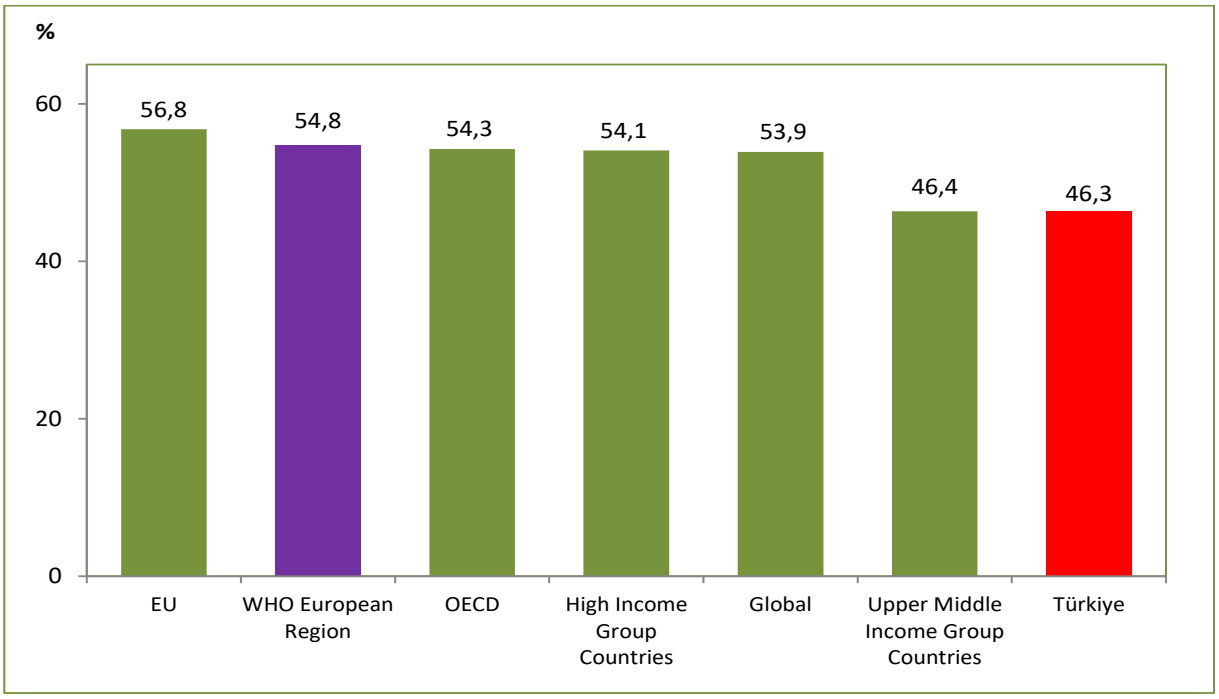
Source: TURKSTAT

Map 1.4. Total Age Dependency Ratio by Provinces, (%), 2023



Source: TURKSTAT

Figure 1.13. International Comparison of Total Age Dependency Ratio, (%), 2023



Source: TURKSTAT, UNPD

Table 1.3. Some General Demographic Indicators by Provinces, 2023

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	2.270.298	3,7	96,3	23,2	9,6	34,5	14,3	48,8
Adıyaman	604.978	35,4	64,6	27,2	8,6	42,5	13,5	55,9
Afyonkarahisar	751.344	50,6	49,4	20,4	12,1	30,3	18,0	48,3
Ağrı	511.238	48,5	51,5	32,0	5,5	51,2	8,9	60,0
Amasya	339.529	35,8	64,2	17,2	16,1	25,9	24,1	49,9
Ankara	5.803.482	1,0	99,0	19,1	9,9	27,0	14,0	41,0
Antalya	2.696.249	0,9	99,1	19,9	9,7	28,3	13,8	42,1
Artvin	172.356	72,0	28,0	15,3	18,1	22,9	27,2	50,1
Aydın	1.161.702	4,6	95,4	18,0	14,9	26,8	22,3	49,1
Balıkesir	1.273.519	6,0	94,0	15,9	16,9	23,6	25,1	48,7
Bilecik	228.058	37,1	62,9	18,2	12,6	26,3	18,2	44,5
Bingöl	285.655	39,4	60,6	25,0	8,1	37,3	12,1	49,4
Bitlis	359.747	44,1	55,9	30,4	5,9	47,7	9,2	56,9
Bolu	324.789	35,1	64,9	16,5	14,8	24,0	21,5	45,5
Burdur	277.452	48,1	51,9	16,0	16,3	23,6	24,1	47,7
Bursa	3.214.571	1,5	98,5	20,4	10,4	29,5	15,1	44,6
Çanakkale	570.499	46,4	53,6	15,2	16,5	22,2	24,2	46,4
Çankırı	205.501	57,2	42,8	16,6	17,1	25,0	25,8	50,8
Çorum	528.351	39,2	60,8	17,6	16,6	26,8	25,2	52,1
Denizli	1.059.082	11,7	88,3	18,7	12,3	27,1	17,8	44,9
Diyarbakır	1.818.133	2,4	97,6	31,0	5,3	48,6	8,3	56,9
Edirne	419.913	31,4	68,6	14,4	16,6	20,9	24,1	45,0
Elazığ	604.411	33,0	67,0	20,8	11,1	30,5	16,2	46,7
Erzincan	243.399	39,0	61,0	18,1	13,5	26,4	19,8	46,2
Erzurum	749.993	14,7	85,3	23,7	9,7	35,6	14,6	50,2
Eskişehir	915.418	9,1	90,9	17,0	12,7	24,2	18,0	42,2
Gaziantep	2.164.134	0,5	99,5	30,0	5,9	46,9	9,2	56,0
Giresun	461.712	58,2	41,8	15,3	18,3	23,0	27,6	50,6
Gümüşhane	148.539	76,7	23,3	16,1	14,7	23,2	21,2	44,4
Hakkari	287.625	50,2	49,8	26,2	4,0	37,6	5,8	43,3
Hatay	1.544.640	1,0	99,0	25,6	8,5	38,9	12,9	51,7
Isparta	449.777	39,4	60,6	17,4	14,3	25,4	20,9	46,3
Mersin	1.938.389	1,1	98,9	21,8	10,5	32,1	15,4	47,6
İstanbul	15.655.924	0,1	99,9	20,0	7,9	27,7	11,0	38,7
İzmir	4.479.525	0,6	99,4	17,4	12,8	24,9	18,3	43,2
Kars	278.335	57,7	42,3	24,2	9,2	36,3	13,8	50,0
Kastamonu	388.990	59,8	40,2	14,9	19,5	22,7	29,7	52,4
Kayseri	1.445.683	5,0	95,0	22,0	10,0	32,3	14,6	47,0
Kırklareli	377.156	35,5	64,5	15,1	15,8	21,9	22,9	44,7
Kırşehir	247.179	30,8	69,2	18,3	13,6	27,0	20,0	47,0
Kocaeli	2.102.907	0,0	100,0	22,0	8,3	31,5	11,9	43,4

Source: TURKSTAT

Table 1.3. Some General Demographic Indicators by Provinces, 2023 - 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	2.320.241	5,4	94,6	22,4	10,4	33,2	15,5	48,8
Kütahya	575.674	33,3	66,7	16,3	14,4	23,6	20,9	44,4
Malatya	742.725	9,4	90,6	20,7	11,7	30,6	17,3	47,8
Manisa	1.475.716	4,4	95,6	19,3	12,6	28,4	18,6	47,0
Kahramanmaraş	1.116.618	2,0	98,0	25,3	9,2	38,7	14,0	52,7
Mardin	888.874	3,2	96,8	31,9	5,8	51,2	9,3	60,5
Muğla	1.066.736	1,0	99,0	16,8	13,8	24,3	19,8	44,1
Muş	399.879	63,6	36,4	31,7	5,9	50,7	9,5	60,2
Nevşehir	315.994	52,3	47,7	19,5	12,7	28,7	18,7	47,4
Niğde	377.080	45,5	54,5	21,7	10,9	32,1	16,2	48,3
Ordu	775.800	14,1	85,9	17,5	15,9	26,3	23,9	50,1
Rize	350.506	53,7	46,3	17,2	14,4	25,1	21,1	46,2
Sakarya	1.098.115	3,3	96,7	20,1	10,9	29,2	15,8	45,0
Samsun	1.377.546	3,1	96,9	18,6	13,1	27,2	19,2	46,4
Siirt	347.412	40,0	60,0	30,7	5,4	48,1	8,4	56,5
Sinop	229.716	53,9	46,1	15,4	20,0	23,8	31,0	54,8
Sivas	650.401	40,7	59,3	18,8	14,1	28,1	21,0	49,0
Tekirdağ	1.167.059	0,0	100,0	20,4	9,8	29,2	14,1	43,3
Tokat	606.934	41,2	58,8	17,8	15,4	26,7	23,1	49,8
Trabzon	824.352	10,9	89,1	18,5	14,2	27,5	21,1	48,6
Tunceli	89.317	59,0	41,0	14,1	16,1	20,2	23,1	43,3
Şanlıurfa	2.213.964	0,0	100,0	37,8	4,2	65,2	7,3	72,5
Uşak	377.001	37,5	62,5	17,6	13,5	25,5	19,6	45,1
Van	1.127.612	4,5	95,5	30,9	4,8	48,1	7,4	55,5
Yozgat	420.699	53,6	46,4	18,4	14,8	27,5	22,1	49,6
Zonguldak	591.492	38,5	61,5	15,7	15,0	22,6	21,6	44,2
Aksaray	438.504	38,1	61,9	23,2	10,0	34,7	15,0	49,8
Bayburt	86.047	48,2	51,8	18,3	12,0	26,2	17,3	43,5
Karaman	263.960	33,3	66,7	20,5	11,7	30,2	17,3	47,5
Kırıkkale	285.744	24,2	75,8	17,3	13,5	24,9	19,4	44,4
Batman	647.205	23,8	76,2	31,3	4,9	48,9	7,6	56,5
Şırnak	570.745	36,9	63,1	33,7	3,5	53,6	5,6	59,2
Bartın	207.238	58,2	41,8	15,1	15,9	21,8	23,0	44,8
Ardahan	92.819	74,2	25,8	19,0	14,4	28,5	21,7	50,2
Iğdır	209.738	49,8	50,2	26,6	7,6	40,5	11,6	52,1
Yalova	304.780	35,0	65,0	19,0	13,1	28,0	19,3	47,3
Karabük	255.242	32,3	67,7	15,1	14,6	21,4	20,8	42,2
Kilis	155.179	24,6	75,4	27,0	8,0	41,5	12,2	53,7
Osmaniye	557.666	29,0	71,0	24,5	9,6	37,2	14,5	51,6
Düzce	409.865	44,8	55,2	19,6	11,4	28,3	16,5	44,8
Türkiye	85.372.377	11,2	88,8	21,4	10,2	31,4	15,0	46,3

Source: TURKSTAT

Explanations for Chapter 1

☑ Population data for 1990 and 2000 were taken from the "General Census" results, and the 2019-2023 population data from the "Address Based Population Registration System (ABPRS)" Press Release (No. 49684 of 6 February 2024).

https://data.tuik.gov.tr/Bulten/Index?p=The-Results-of-Address-Based-Population-Registration-System-2023-49684

☑ 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.

☑ 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

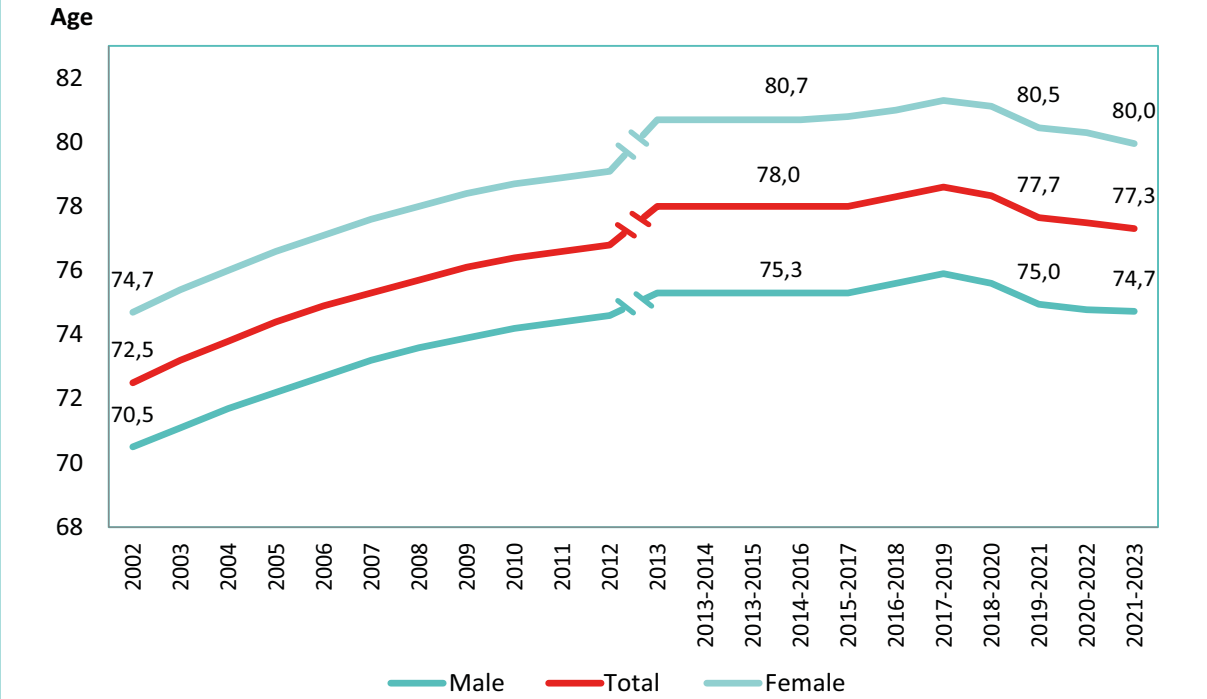
Rural Population Ratio (%)	:	It is the ratio of the population living in settlements with a population of 20.000 and below to the total population.
Urban Population Ratio (%)	:	It is the ratio of the population living in settlements with a population of 20.001 and above to the total population.
0-14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



CHAPTER 2

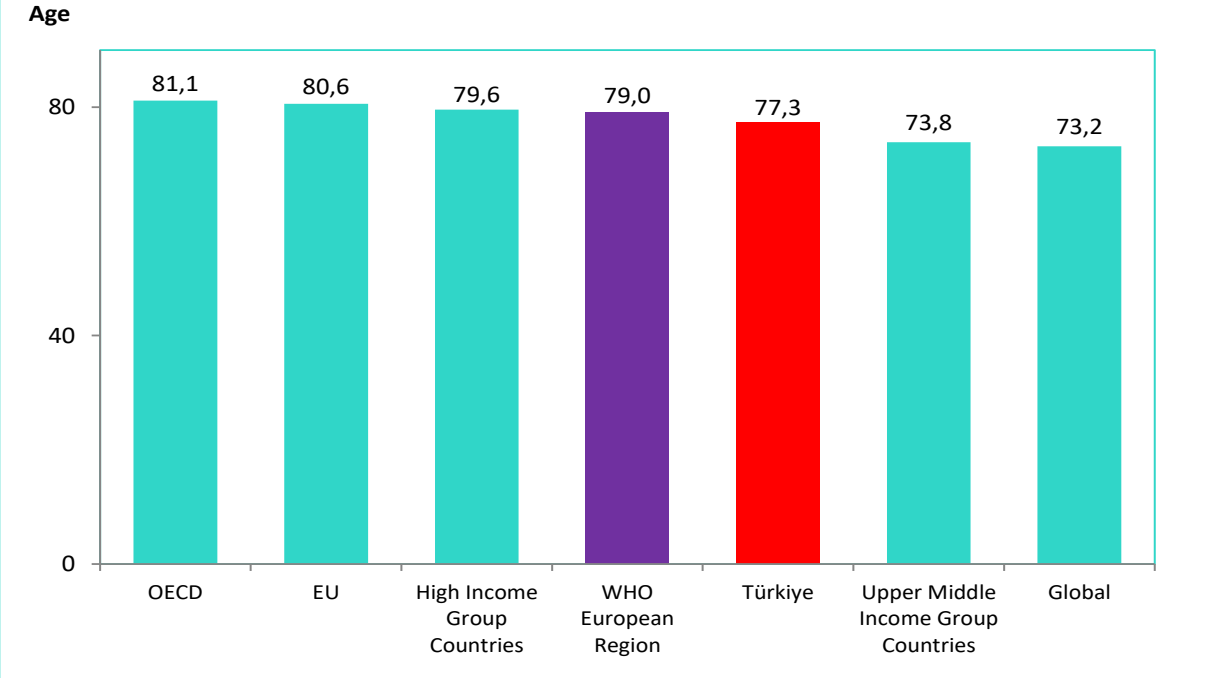
Mortality

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



Source: TURKSTAT Population Projections for 2002-2012 years, TURKSTAT Life Tables for 2013-2023 years

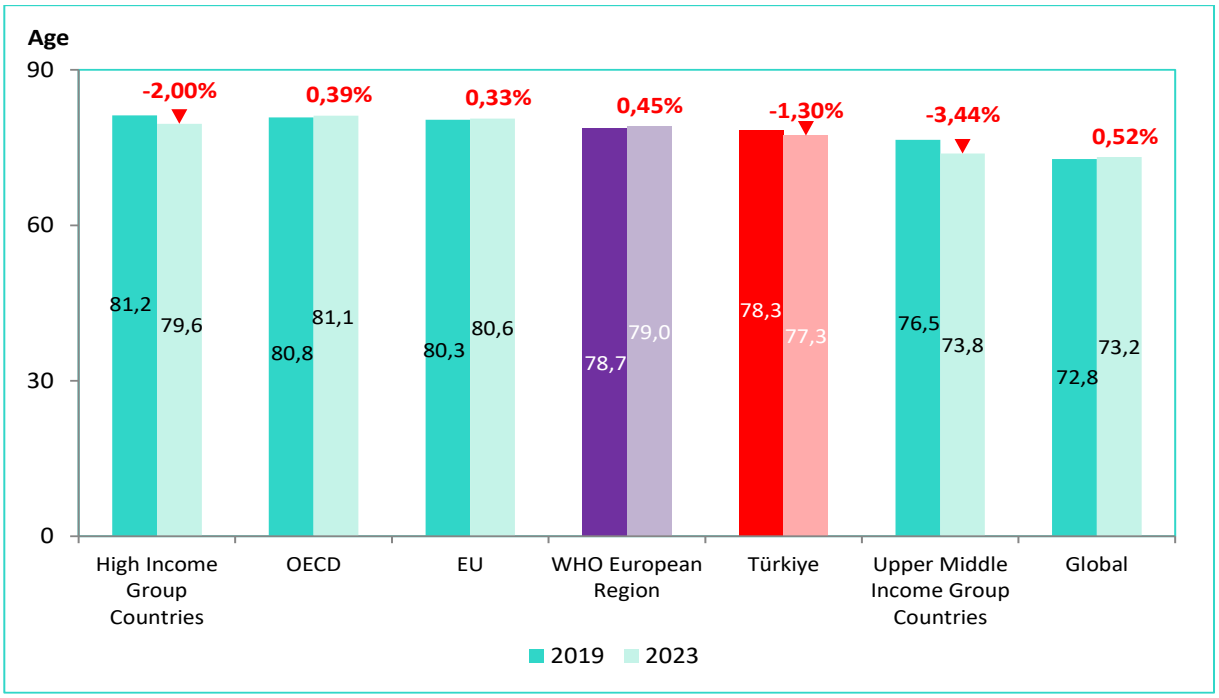
Figure 2.2. International Comparison of Life Expectancy at Birth, (Age), 2023



Source: TURKSTAT Life Tables 2021-2023 Press Release (No. 53678 of 18 September 2024), UNPD

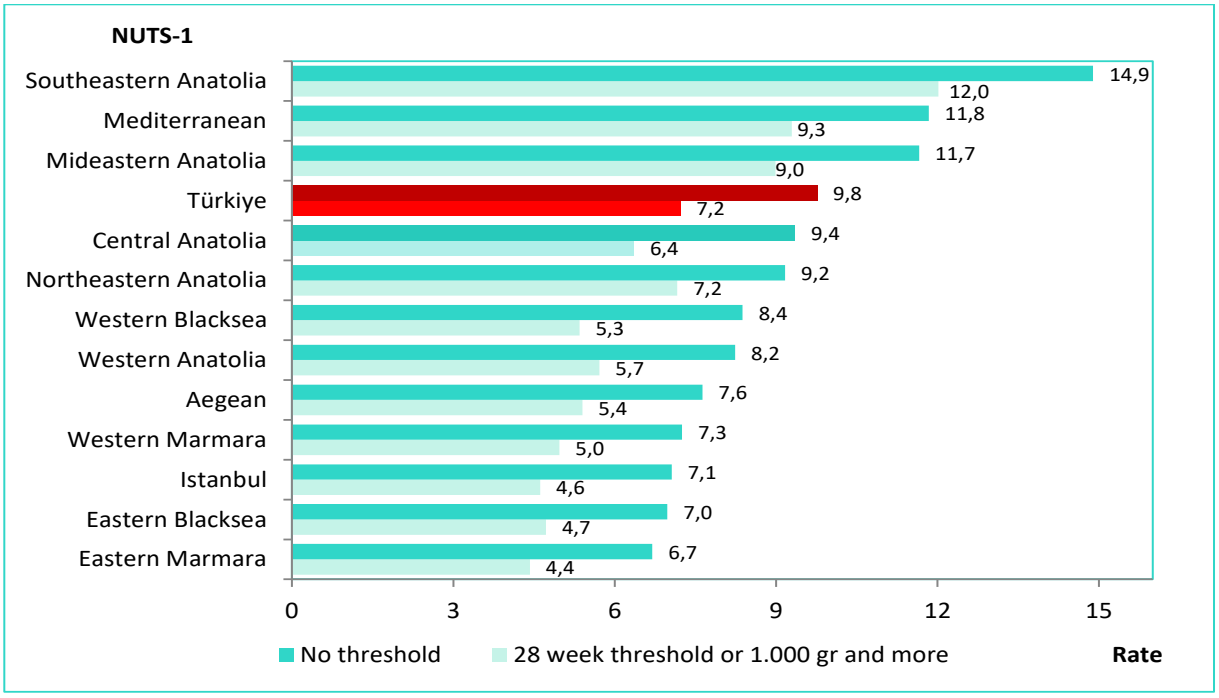
Note: Türkiye's data belongs to the year 2021-2023. The values of the groups in the figure were calculated by General Directorate of Health Information Systems Department of Health Statistics based on the expected life expectancy at the birth of the countries.

Figure 2.3. International Comparison of Changes in Life Expectancy at Birth During the Pandemic, 2019, 2023



Source: TURKSTAT Life Tables 2021-2023 Press Release (No. 53678 of 18 September 2024), UNPD

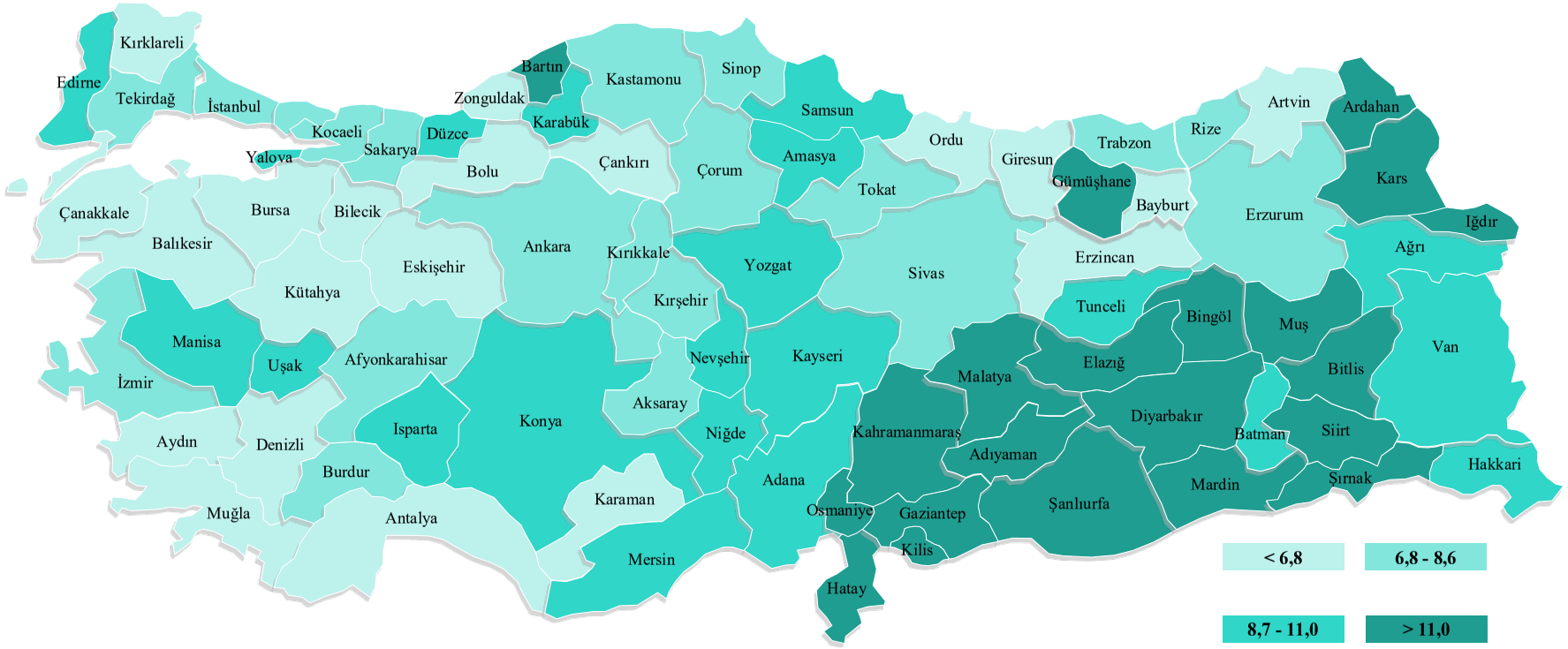
Figure 2.4. Infant Mortality Rate by NUTS-1, (per 1.000 Live Births), 2023



Source: General Directorate of Public Health

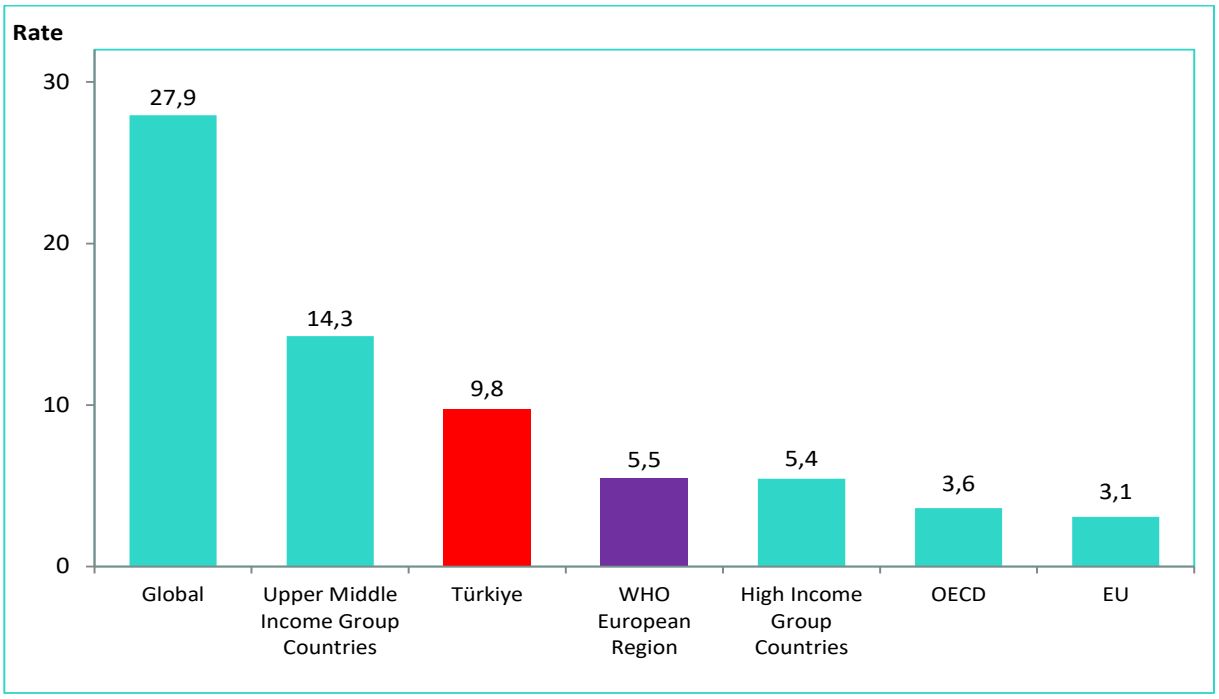
Note: Infant mortality rate is higher than the expected value due to the earthquake occurred in 2023.

Map 2.1. Infant Mortality Rate by Provinces, (per 1.000 Live Births), No Threshold, 2023



Source: General Directorate of Public Health

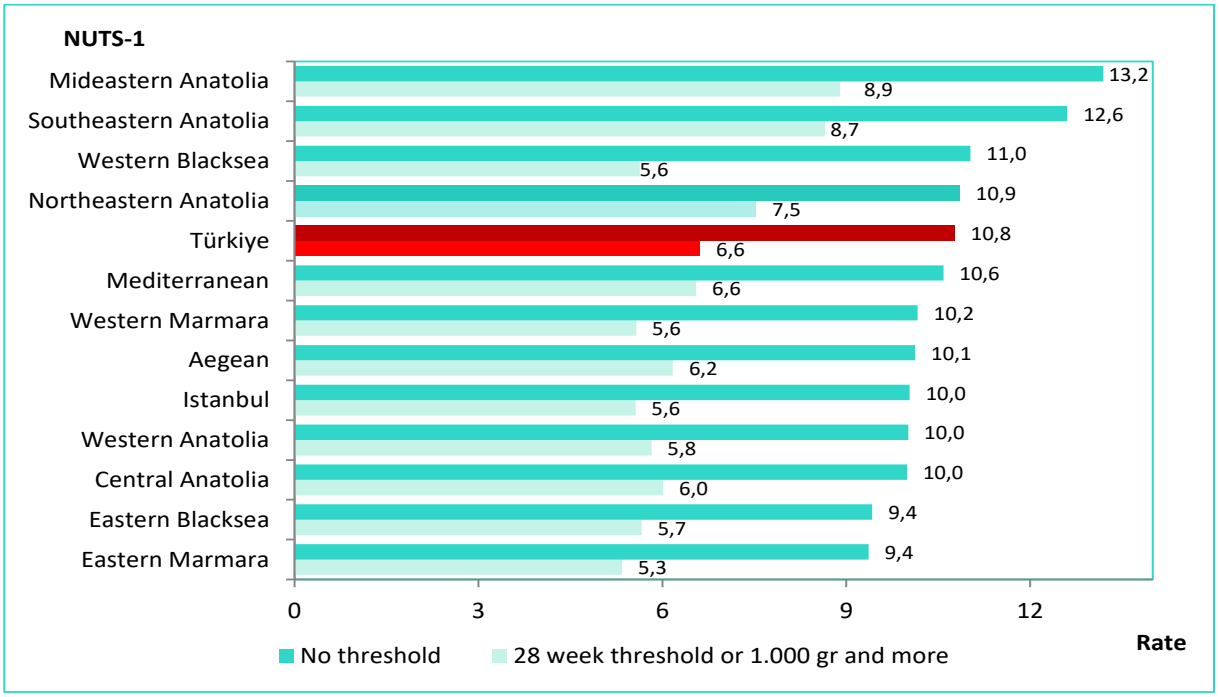
Figure 2.5. International Comparison of Infant Mortality Rate, (per 1.000 Live Births), 2022



Source: General Directorate of Public Health, UN IGME 2023

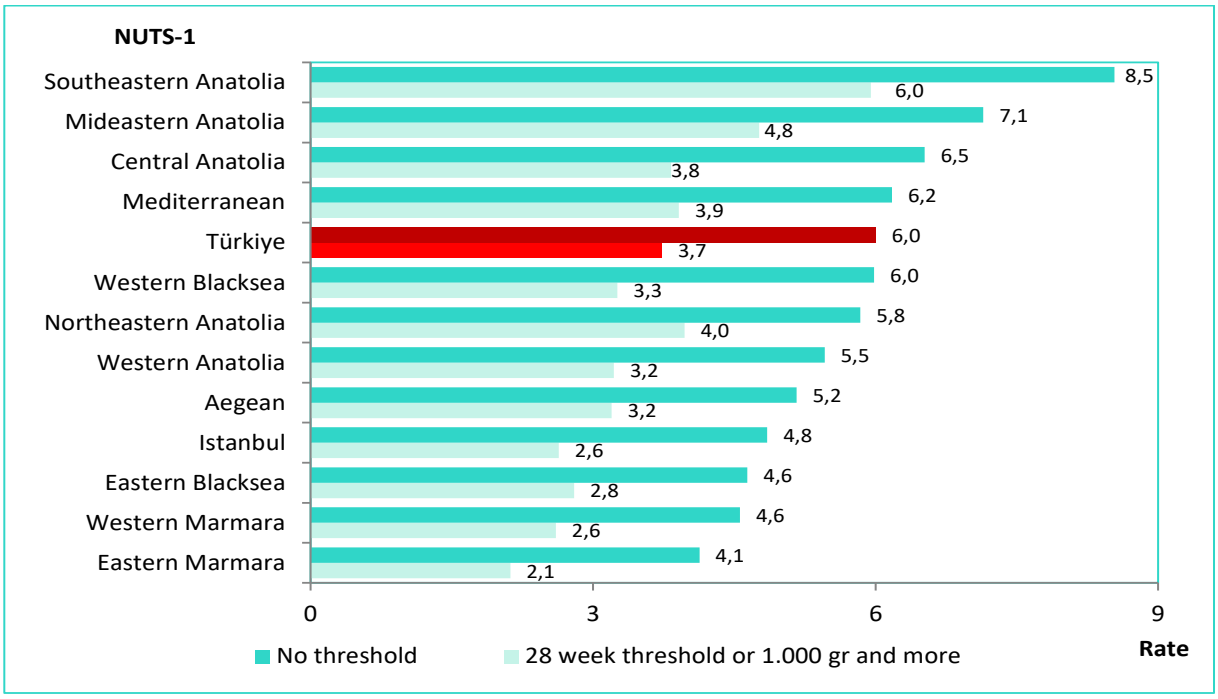
Note: Türkiye's data belongs to the year 2023. Infant mortality rate is higher than the expected value due to the earthquake occurred in 2023 for Türkiye.

Figure 2.6. Perinatal Mortality Rate by NUTS-1, (per 1.000 Births), 2023



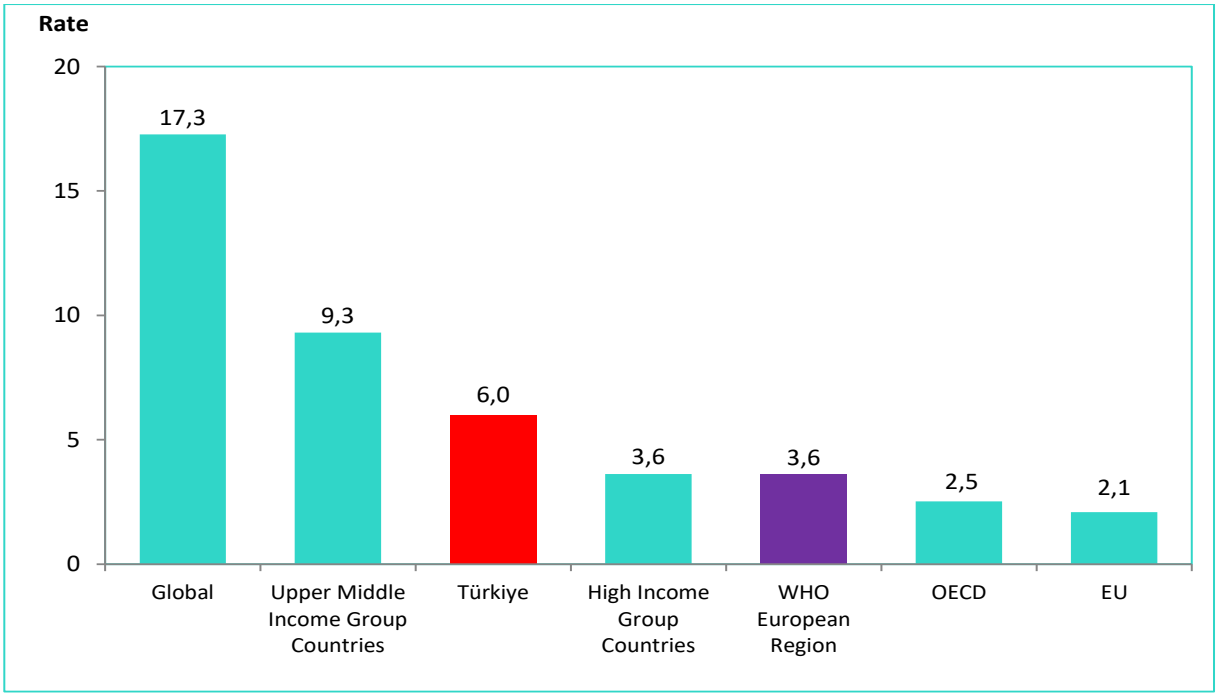
Source: General Directorate of Public Health

Figure 2.7. Neonatal Mortality Rate by NUTS-1, (per 1.000 Live Births), 2023



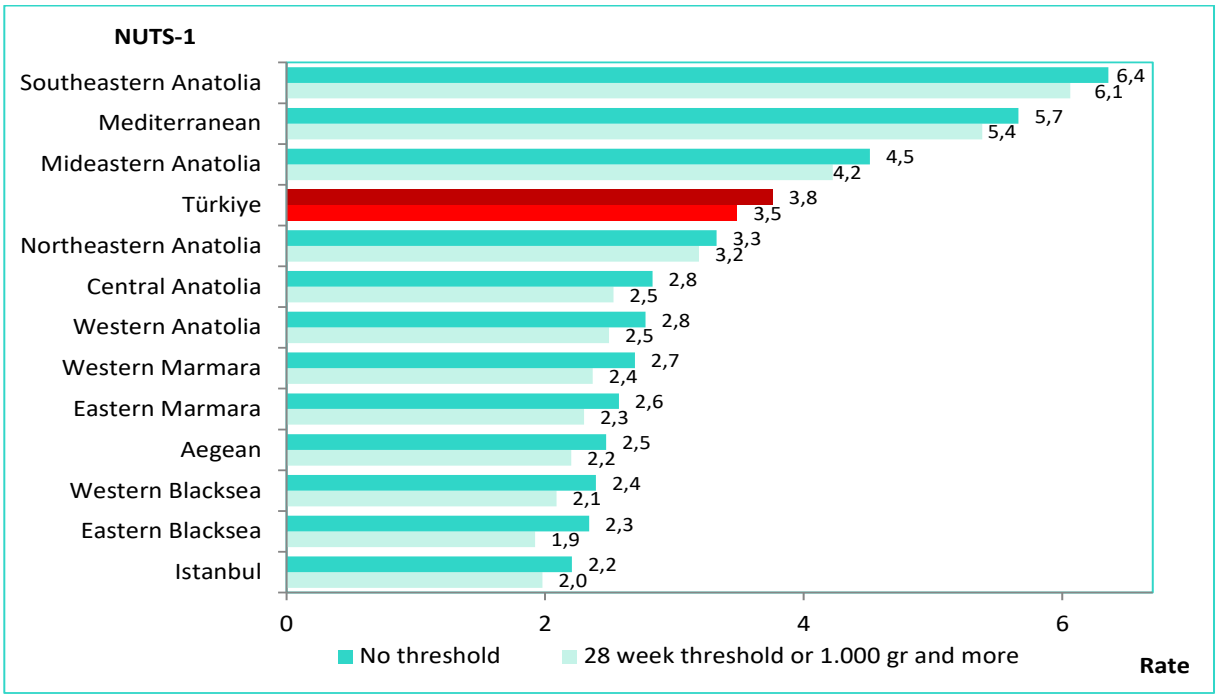
Source: General Directorate of Public Health

Figure 2.8. International Comparison of Neonatal Mortality Rate, (per 1.000 Live Births), 2022



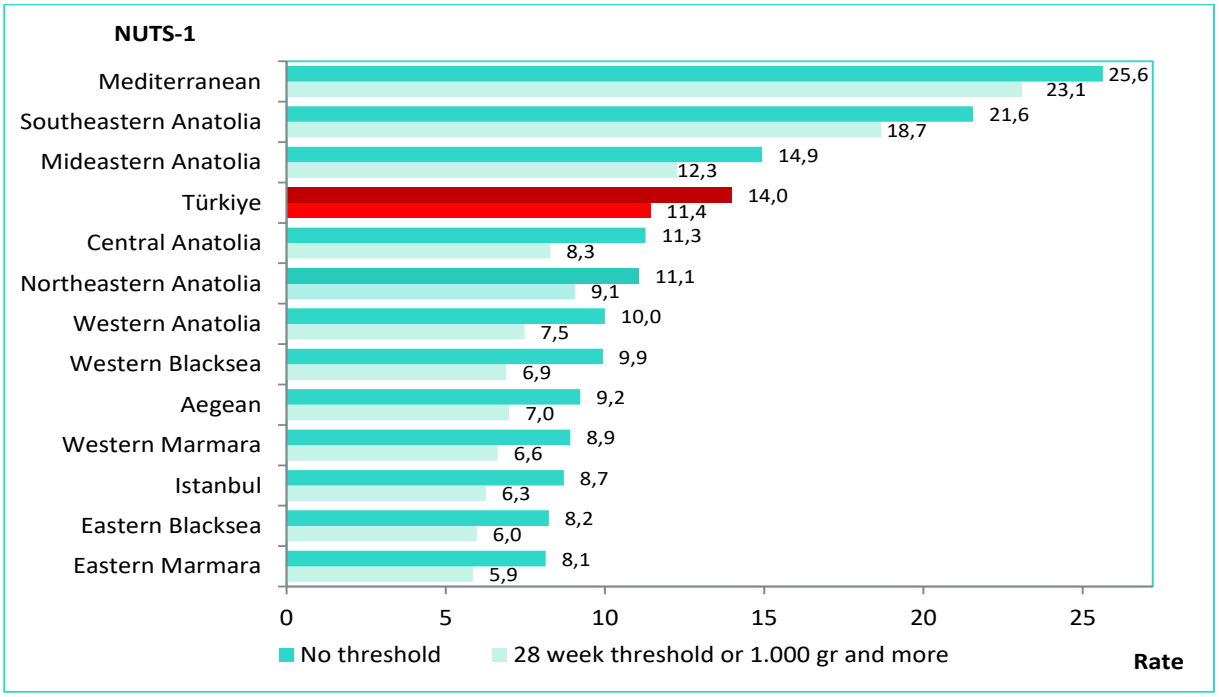
Source: General Directorate of Public Health, UN IGME 2023
Note: Türkiye's data belongs to the year 2023.

Figure 2.9. Postneonatal Mortality Rate by NUTS-1, (per 1.000 Live Births), 2023



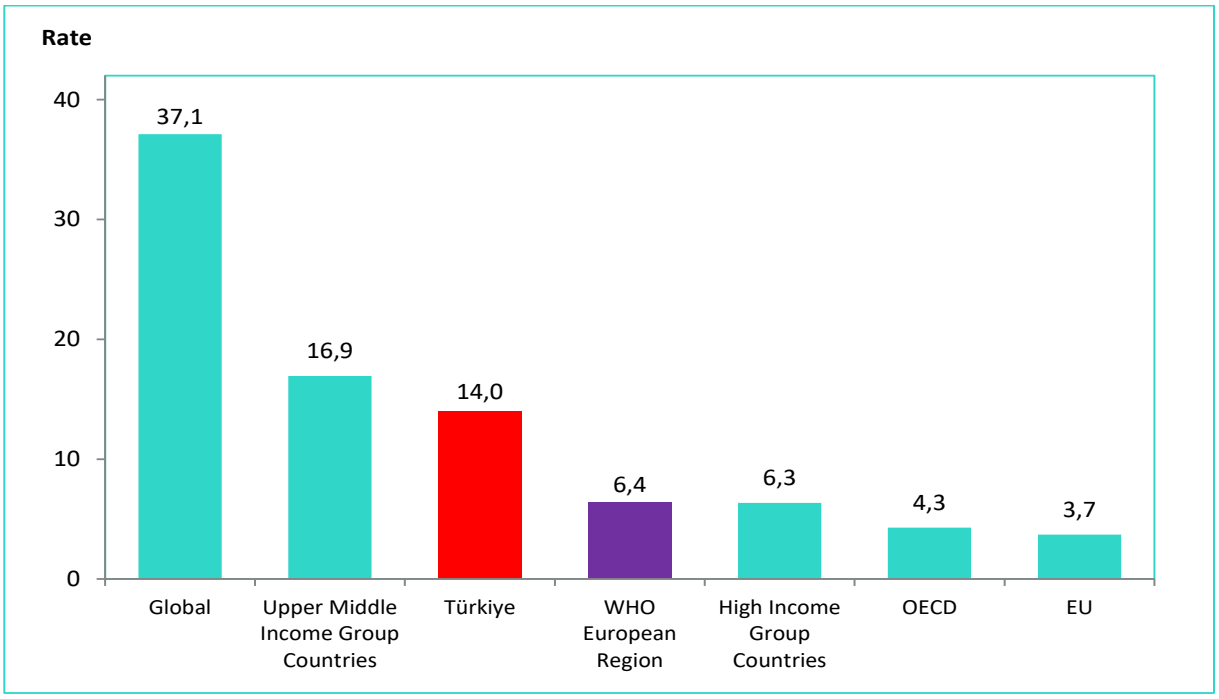
Source: General Directorate of Public Health

Figure 2.10. Under-5 Mortality Rate by NUTS-1, (per 1.000 Live Births), 2023



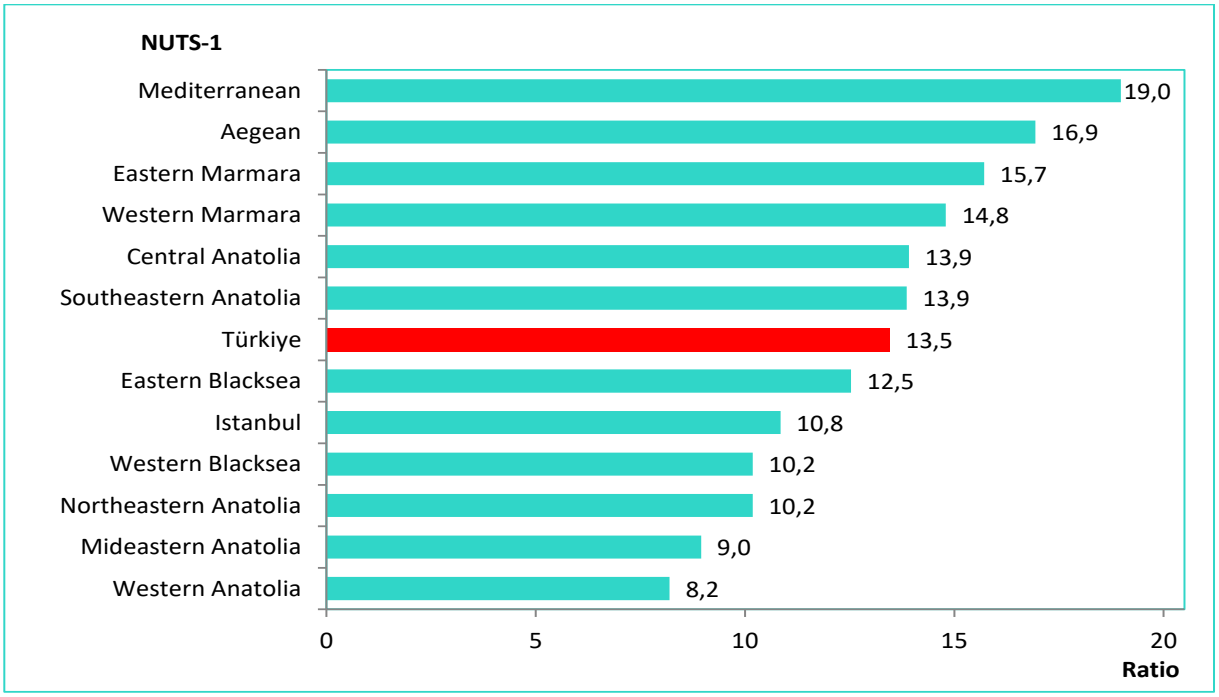
Source: General Directorate of Public Health

Figure 2.11. International Comparison of Under-5 Mortality Rate, (per 1.000 Live Births), 2022



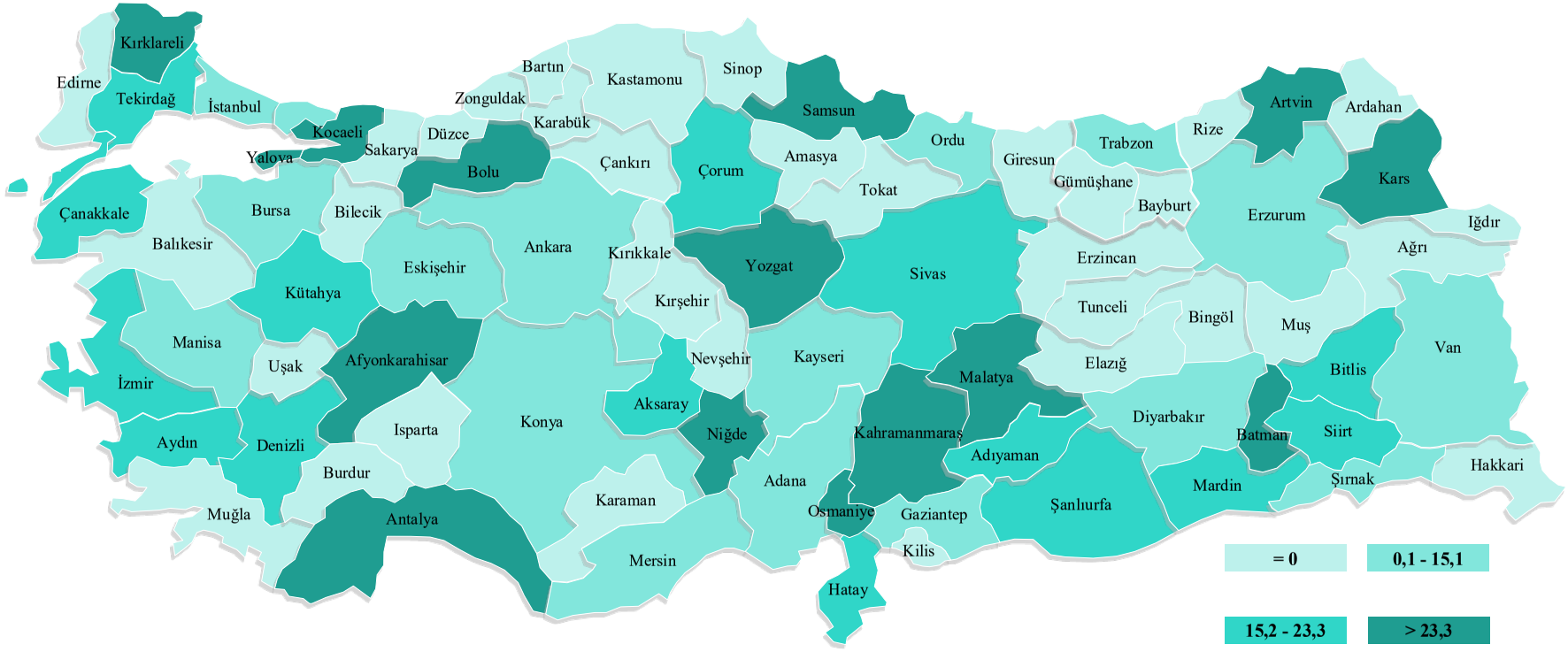
Source: General Directorate of Public Health, UN IGME 2023
Note: Türkiye's data belongs to the year 2023.

Figure 2.12. Maternal Mortality Ratio by NUTS-1, (per 100.000 Live Births), 2023



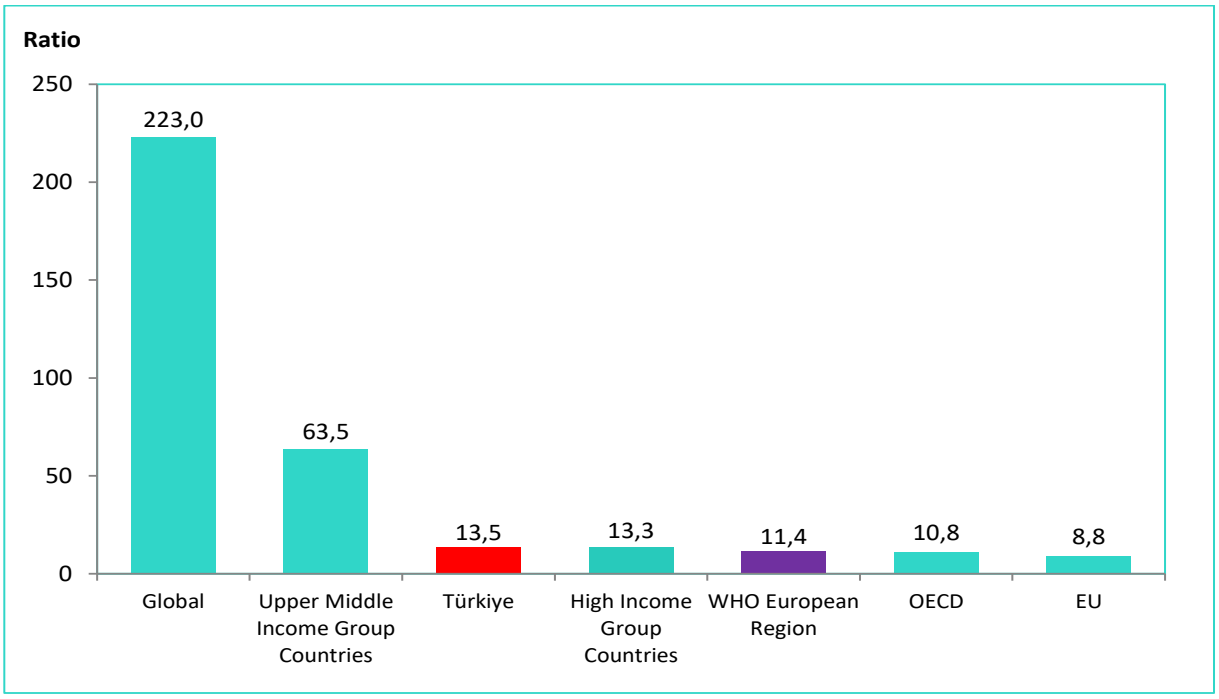
Source: General Directorate of Public Health

Map 2.2. Maternal Mortality Ratio by Provinces, (per 100.000 Live Births), 2023



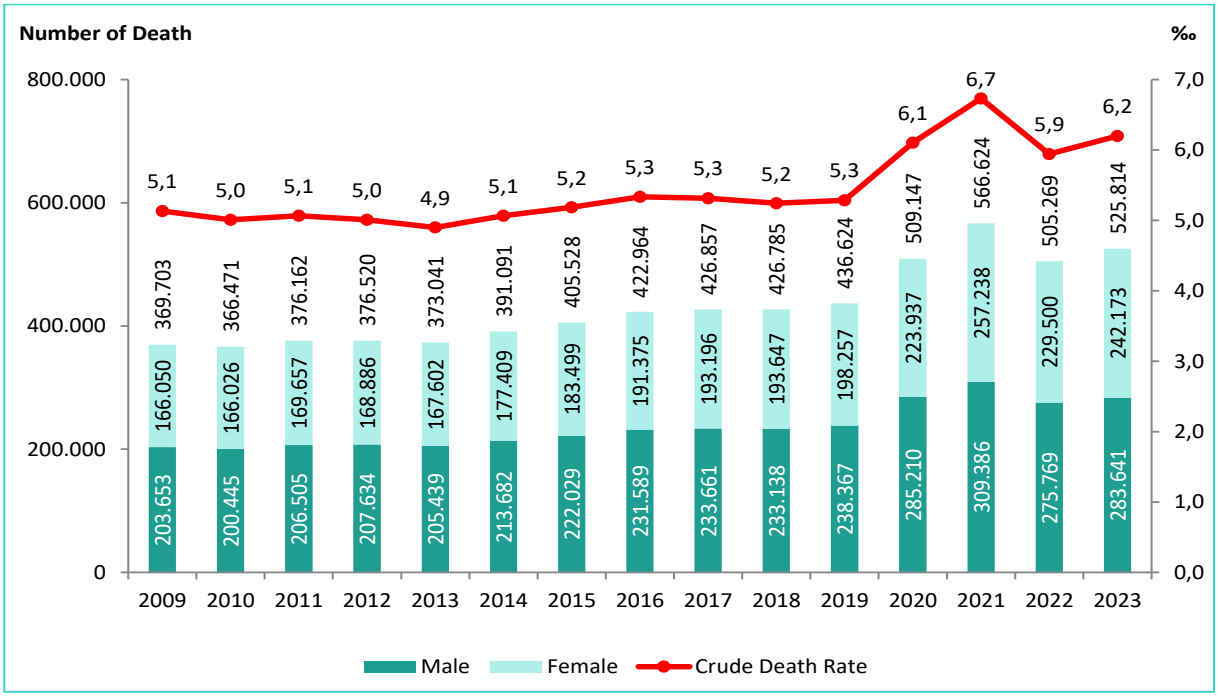
Source: General Directorate of Public Health

Figure 2.13. 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 2023.

Figure 2.14. Number of Death by Years and Sex, and Total Crude Death Rate, (‰)



Source: TURKSTAT Death and Causes of Death Statistics 2023

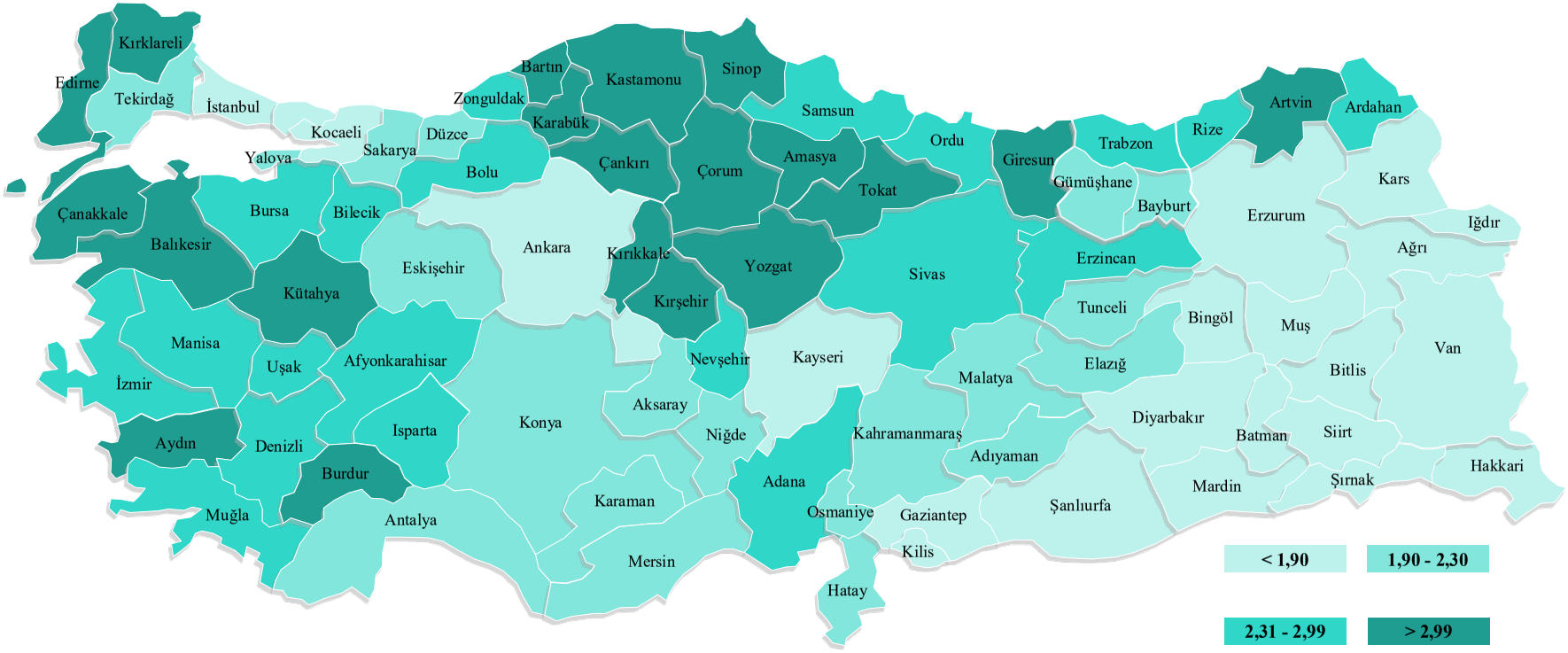
Table 2.1. Distribution of Causes of Death by the ICD-10 Main Diagnosis Codes, Sex and Years, (%)

ICD-10 Main Diagnosis Group	Code	2021			2022			2023		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Certain Infectious and Parasitic Diseases	A00-B99	2,84	3,14	2,98	3,42	3,98	3,67	3,53	3,96	3,73
Neoplasms	C00-D48	16,33	11,18	13,99	17,72	12,23	15,23	17,57	12,07	15,04
Diseases of the Blood and Bloodforming Organs and Certain Disorders Involving the Immune Mechanism	D50-D89	0,17	0,21	0,19	0,21	0,25	0,23	0,20	0,24	0,22
Endocrine, Nutritional and Metabolic Diseases	E00-E90	3,40	5,10	4,17	3,70	5,55	4,54	3,47	5,09	4,22
Mental and Behavioural Disorders	F00-F99	0,07	0,10	0,08	0,07	0,09	0,08	0,05	0,06	0,05
Diseases of the Nervous System and Sense Organs	G00-H95	2,62	4,07	3,28	2,85	4,52	3,61	2,66	4,15	3,35
Diseases of the Circulatory System	I00-I99	30,93	36,61	33,51	33,23	38,89	35,80	31,25	35,88	33,38
Diseases of the Respiratory System	J00-J99	13,82	12,97	13,44	14,01	13,18	13,63	13,67	12,62	13,18
Diseases of the Digestive System	K00-K93	1,88	2,02	1,94	2,12	2,32	2,21	2,09	2,21	2,15
Diseases of the Skin and Subcutaneous Tissue	L00-L99	0,03	0,09	0,06	0,06	0,09	0,07	0,05	0,09	0,07
Diseases of the Musculoskeletal System and Connective Tissue	M00-M99	0,13	0,29	0,20	0,14	0,26	0,20	0,13	0,24	0,18
Diseases of the Genitourinary System	N00-N99	3,27	3,88	3,55	3,31	4,22	3,72	3,21	4,05	3,60
Pregnancy, Childbirth and the Puerperium	O00-O99	-	0,06	0,03	-	0,05	0,02	-	0,04	0,02
Certain Conditions Originating in the Perinatal Period	P00-P96	0,98	0,93	0,96	1,06	0,97	1,02	0,96	0,84	0,90
Congenital Malformations, Deformations and Chromosomal Abnormalities	Q00-Q99	0,53	0,57	0,55	0,56	0,59	0,57	0,50	0,51	0,51
Symptoms, Signs and Abnormal Clinical and Laboratory Findings, Not Elsewhere Classified	R00-R99	1,31	1,24	1,28	1,51	1,34	1,43	1,12	1,07	1,10
COVID-19	U07	11,56	11,50	11,54	4,48	4,23	4,36	0,34	0,31	0,33
External causes of morbidity and mortality	V01-Y89	4,35	1,85	3,22	5,18	2,30	3,87	12,43	12,10	12,27
Unknown	-	5,75	4,20	5,05	6,38	4,95	5,73	6,77	4,46	5,71

Source: TURKSTAT Death and Causes of Death Statistics 2023

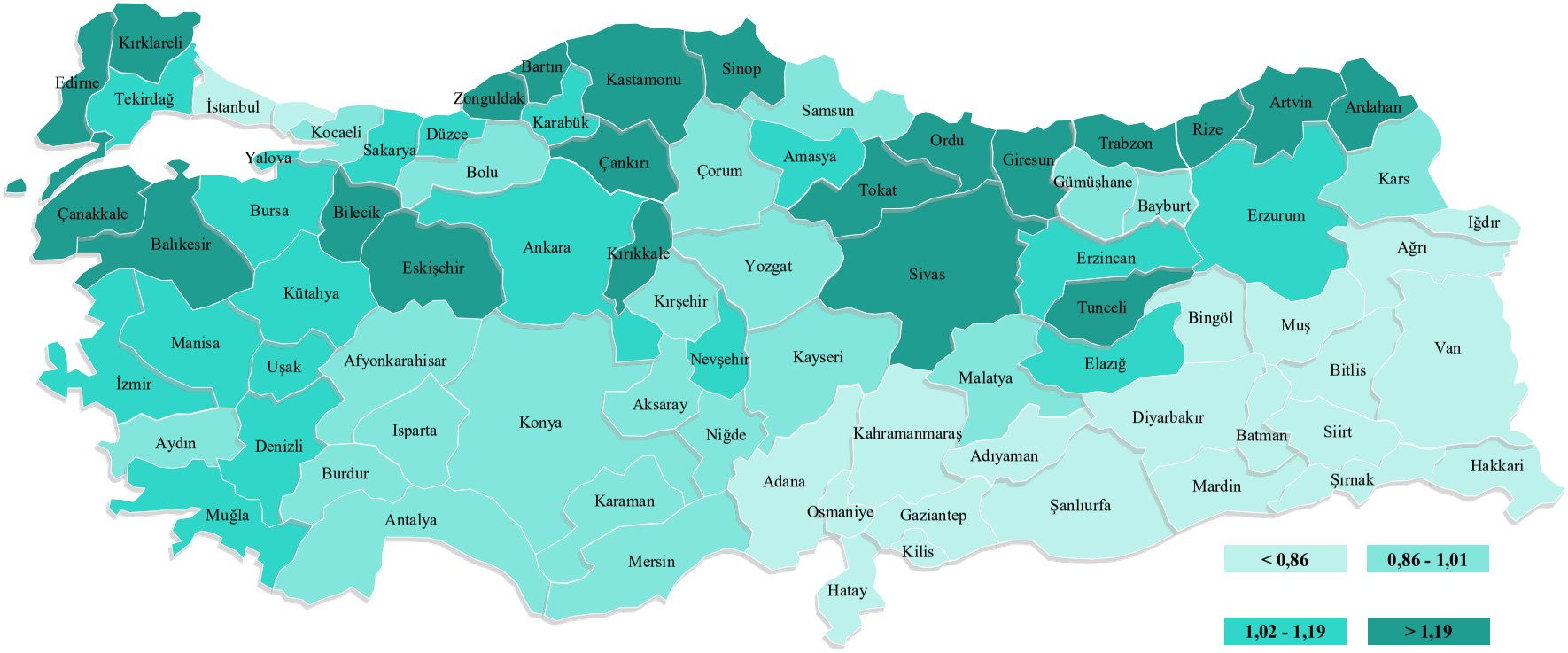
Note: The distribution of causes of death was calculated over the total number of relevant column.

Map 2.3. Diseases of the Circulatory System (ICD 10: I00-I99) Crude Death Rate by Usual Residence and Provinces, (‰), 2023



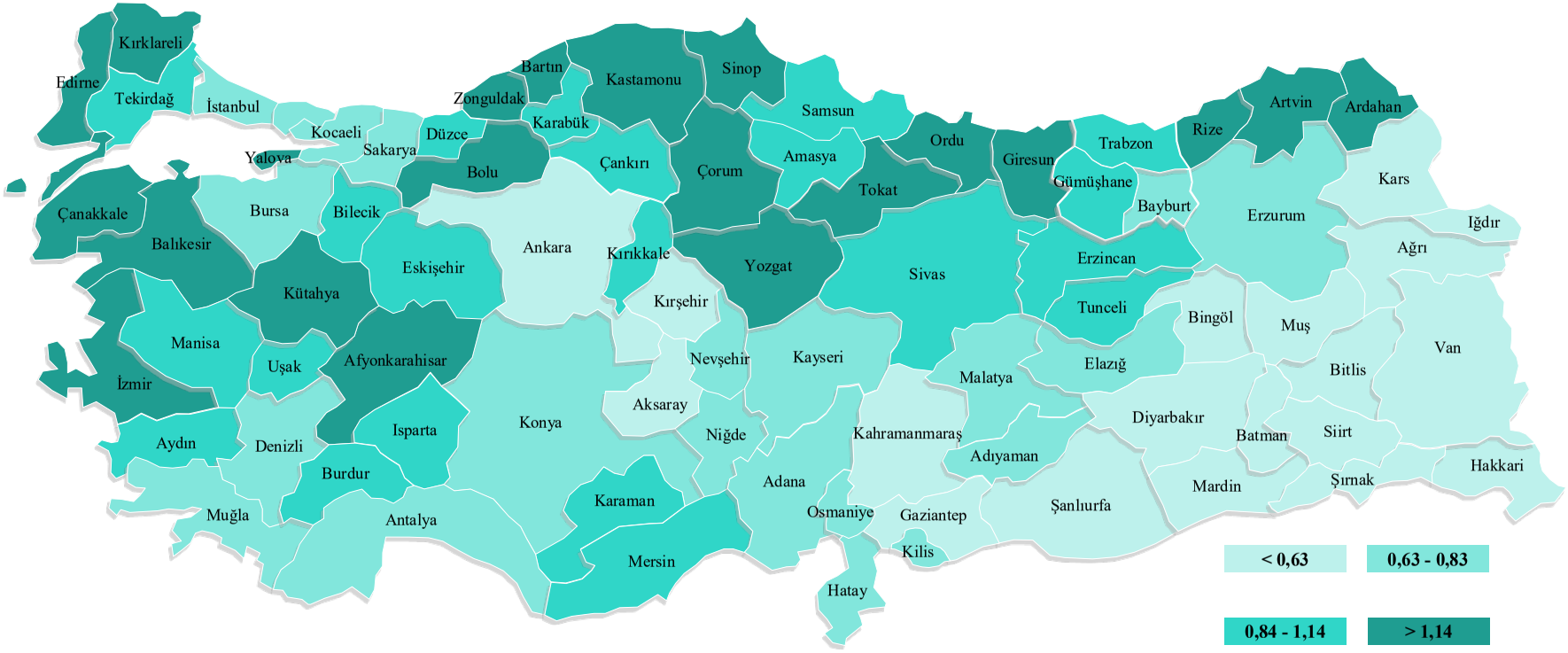
Source: TURKSTAT Death and Causes of Death Statistics 2023

Map 2.4. Neoplasm (ICD 10: C00-D48) Crude Death Rate by Usual Residence and Provinces, (‰), 2023



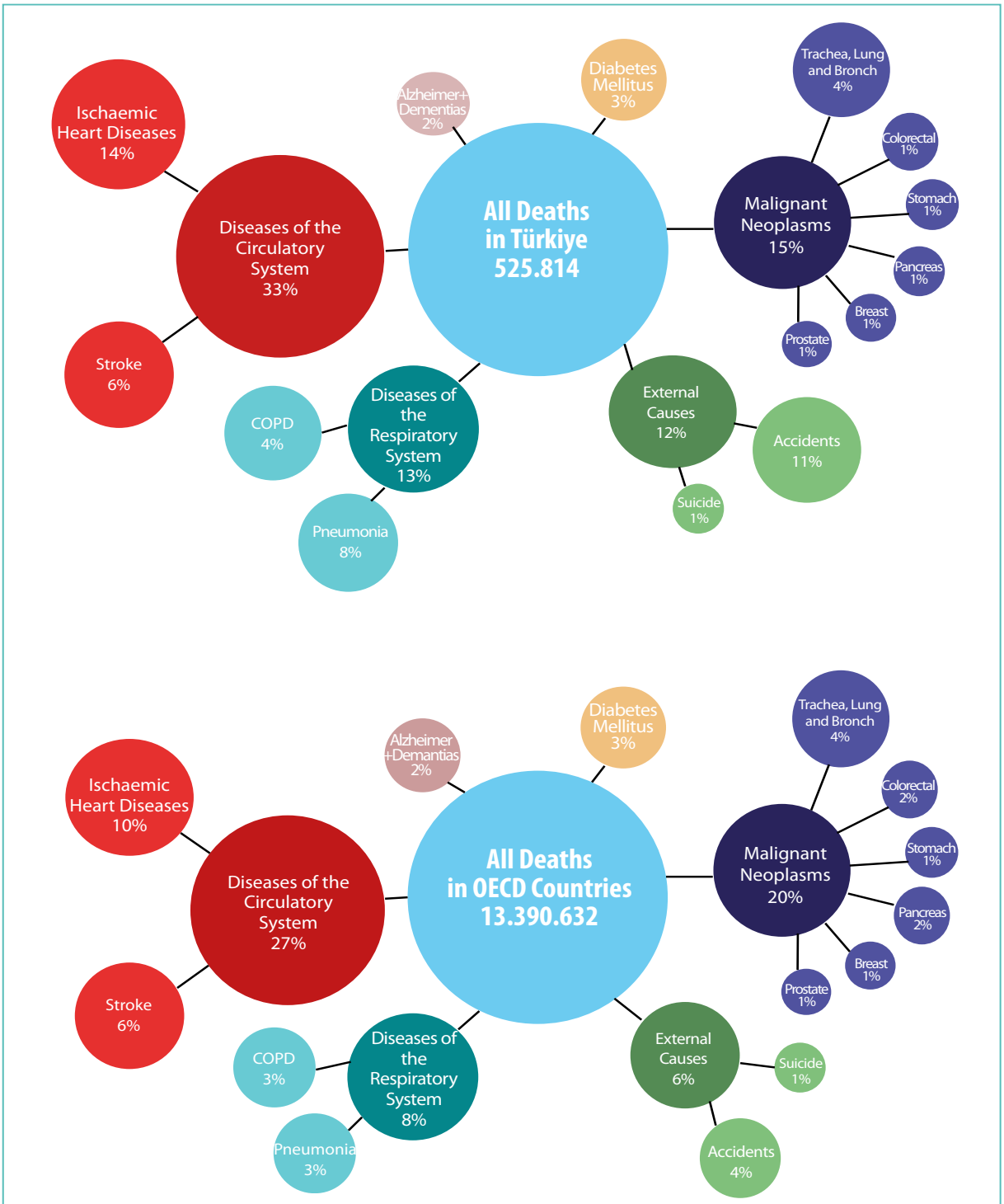
Source: TURKSTAT Death and Causes of Death Statistics 2023

Map 2.5. Diseases of the Respiratory System (ICD 10: J00-J99) Crude Death Rate by Usual Residence and Provinces, (‰), 2023



Source: TURKSTAT Death and Causes of Death Statistics 2023

Figure 2.15. International Comparison of Distribution of Causes of Death, (%), 2022

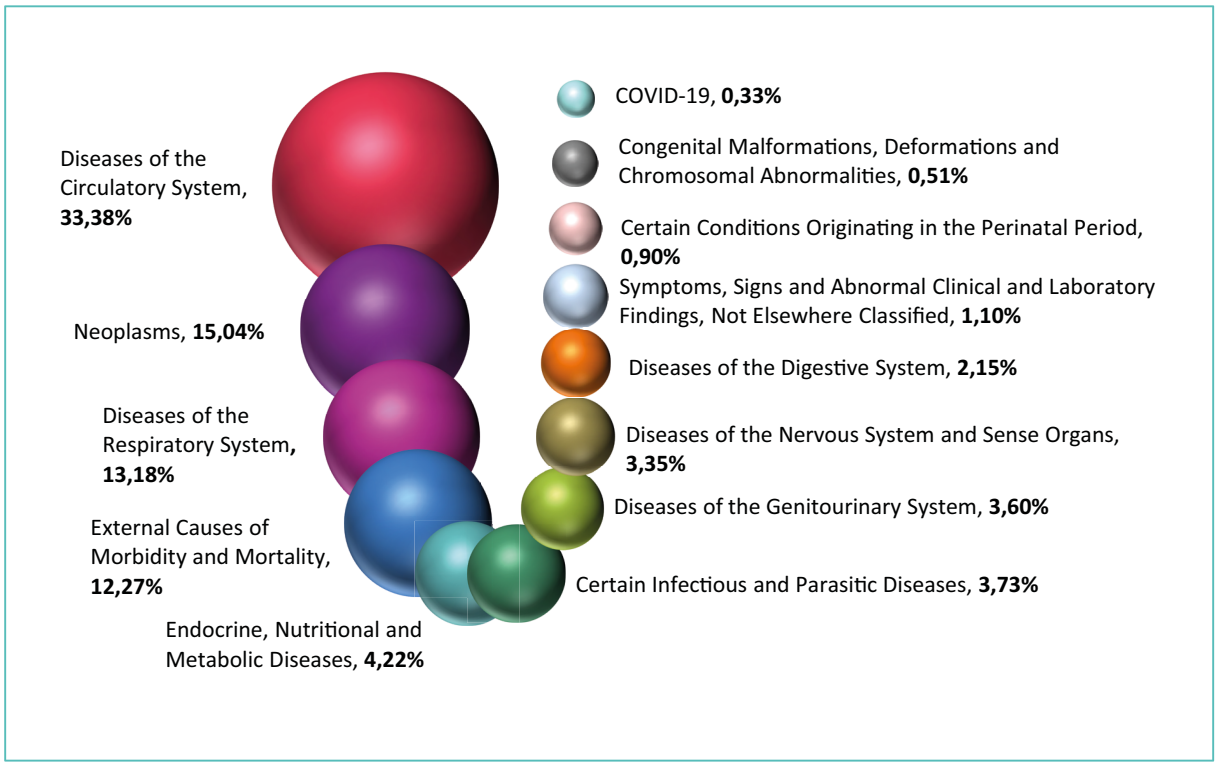


Cause of Death	ICD-10 Code	Cause of Death	ICD-10 Code
Malignant Neoplasms	**C00-C97**	**Diseases of the Circulatory System**	**I00-I99**
Stomach Cancer	C16	Ischaemic Heart Diseases	I20-I25
Colorectal Cancer	C18-C21	Stroke	I60-I69
Pancreatic Cancer	C25	**Diseases of the Respiratory System**	**J00-J99**
Trachea, Lung and Bronch Cancers	C33-C34	COPD	J40-J44
Breast Cancer	C50	Pneumonia	J12-J18
Prostate Cancer	C61	**External Causes**	**V01-Y89**
Diabetes Mellitus	**E10-E14**	Accidents	V01-X59
Alzheimer+Dementias	**F00-F03, G30**	Suicide	X60-X84

Source: TURKSTAT Death and Causes of Death Statistics 2023, OECD Health Data 2024

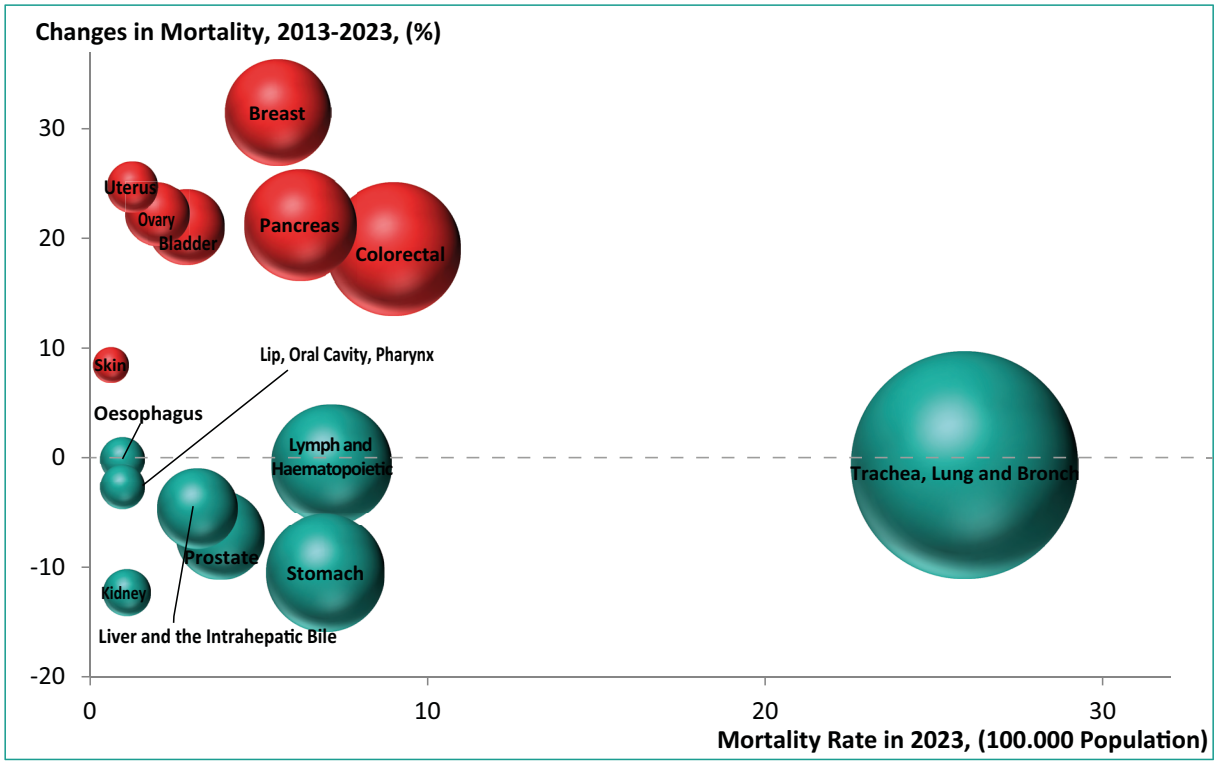
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Figure 2.16. Distribution of Causes of Death by the ICD-10 Main Diagnosis Codes, (%), 2023



Source: TURKSTAT Death and Causes of Death Statistics 2023

Figure 2.17. Cancer Death Rate, (100.000 Population), 2023 and 2013-2023 Percentage Change



Source: TURKSTAT Death and Causes of Death Statistics 2023

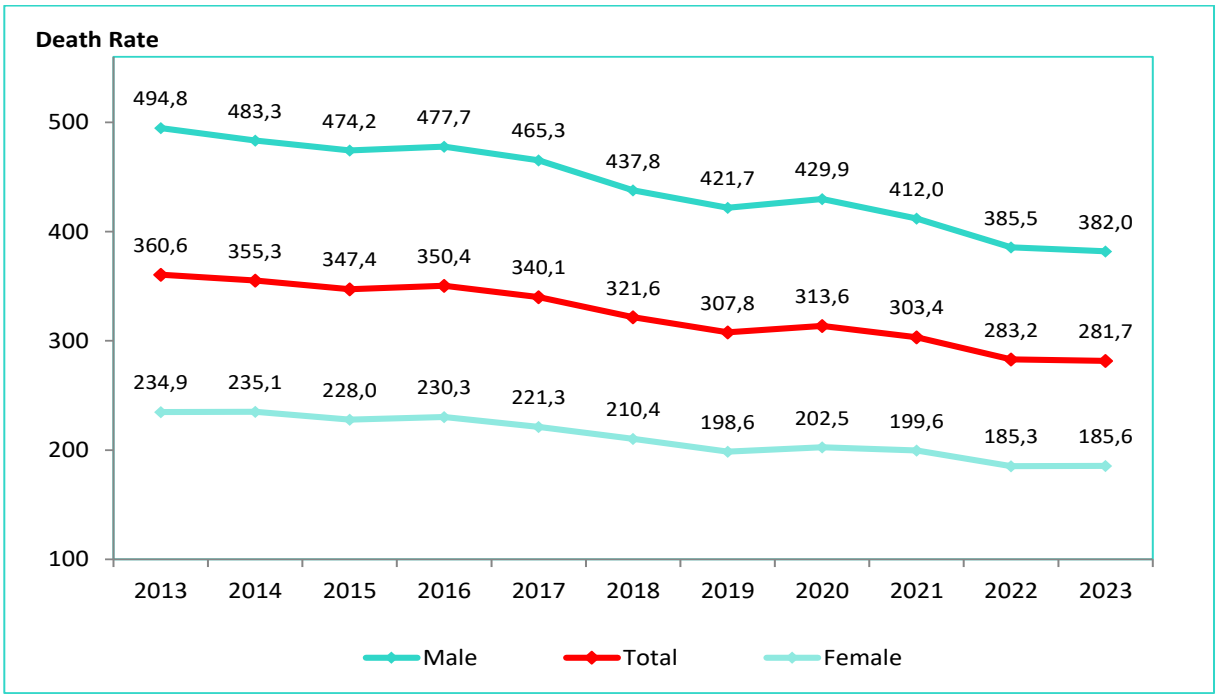
Note: The red bubble signals an increase in mortality during 2013-2023; the green bubbles signal a decrease. The size of the bubbles is proportional to the mortality rate in 2023.

Table 2.2. Age-Standardized Premature Mortality Rate of Selected Causes by ICD-10 Diagnosis Codes and Sex, (per 100.000, World Standard Population), 2022, 2023

Selected Causes	Code	2022			2023		
		Male	Female	Total	Male	Female	Total
Malignant Neoplasms	C00-C97	113,35	63,50	87,78	112,33	64,16	87,63
Diabetes Mellitus	E10-E14	12,53	9,19	10,84	12,57	9,17	10,85
Diseases of the Circulatory System	I00-I99	151,86	66,41	108,48	148,96	65,83	106,77
Ischemic Heart Disease	I20-I25	83,01	25,87	54,02	79,58	26,11	52,47
Acute Myocardial Infarction	I21-I22	57,36	18,12	37,45	54,92	18,02	36,22
Cerebrovascular Diseases	I60-I69	24,12	14,79	19,38	22,41	13,77	18,02
Chronic Respiratory Diseases	J40-J47	17,22	5,55	11,23	17,93	5,87	11,75
COPD	J40-J44	16,60	4,74	10,51	17,37	5,02	11,04
Asthma	J45-J46	0,57	0,72	0,65	0,48	0,79	0,64
Diseases of the Digestive System	K00-K93	11,85	6,33	9,05	12,19	6,30	9,21

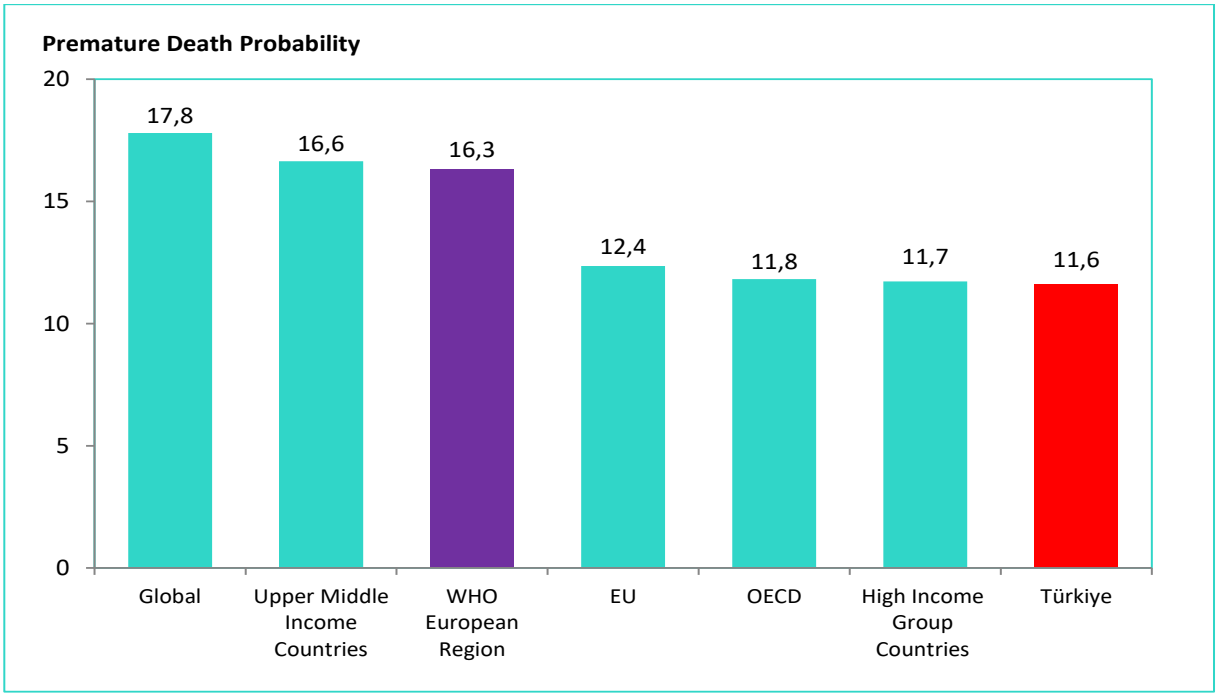
Source: TURKSTAT Death and Causes of Death Statistics 2023
*Note: Mortality rates have been age-standardized by using the **World Standard Population**.*

Figure 2.18. Age-Standardized Premature Mortality Rate of Four Main Non-Communicable Disease Groups by Years and Sex, (per 100.000, 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 2.19. International Comparison of Probability of Premature Death from Four Major Noncommunicable Diseases, (%), 2023



Source: TURKSTAT Death and Causes of Death Statistics 2023, 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 2023 and countries' data belong to the year 2019.

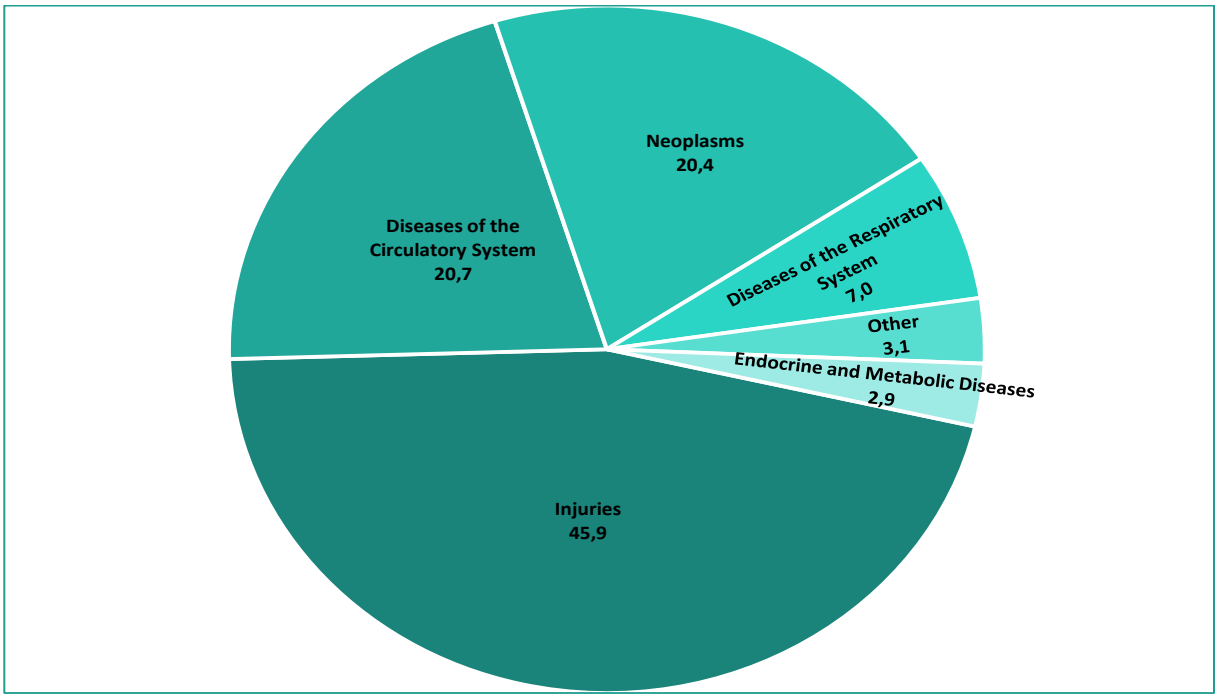
Table 2.3. Age-Standardized Avoidable Mortality Rate by Sex and Years, (per 100.000, European Standard Population)

	2020			2021			2022			2023		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Preventable	280	102	187	315	137	223	241	88	161	266	133	197
Treatable	202	128	163	195	130	161	174	116	144	173	116	144
Avoidable (Preventable +Treatable)	482	230	351	510	268	384	415	204	305	439	249	340

Source: TURKSTAT Death and Causes of Death Statistics 2023

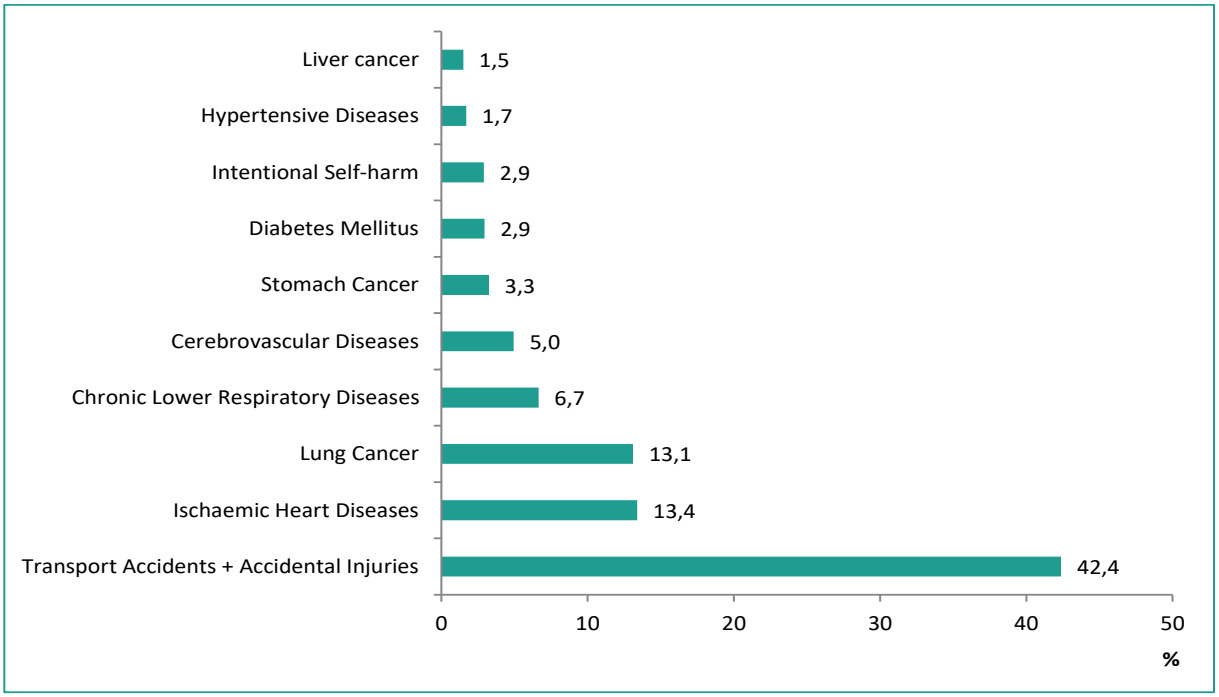
*Note: Mortality rates have been age-standardized by using the **European Standard Population**.*

Figure 2.20. Distribution of Preventable Deaths by ICD-10 Main Diagnosis Codes, (%), 2023



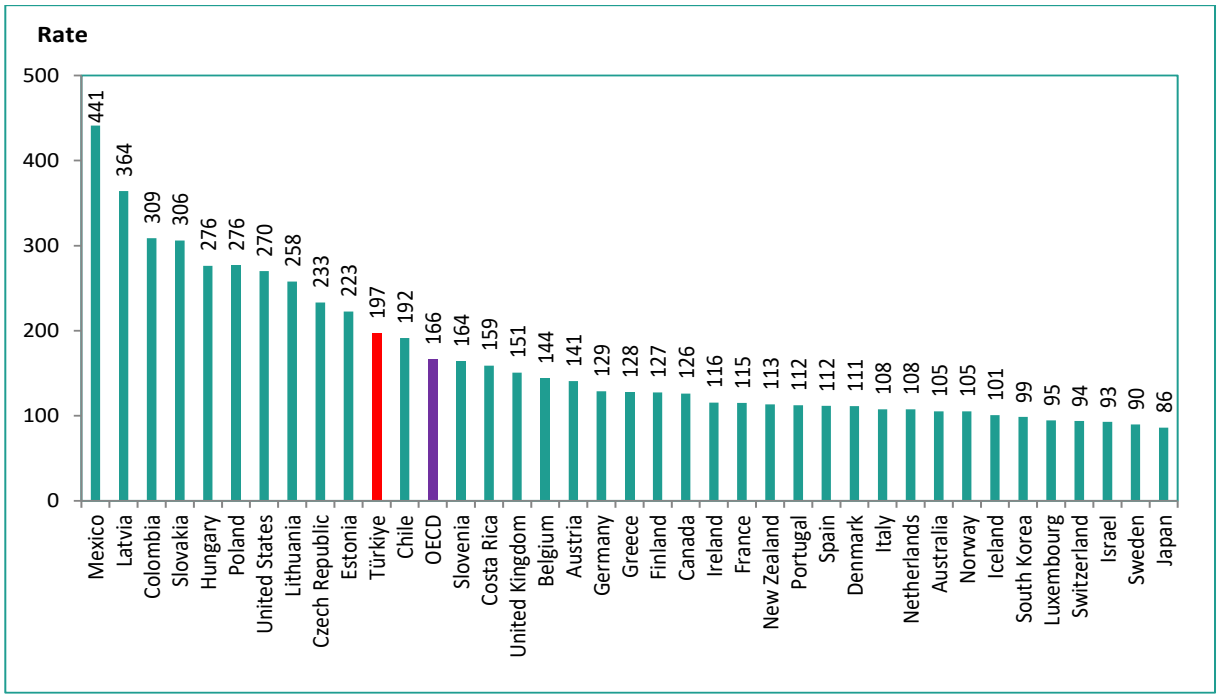
Source: TURKSTAT Death and Causes of Death Statistics 2023

Figure 2.21. Distribution of the Top 10 Causes of Death Among Preventable Deaths, (%), 2023



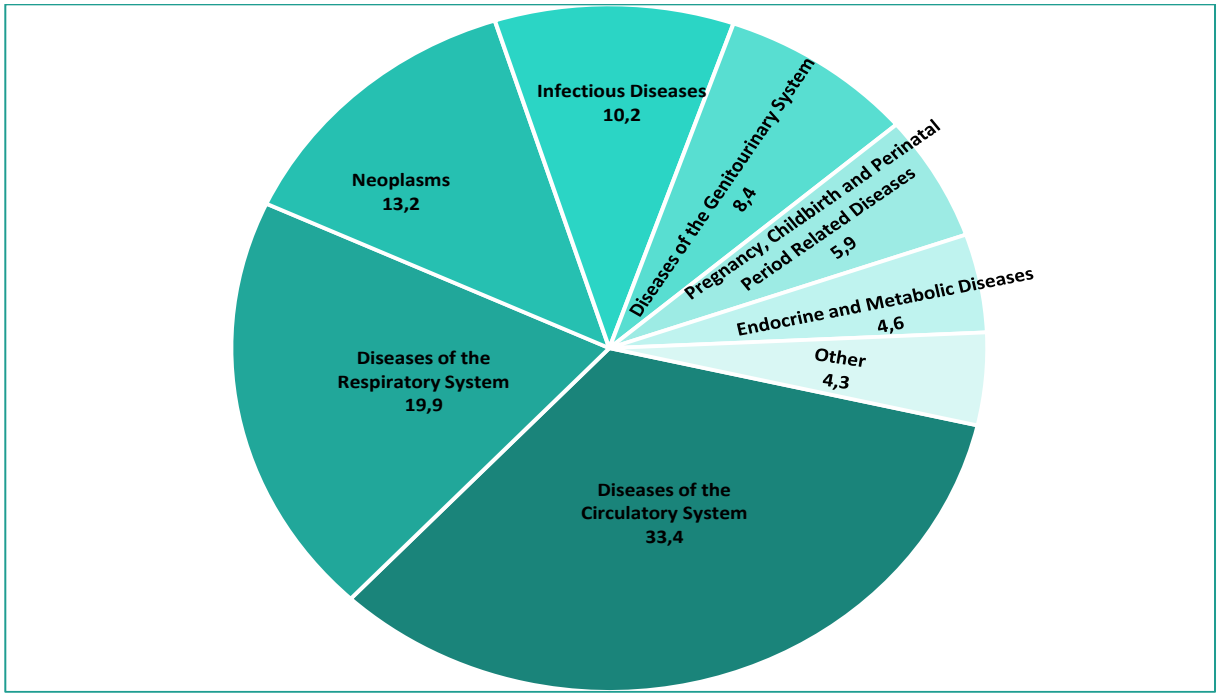
Source: TURKSTAT Death and Causes of Death Statistics 2023

Figure 2.22. International Comparison of Age-Standardized Preventable Mortality Rate, (per 100.000, European Standard Population), 2022



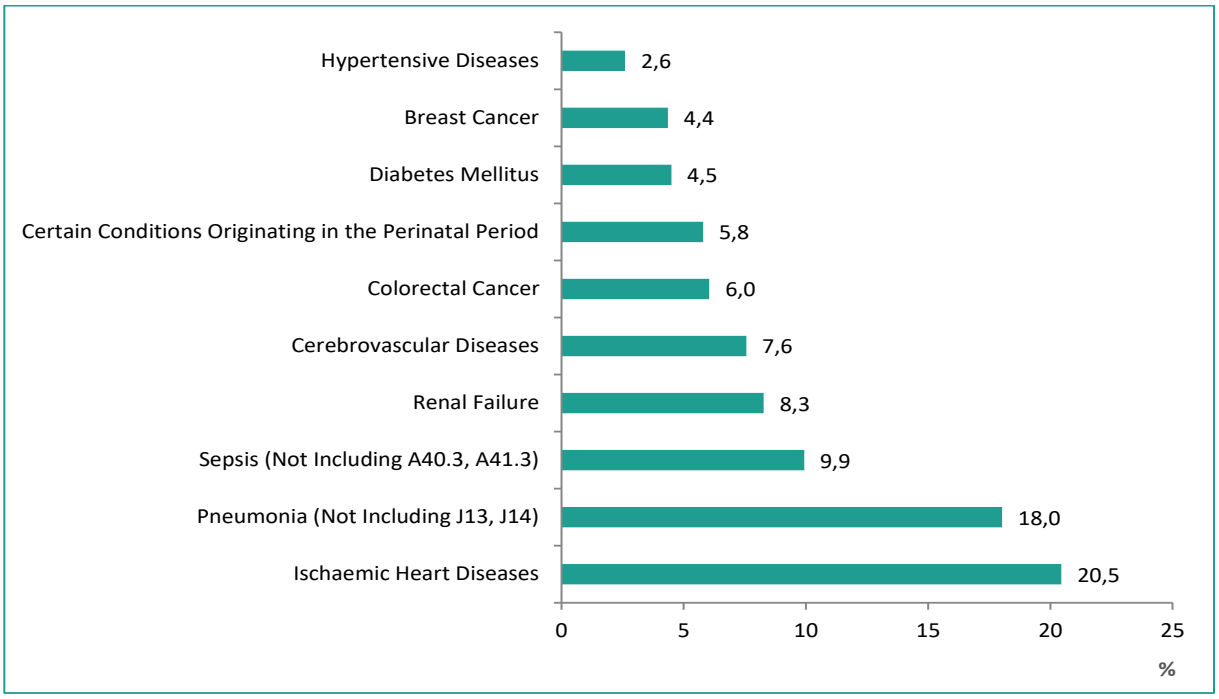
Source: TURKSTAT Death and Causes of Death Statistics 2023, OECD Health Data 2024
Note: Türkiye's data belongs to the year 2023.

Figure 2.23. Distribution of Treatable Deaths by ICD-10 Main Diagnosis Codes, (%), 2023



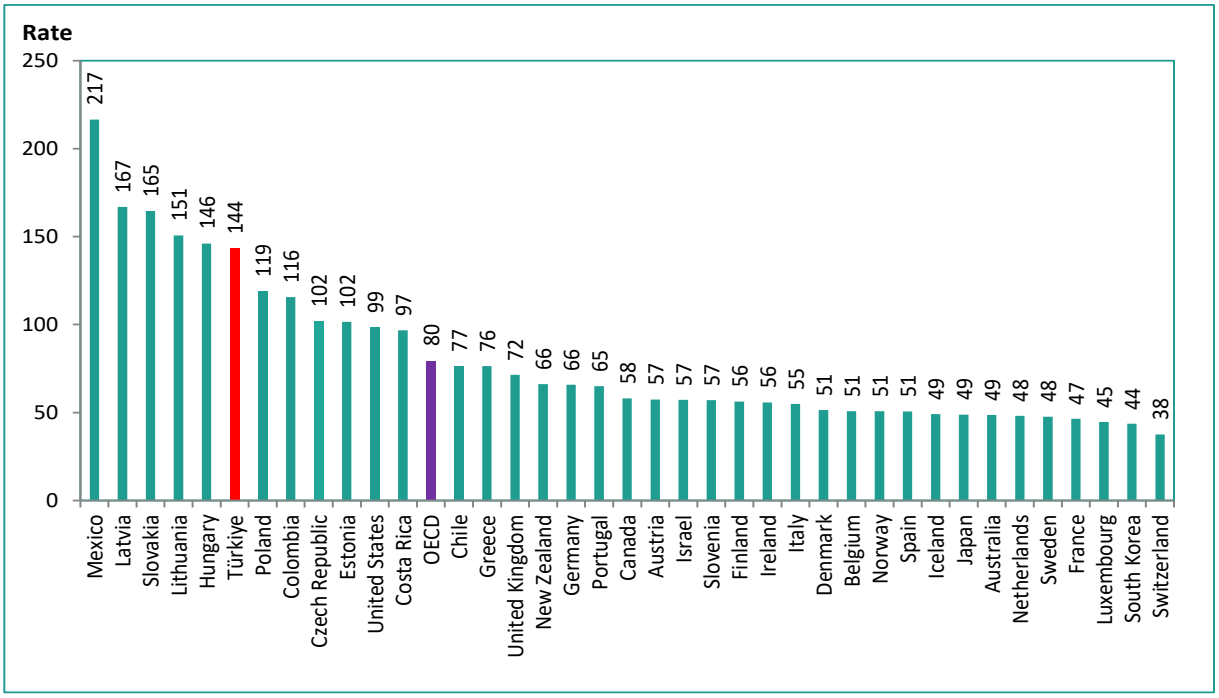
Source: TURKSTAT Death and Causes of Death Statistics 2023

Figure 2.24. Distribution of the Top 10 Causes of Death Among Treatable Deaths, (%), 2023



Source: TURKSTAT Death and Causes of Death Statistics 2023

Figure 2.25. International Comparison of Age-Standardized Treatable Mortality Rate, (per 100.000, European Standard Population), 2022



Source: TURKSTAT Death and Causes of Death Statistics 2023, OECD Health Data 2024
Note: Türkiye's data belongs to the year 2023.

Explanations for Chapter 2

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

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

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

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

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

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

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

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

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

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

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

☑ **Preventable Mortality:** Causes of death that can be mainly avoided through effective public health and primary prevention interventions (i.e. before the onset of diseases/injuries, to reduce incidence).

☑ **Treatable Mortality:** Causes of death that can be mainly avoided through timely and effective health care interventions, including secondary prevention and treatment (i.e. after the onset of diseases, to reduce case-fatality).

☑ **Avoidable Mortality:** It is calculated by adding treatable mortality and preventable mortality. The detail information for Avoidable Mortality exists in following link:

https://www.oecd.org/content/dam/oecd/en/data/datasets/oecd-health-statistics/avoidable-mortality-2019-joint-oecd-eurostat-list-preventable-treatable-causes-of-death.pdf

☑ 4-point Likert was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the 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 places while making Map 2.3, Map 2.4 and Map 2.5 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

Morbidity

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

		2002	2019	2020	2021	2022	2023
AIDS	**Local Case**	**38**	**108**	**58**	**88**	**90**	**62**
	Imported Case	6	30	16	15	33	10
	Total Case	44	138	74	103	123	72
Measles	**Local Case**	**7.810**	**1.958**	**316**	**48**	**76**	**3.571**
	Imported Case		947	301	2	27	1.517
	Total Case	7.810	2.905	617	50	103	5.088
Tuberculosis	**Local Case**	**18.043**	**9.820**	**7.423**	**7.635**	**8.211**	**8.187**
	Imported Case		1.427	1.407	1.412	1.512	1.221
	Total Case	18.043	11.247	8.830	9.047	9.723	9.408
Malaria	**Local Case**	**10.184**	**0**	**0**	**0**	**0**	**0**
	Imported Case	40	279	135	210	278	298
	Total Case	10.224	279	135	210	278	298

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 15 February 2024. The number of Tuberculosis cases indicates the sum of new and relapse cases.

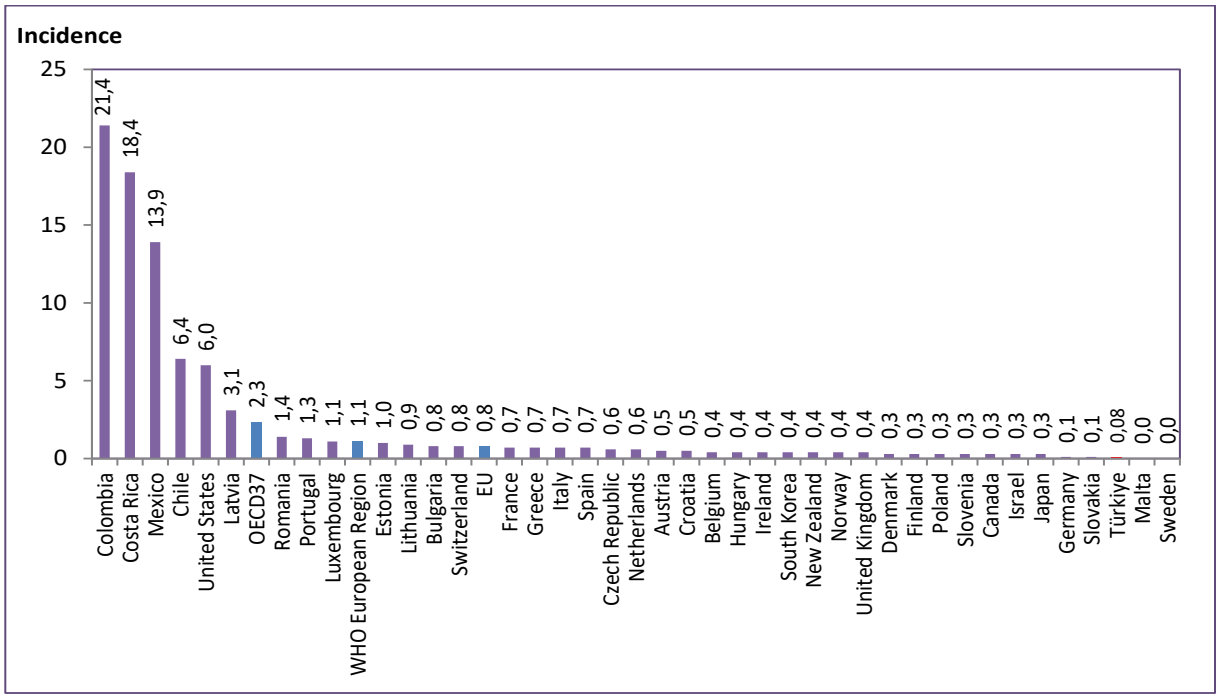
Table 3.2. Infectious Diseases Incidence by Years, (per 100.000 Population)

	2002	2019	2020	2021	2022	2023
AIDS	0,07	0,17	0,09	0,12	0,14	0,084
Measles	11,8	3,49	0,74	0,06	0,12	5,960
Tuberculosis	32,0	13,5	10,6	10,7	11,4	11,020
Malaria	15,4	0,34	0,16	0,25	0,33	0,349

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.

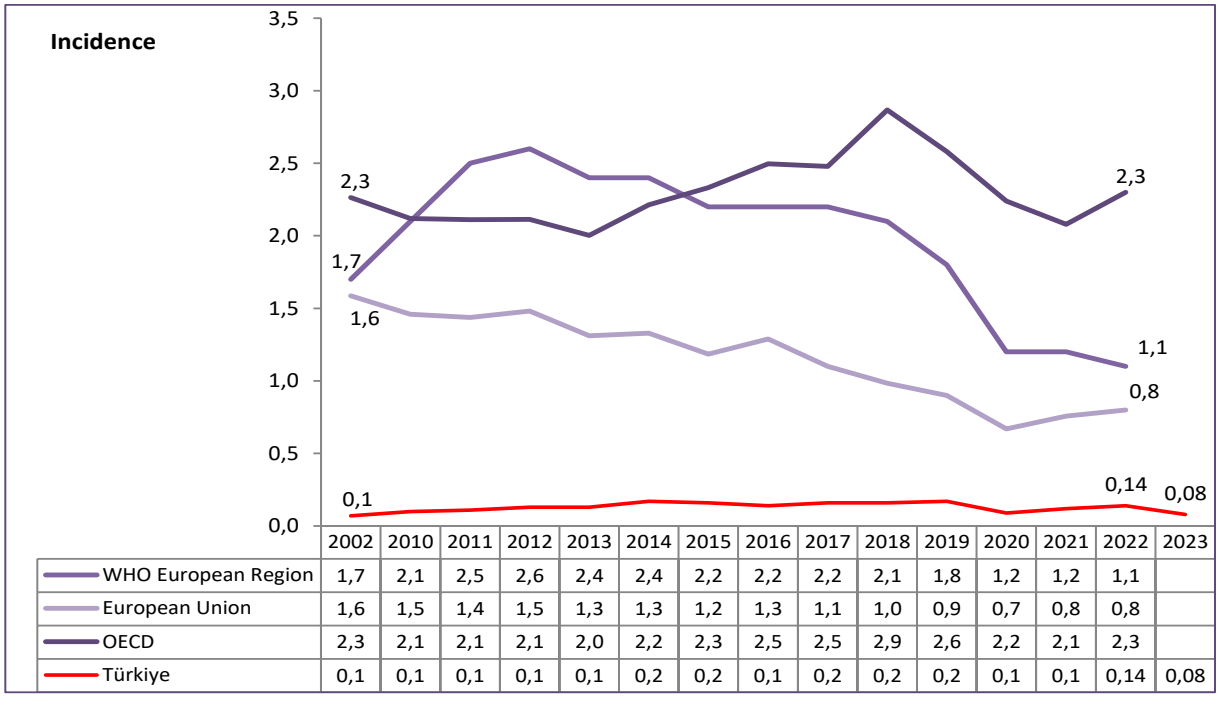
Figure 3.1. International Comparison of AIDS Incidence, (per 100.000 Population), 2022



Source: General Directorate of Public Health, ECDC Joint report with the WHO Regional Office for Europe on HIV/AIDS surveillance 2023, OECD Health Data 2024

Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

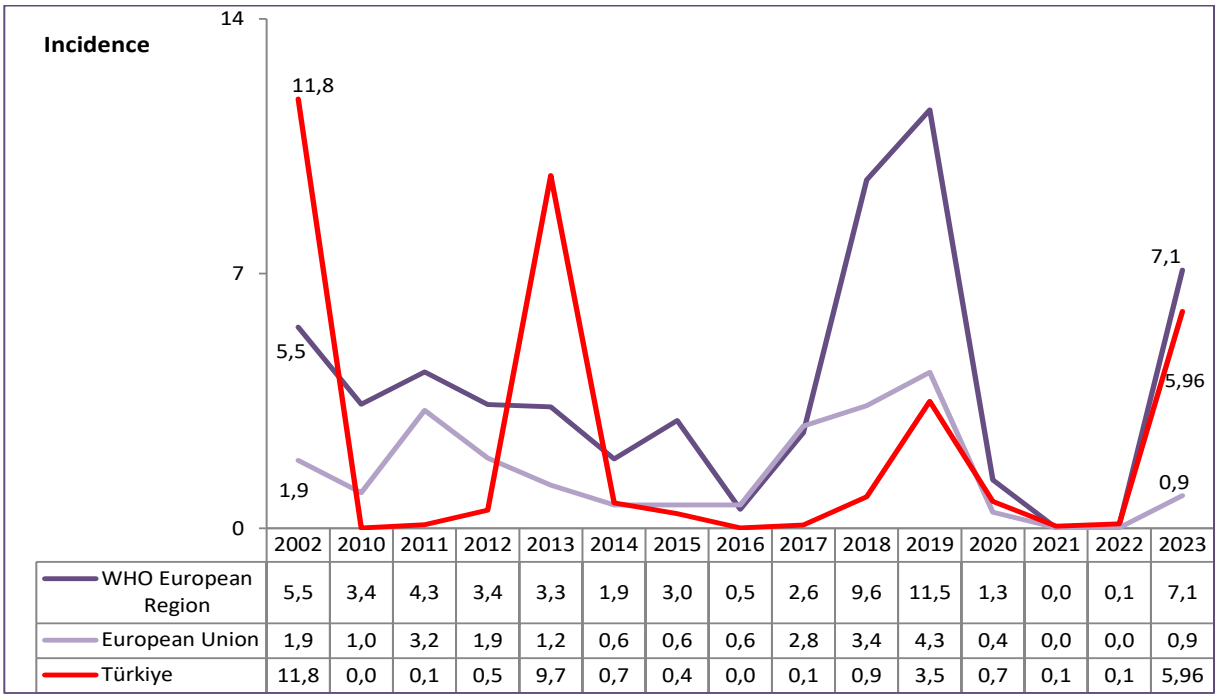
Figure 3.2. International Comparison of AIDS Incidence by Years, (per 100.000 Population)



	2002	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
WHO European Region	1,7	2,1	2,5	2,6	2,4	2,4	2,2	2,2	2,2	2,1	1,8	1,2	1,2	1,1	
European Union	1,6	1,5	1,4	1,5	1,3	1,3	1,2	1,3	1,1	1,0	0,9	0,7	0,8	0,8	
OECD	2,3	2,1	2,1	2,1	2,0	2,2	2,3	2,5	2,5	2,9	2,6	2,2	2,1	2,3	
Türkiye	0,1	0,1	0,1	0,1	0,1	0,2	0,2	0,1	0,2	0,2	0,2	0,1	0,1	0,14	0,08

Source: General Directorate of Public Health, ECDC HIV-AIDS Surveillance Reports, OECD Health Data 2024

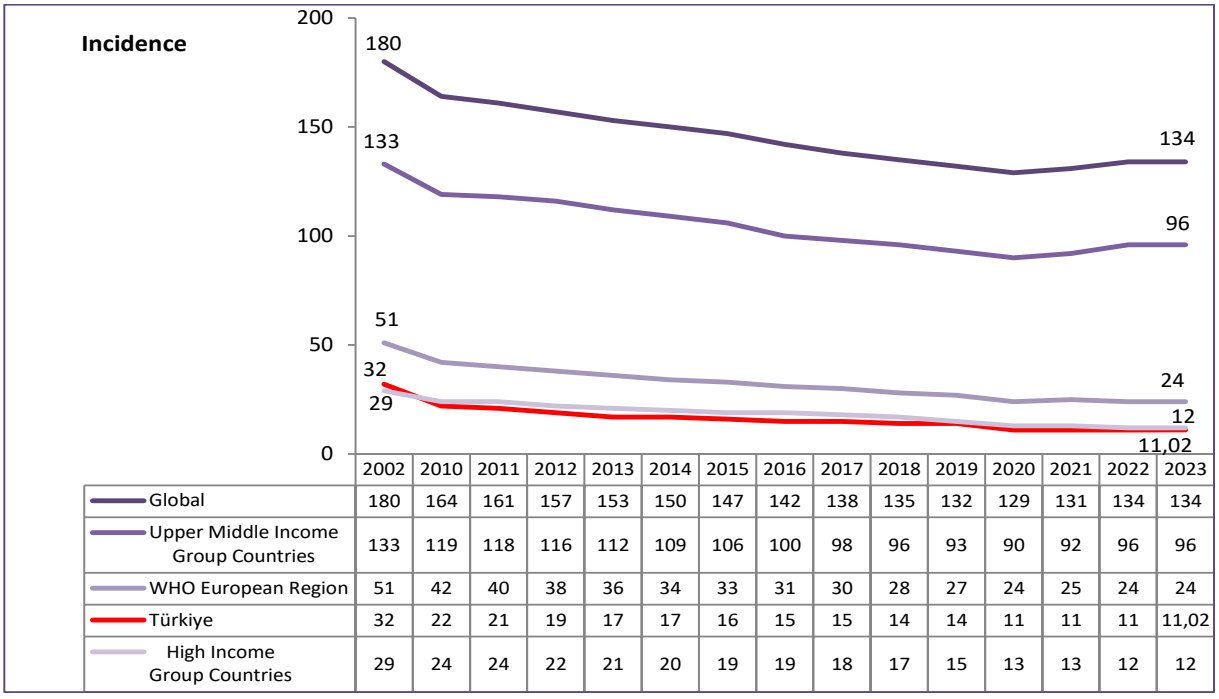
Figure 3.3. International Comparison of Measles Incidence by Years, (per 100.000 Population)



	2002	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
WHO European Region	5,5	3,4	4,3	3,4	3,3	1,9	3,0	0,5	2,6	9,6	11,5	1,3	0,0	0,1	7,1
European Union	1,9	1,0	3,2	1,9	1,2	0,6	0,6	0,6	2,8	3,4	4,3	0,4	0,0	0,0	0,9
Türkiye	11,8	0,0	0,1	0,5	9,7	0,7	0,4	0,0	0,1	0,9	3,5	0,7	0,1	0,1	5,96

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)

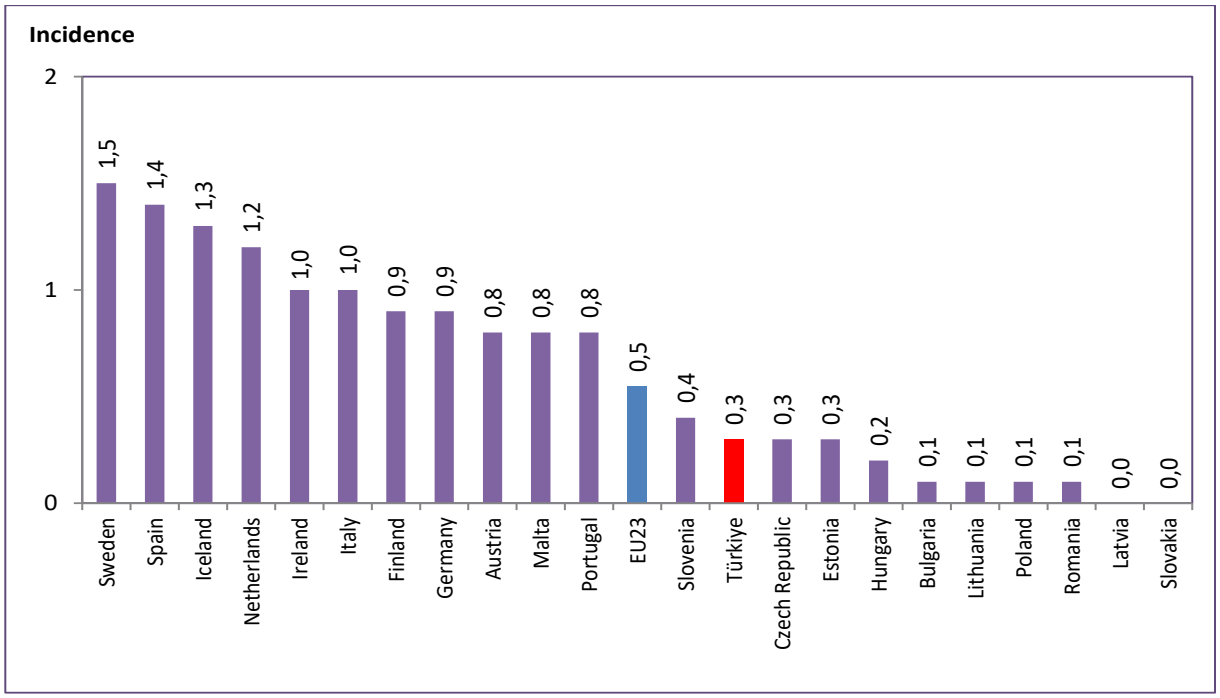


	2002	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Global	180	164	161	157	153	150	147	142	138	135	132	129	131	134	134
Upper Middle Income Group Countries	133	119	118	116	112	109	106	100	98	96	93	90	92	96	96
WHO European Region	51	42	40	38	36	34	33	31	30	28	27	24	25	24	24
Türkiye	32	22	21	19	17	17	16	15	15	14	14	11	11	11	11,02
High Income Group Countries	29	24	24	22	21	20	19	19	18	17	15	13	13	12	12

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

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

Figure 3.5. International Comparison of Malaria Incidence (Imported Cases), (per 100.000 Population), 2022



Source: General Directorate of Public Health, ECDC-Annual Epidemiological Report for 2022

Note: Türkiye's number of local cases for the year 2023 is "0" (zero). Countries' data belong to the year 2022 or nearest.

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

	2002	2015	2016	2017	2018	2019
Male	154,2	247,6	259,9	259,2	262,4	264,9
Female	113,0	177,5	183,2	187,0	188,0	193,4
Total	133,5	212,6	221,6	223,1	225,2	229,2

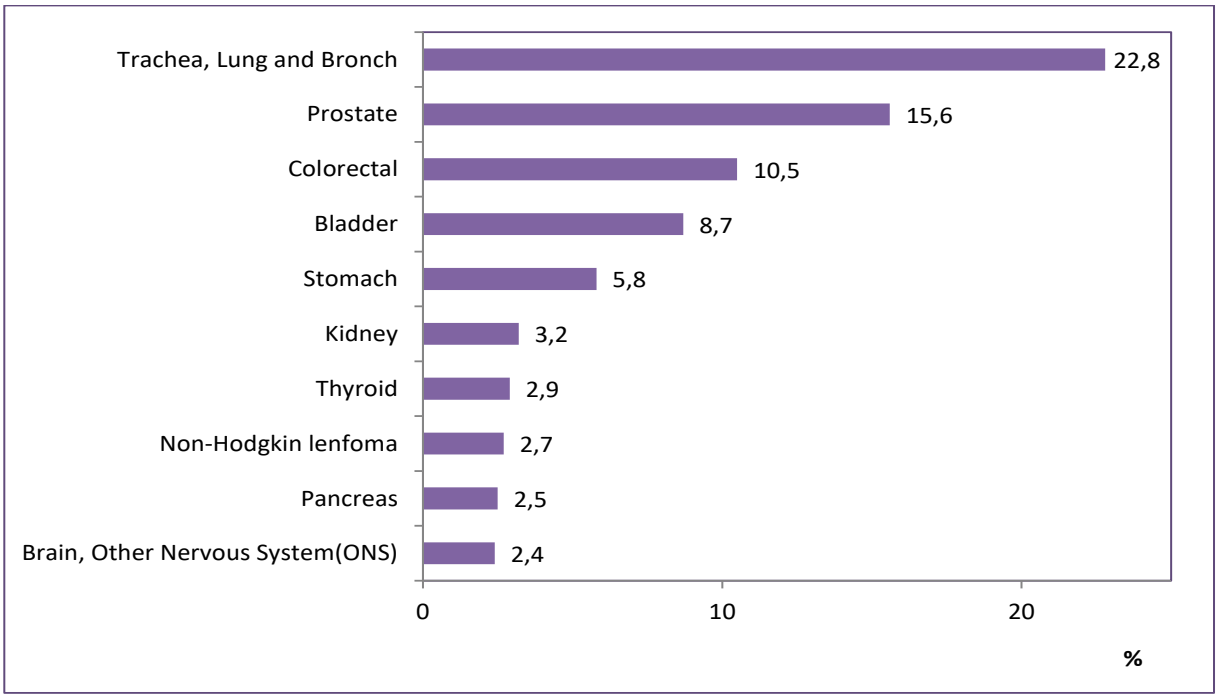
Source: General Directorate of Public Health

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

	2002	2015	2016	2017	2018	2019
Trachea, Lung and Bronch	42,2	52,5	57,7	56,7	55,5	55,9
Prostate	11,5	33,1	35,0	35,7	40,3	39,1
Colorectal	11,8	23,1	25,3	25,1	24,8	25,5
Bladder	12,4	20,2	21,1	20,1	20,0	21,4
Stomach	11,6	14,2	14,2	14,3	14,1	14,1
Kidney	3,0	6,8	7,4	7,2	7,5	7,6
Non-Hodgkin Lymphoma	1,4	6,9	7,2	7,1	6,9	6,7
Thyroid	0,5	6,0	6,2	6,4	6,3	6,6
Brain, Other Nervous System (ONS)	5,3	5,3	5,4	5,7	5,2	6,2
Pancreas	3,1	5,6	5,7	5,9	5,6	6,1

Source: General Directorate of Public Health

Figure 3.6. Distribution of the Most Common 10 Cancer Types Among Men in the Total Cancer, (%), 2019



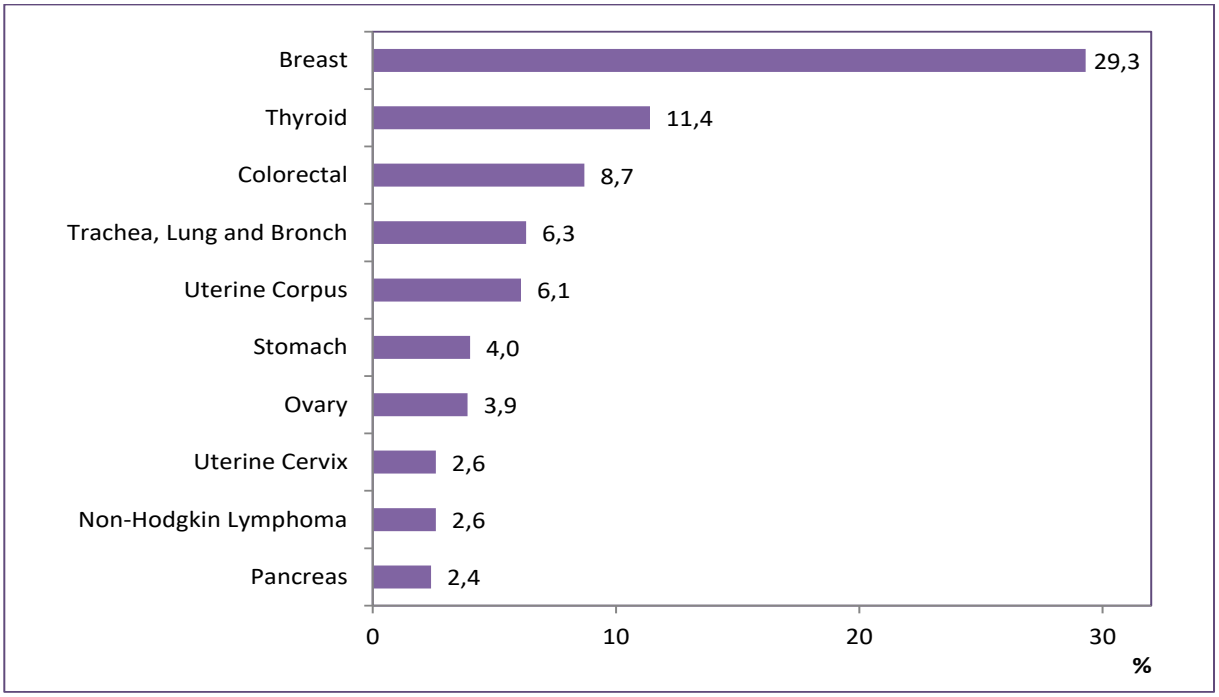
Source: General Directorate of Public Health

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

	2002	2015	2016	2017	2018	2019
Breast	31,9	43,8	45,6	47,7	48,6	52,6
Thyroid	3,5	21,7	22,9	22,6	22,1	21,3
Colorectal	9,3	14,4	14,2	14,7	14,7	15,0
Uterine Corpus	4,3	10,0	10,5	10,7	11,1	11,2
Trachea, Lung and Bronch	5,2	9,0	9,8	11,1	10,9	11,2
Ovary	5,9	6,4	6,4	6,3	6,5	7,0
Stomach	6,0	6,3	6,6	6,4	6,5	6,9
Non-Hodgkin Lymphoma	1,2	4,9	5,1	4,8	5,2	4,8
Brain, Other Nervous System (ONS)	3,8	4,1	4,0	4,2	4,2	4,5
Uterine Cervix	3,9	4,5	4,3	4,3	4,2	4,5

Source: General Directorate of Public Health

Figure 3.7. Distribution of the Most Common 10 Cancer Types Among Females in the Total Cancer, (%), 2019



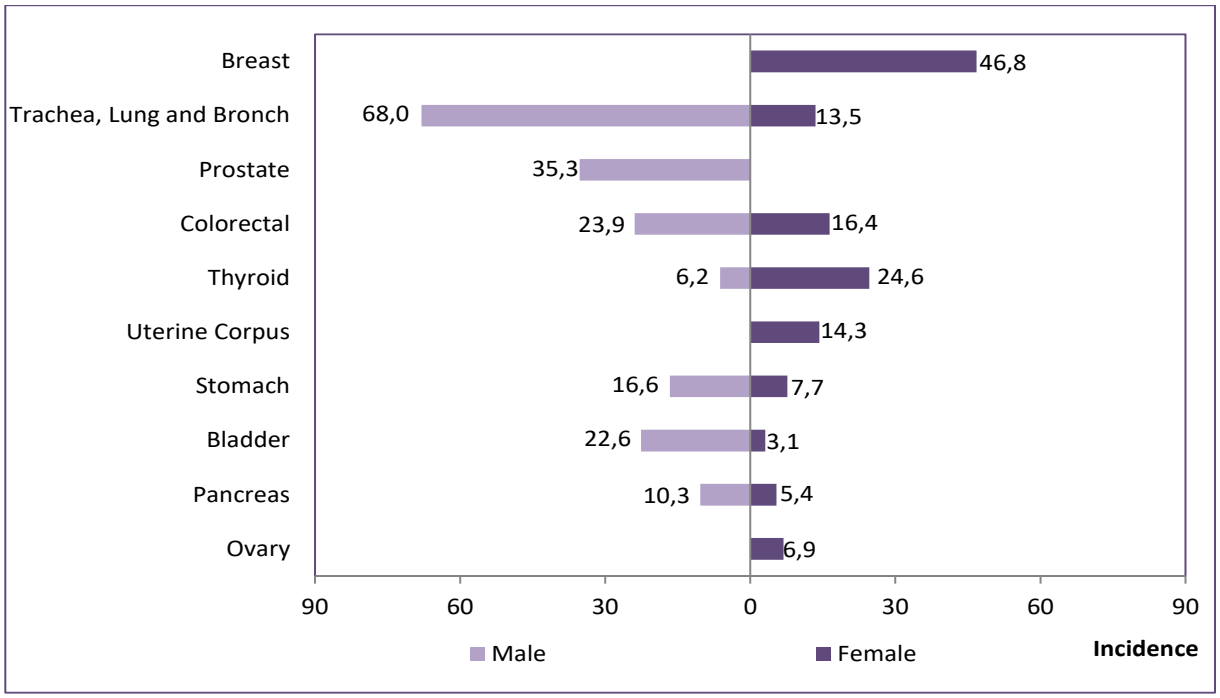
Source: General Directorate of Public Health

Table 3.6. Cancer Incidence by Sex, (per 100.000, World Standard Population), 2019

ICD-10		Male	Female
C00-96	All Cancers	264,9	193,4
C00-14	**Mouth, Pharynx**	**4,8**	**2,3**
C00	Lip	0,8	0,2
C01-C02	Tongue	0,8	0,5
C03-C06	Mouth	0,7	0,6
C07-C08	Salivary Glands	0,5	0,4
C09	Tonsil	0,3	0,1
C10	Other Oropharynx	0,1	0,0
C11	Nasopharynx	1,2	0,4
C12-C13	Hypopharynx	0,3	0,1
C14	Pharynx, unspecified	0,1	0,0
C15-26	**Digestion Organs**	**55,0**	**30,9**
C15	Esophagus	1,8	1,1
C16	Stomach	14,1	6,9
C17	Small Intestine	0,7	0,4
C18	Colon	15,6	10,0
C19-C20	Rectum	9,9	5,0
C21	Anus	0,3	0,2
C22	Liver	4,6	1,7
C23-C24	Gall bladder etc.	1,7	1,4
C25	Pancreas	6,1	4,1
C26	Other Digestion Organs	0,2	0,1
C30-34,C37-C38	**Respiratory Organs**	**62,6**	**12,2**
C30-C31	Nose, sinuses etc.	0,4	0,2
C32	Larynx	5,7	0,4
C33-C34	Trachea, Lung and Bronch	55,9	11,2
C37-C38	Other Thoracic Organs	0,6	0,4
C40-C41	**Bone**	**1,3**	**1,0**
C43	**Melanoma**	**1,9**	**1,2**
C44	**Other Skin**	**23,4**	**15,5**
C45	**Mesothelioma**	**1,0**	**0,5**
C46	**Kaposi's sarcoma**	**0,7**	**0,3**
C47;C49	**Connective, Soft tissue**	**2,0**	**1,6**
C50	**Breast**	**0,7**	**52,6**
C51-58	**Female Genital Organs**	**-**	**24,6**
C51	Vulva	-	0,5
C52	Vagina	-	0,1
C53	Cervix uteri	-	4,5
C54	Corpus uteri	-	11,2
C55	Uterus unspecified	-	0,8
C56	Ovary	-	7,0
C57	Other Female Genital	-	0,4
C58	Placenta	-	0,1
C60-63	**Male Genital Organs**	**43,7**	**-**
C60	Penis	0,1	-
C61	Prostate	39,1	-
C62	Testicle	4,4	-
C63	Other male genital	0,1	-
C64-68	**Urinary Organs**	**29,6**	**7,0**
C64	Kidney	7,6	3,7
C65	Renal Pelvis	0,3	0,1
C66	Ureter	0,2	0,1
C67	Bladder	21,4	3,1
C68	Other Urinary Organs	0,1	0,0
C69	**Eye**	**0,3**	**0,2**
C70-C72	**Brain, nervous system**	**6,2**	**4,5**
C73	**Thyroid**	**6,6**	**21,3**
C74-75	**Other Endocrine Glands**	**0,6**	**0,8**
C74	Adrenal gland	0,5	0,5
C75	Other Endocrine	0,1	0,3
C81-85,88,90-96	**Lymphoid and hematopoietic**	**19,6**	**14,0**
C81	Hodgkin's disease	2,3	1,7
C82-C85;C96	Non-Hodgkin lymphoma	6,7	4,8
C88	Immunoproliferative diseases	0,5	0,4
C90	Multiple Myeloma	2,8	2,1
C91	Lymphoid Leukemia	3,7	2,4
C92-C94	Myeloid Leukemia	3,2	2,3
C95	Leukemia, unspecified	0,4	0,3
C39,C48,C76,C77,C80	**Other&Unspecified**	**4,9**	**2,9**

Source: General Directorate of Public Health

Figure 3.8. Incidence of the Most Common 10 Types of Cancer by Sex, (per 100.000, World Standard Population), 2022



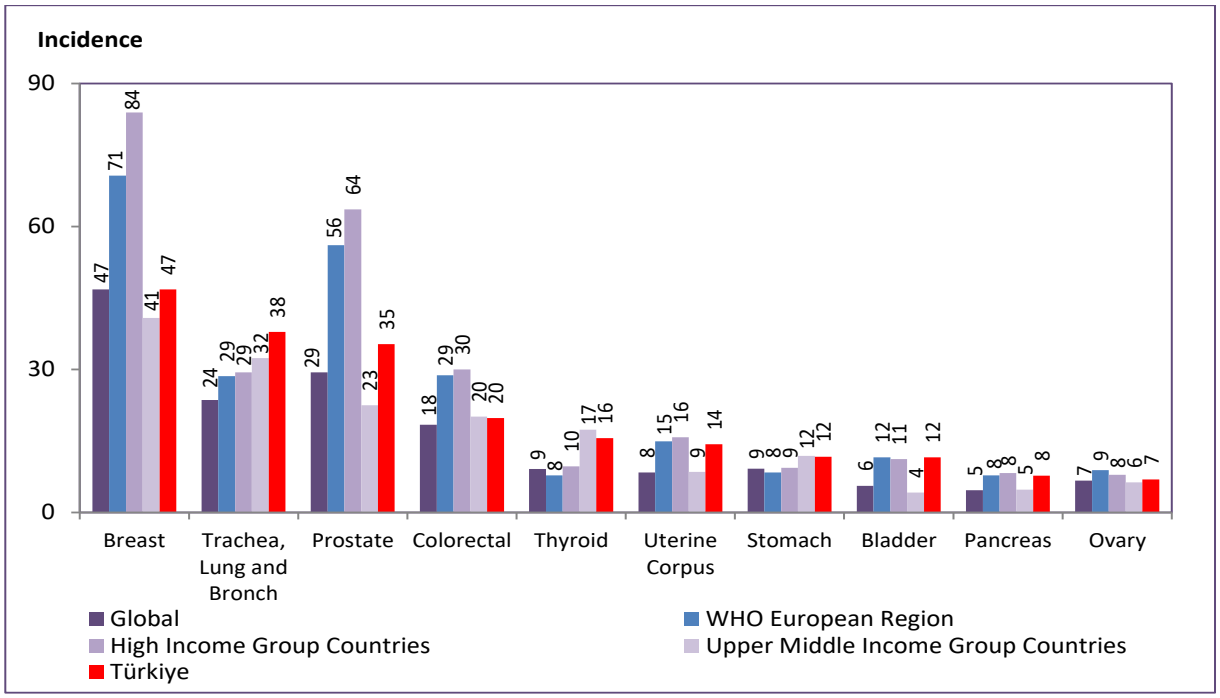
Source: IARC, GLOBOCAN 2022
Note: Cancer incidence is WHO's estimation for the year 2022.

Table 3.7. International Comparison of Cancer Incidence by Sex, (per 100.000, World Standard Population), 2022

Rank	Country	Male	Country	Female	Country	Total
1	Australia	514,3	Australia	415,2	Australia	462,5
2	New Zealand	473,4	New Zealand	386,3	New Zealand	427,3
3	United States	401,7	Denmark	361,2	Denmark	374,7
4	Hungary	395,9	United States	341,7	United States	367,0
5	Denmark	394,0	Norway	337,6	Norway	357,9
6	Lithuania	391,3	Netherlands	336,2	Canada	345,9
7	France	386,4	Canada	331,8	Ireland	344,7
8	Ireland	386,3	Ireland	307,5	Netherlands	341,4
9	Norway	383,6	Belgium	306,6	France	339,0
10	Croatia	367,3	France	301,0	Hungary	336,7
	Türkiye **(43)**	273,7	Türkiye **(61)**	192,2	Türkiye **(51)**	225,9
	Global	212,6	Global	186,3	Global	196,9

Source: IARC, GLOBOCAN 2022
Note: Values in parentheses indicate the rank of Türkiye in world rankings. Cancer incidence is WHO's estimation for the year 2022.

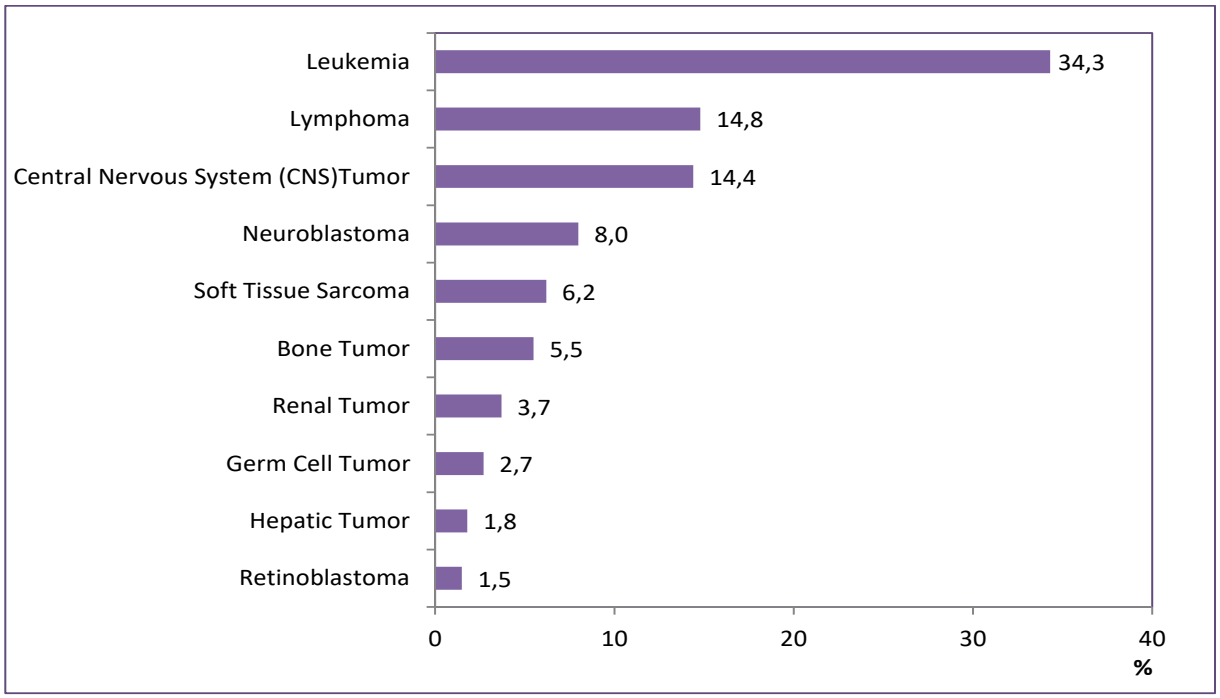
Figure 3.9. International Comparison of Incidence of the Most Common 10 Types of Cancer in Türkiye, (per 100.000, World Standard Population), 2022



Source: IARC, GLOBOCAN 2022

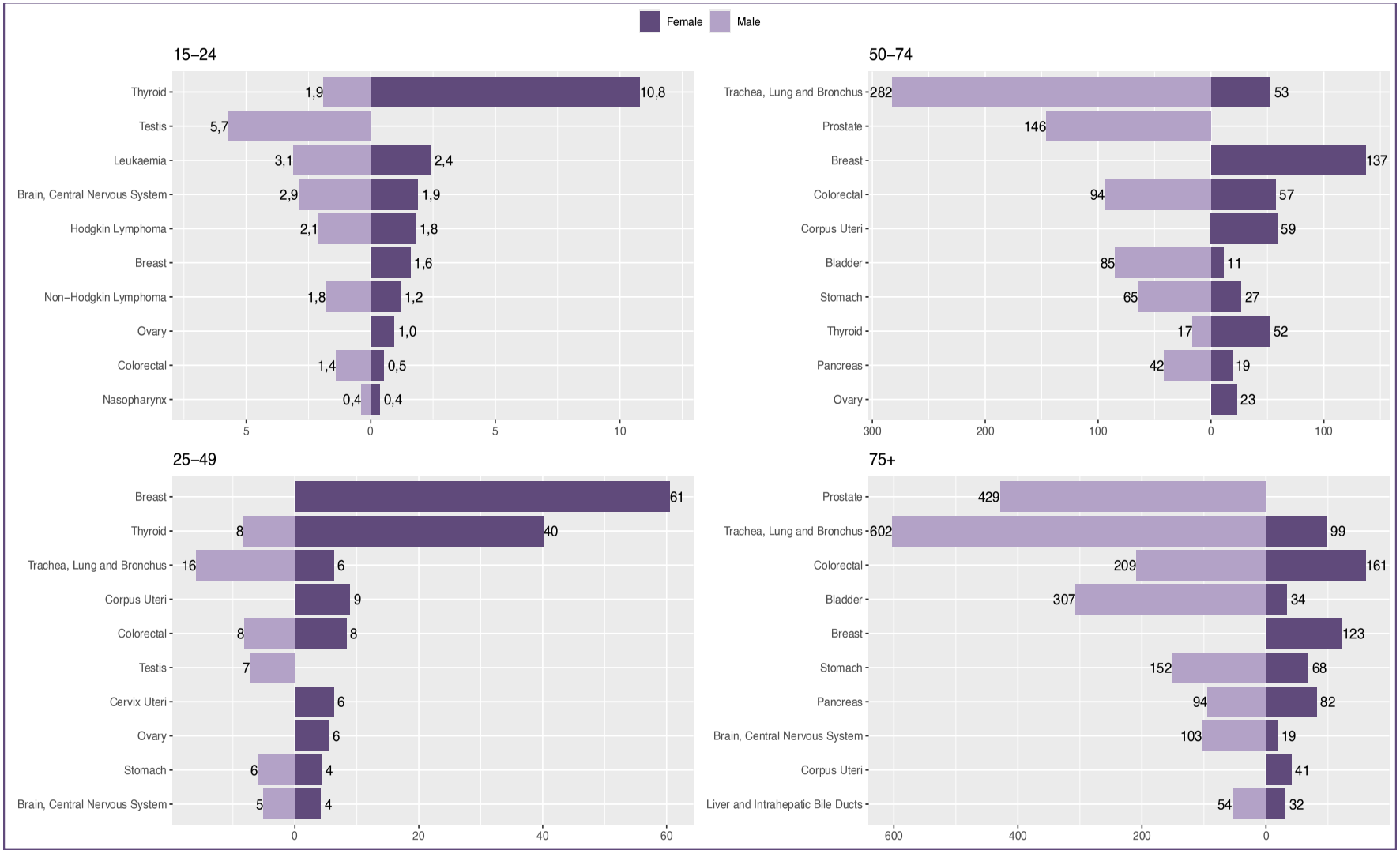
Note: Cancer incidence is WHO's estimation for the year 2022.

Figure 3.10. Distribution of the Most Common Types of Cancer Among 0-14 Aged Children, (%), 2019



Source: General Directorate of Public Health

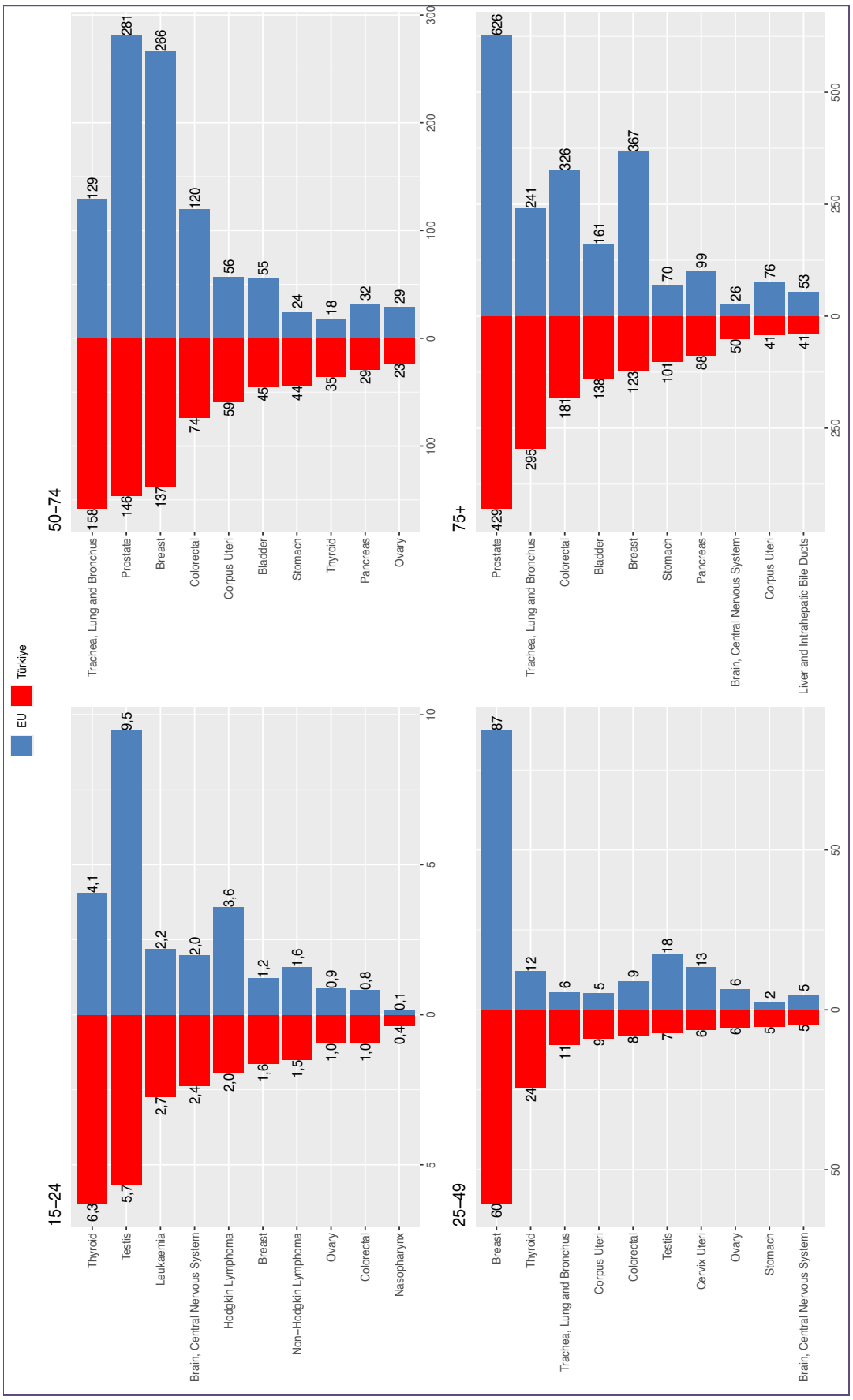
Figure 3.11. Comparison of Most Common 10 Types Cancer in Türkiye by Sex and Age Group, (100.000 World Standard Population), 2022



Source: IARC, GLOBOCAN 2022

Note: Cancer incidences are WHO 2022 estimates. Cancers in age groups are the top 10 cancer types seen in that age group in Türkiye.

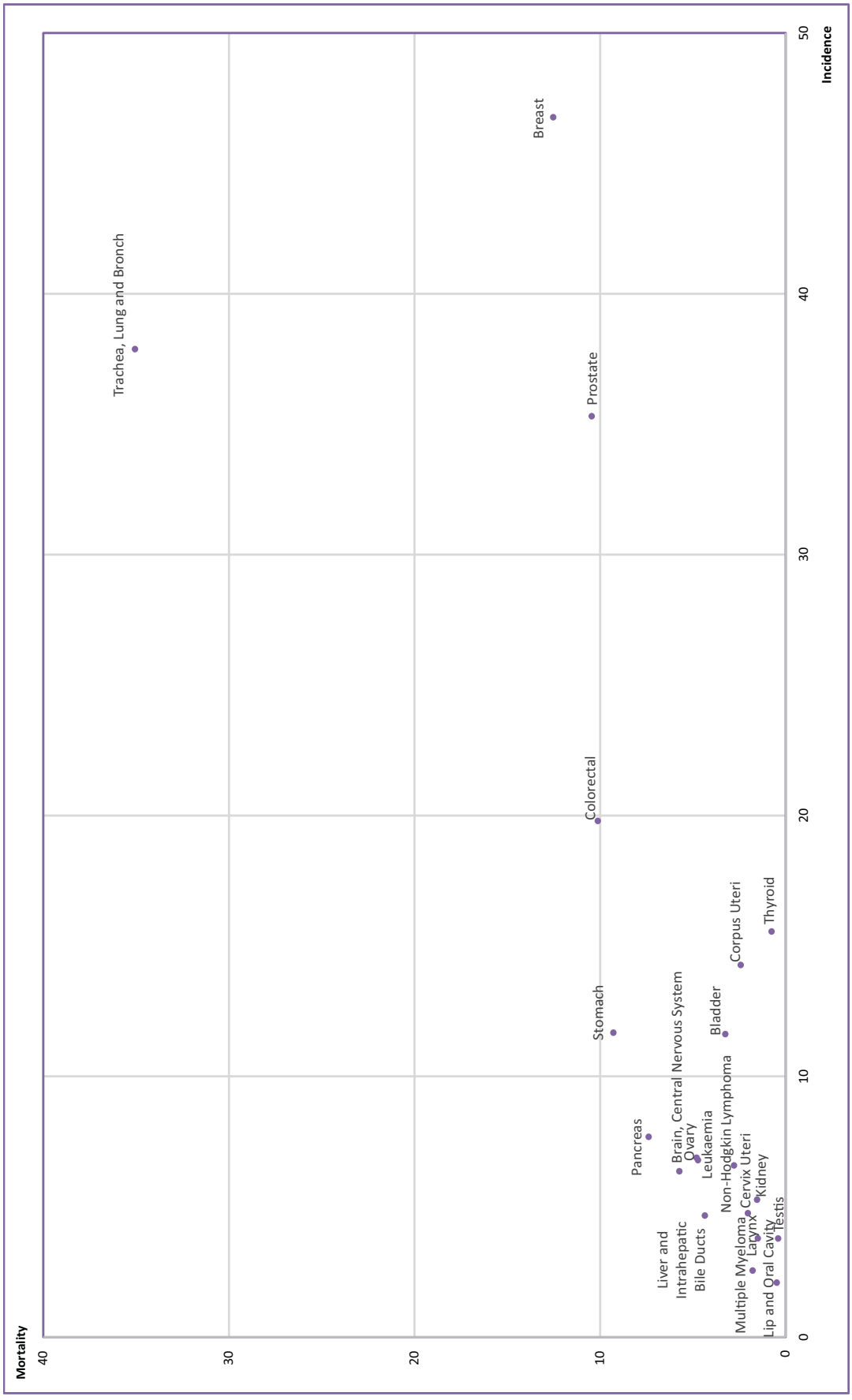
Figure 3.12. International Comparison of Most Common 10 Types Cancer in Türkiye by Age Group, (100.000 World Standard Population), 2022



Source: IARC, GLOBOCAN 2022

Note: Cancer incidences are WHO 2022 estimates. Cancers in age groups are the top 10 cancer types seen in that age group in Türkiye.

Figure 3.13. Incidence-Mortality Pattern of Most Common Types of Cancer in Türkiye, (100.000 World Standard Population), 2022



Source: IARC, GLOBOCAN 2022

Note: Cancer incidences and mortality rates are WHO 2022 estimates. Mortality and incidence values are standatdized by World Standard Population per 100.000 population.

Table 3.8. Distribution of the Status of 15 and Over Aged Females Regarding Making Self-Examination of Breast, (%), 2016, 2019, 2022

Self-Examination	2016	2019	2022
Once a Month	19,7	22,1	20,9
Once in Three Months	7,9	8,1	8,9
Once in More Than Three Months	11,9	15,4	17,8
Never	60,6	54,3	52,4

Source: TURKSTAT Türkiye Health Interview Survey 2016, 2019, 2022

Table 3.9. Distribution of the Status of 15 and Over Aged Females Regarding Having Mammography, (%), 2016, 2019, 2022

Mammography Examination Period	2016	2019	2022
Within the Past One Year	9,0	10,4	7,3
More Than One Year But Less Than Two Years	7,1	8,3	7,2
More Than Two Years But Less Than Three Years	3,6	5,3	5,3
More Than Three Years But Less Than Five Years	4,0	4,2	5,9
More Than Five Years	5,2	6,7	8,7
Never	71,1	65,1	65,6

Source: TURKSTAT Türkiye Health Interview Survey 2016, 2019, 2022

Table 3.10. Distribution of the Status of 15 and Over Aged Females Regarding Having Smear Test, (%), 2016, 2019, 2022

Smear Test Period	2016	2019	2022
Within the Past One Year	10,9	11,7	7,2
More Than One Year But Less Than Two Years	7,9	9,2	7,2
More Than Two Years But Less Than Three Years	3,6	5,8	5,8
More Than Three Years But Less Than Five Years	3,2	4,2	6,1
More Than Five Years	5,1	7,9	9,3
Never	69,3	61,2	64,4

Source: TURKSTAT Türkiye Health Interview Survey 2016, 2019, 2022

Table 3.11. Distribution of 15 and Over Aged Individuals Having Difficulty in Performing Personal Care by Sex, (%), 2022

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

Source: TURKSTAT Türkiye Health Interview Survey 2022

Table 3.12. Distribution of Major Diseases Seen in Children (0-6 Age Group) in the Past 6 Months by Sex, (%), 2022

Disease/Health Problem	Boy	Girl	Total
Upper Respiratory Tract Infection (Tonsillitis, Middle Ear Infections, Pharyngitis, etc.)	32,4	30,1	31,3
Diarrhea	30,6	28,1	29,4
Lower Respiratory Tract Infection (Pneumonia, etc.)	7,9	5,8	6,9
Anemia (Iron Deficiency Anemia, etc.)	7,8	5,5	6,7
Oral and Dental Health Problems	5,5	5,1	5,3
Bone Deformities Caused by Vitamin D Lack	4,4	3,1	3,8
Urinary Tract Infection	2,7	4,3	3,4
Skin Diseases	3,0	3,4	3,2

Source: TURKSTAT Türkiye Health Interview Survey 2022

Table 3.13. Distribution of Major Diseases Seen in Children (7-14 Age Group) in the Past 6 Months by Sex, (%), 2022

Disease/Health Problem	Boy	Girl	Total
Upper Respiratory Tract Infection (Tonsillitis, Middle Ear Infections, Pharyngitis, etc.)	26,9	27,3	27,1
Diarrhea	21,2	18,3	19,8
Oral and Dental Health Problems	10,8	11,6	11,2
Visual Problems	8,5	9,2	8,8
Lower Respiratory Tract Infection (Pneumonia, etc.)	6,0	4,6	5,3
Skin Diseases	2,7	2,9	2,8
Diseases Related with Nutrition	1,6	1,7	1,7
Musculoskeletal System Diseases	1,3	1,1	1,2
Mental Health Problems	0,9	1,3	1,1
Hearing Problems	0,7	1,1	0,9

Source: TURKSTAT Türkiye Health Interview Survey 2022

Table 3.14. Distribution of Major Diseases Seen in 15 and Over Aged Individuals in the Past 12 Months by Sex, (%), 2022

Disease/Health Problem	Male	Female	Total
Low Back Disorders(Lumbago, Back Hernia, Other Back Defections)	19,3	29,8	24,6
Neck Disorders(Neck Pain, Neck Hernia, Other Neck Defections)	10,8	23,4	17,2
High Blood Pressure (Hypertension)	11,6	20,5	16,1
Diabetes	8,9	13,8	11,4
Allergy (Such as Rhinitis, Eye Inflammation, Dermatitis, Food Allergy or Other)(Allergic Asthma Excluded)	6,6	12,5	9,6
Hyperlipidemia	7,1	11,8	9,5
Asthma(Allergic Asthma Included)	5,3	10,8	8,1
Arthrosis	4,9	11,1	8,0
Depression	4,5	9,2	6,9
Chronic Obstructive Pulmonary Disease (Chronic Bronchitis, Emphysema)	5,2	7,8	6,5
Coronary Heart Disease (Angina Pectoris, Chest Pain, Spasm)	5,8	7,0	6,4
Alzheimer*	5,1	5,8	5,5
Urinary Incontinence, Problems in Controlling the Bladder	3,7	7,2	5,4
Kidney Problems	4,2	5,8	5,1
Myocardial Infarction (Heart Attack)	2,5	2,3	2,4
Cirrhosis of the Liver, Liver Dysfunction	1,1	1,5	1,3
Stroke (Cerebral Hemorrhage, Cerebral Thrombosis)	1,0	0,9	1,0

Source: TURKSTAT Türkiye Health Interview Survey 2022

** 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, (%), 2022

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

Source: TURKSTAT Türkiye Health Interview Survey 2022

Table 3.17. Distribution of 15 and Over Aged Individuals' General Health Status by Sex and Age Groups, (%), 2022

Age Groups	Health Status	Male	Female	Total
15-24	Very Good/Good	89,6	84,7	87,2
	Bad/Very Bad	1,3	2,3	1,8
25-34	Very Good/Good	83,1	79,1	81,1
	Bad/Very Bad	2,4	2,5	2,4
35-44	Very Good/Good	75,5	63,9	69,7
	Bad/Very Bad	3,3	5,9	4,6
45-54	Very Good/Good	63,8	47,0	55,4
	Bad/Very Bad	6,7	9,3	8,0
55-64	Very Good/Good	52,7	33,3	42,9
	Bad/Very Bad	9,4	15,9	12,7
65-74	Very Good/Good	35,9	22,1	28,5
	Bad/Very Bad	16,4	24,3	20,6
75+	Very Good/Good	25,6	11,6	17,2
	Bad/Very Bad	28,6	42,2	36,8
15+	Very Good/Good	69,8	57,2	63,4
	Bad/Very Bad	6,1	10,1	8,1

Source: TURKSTAT Türkiye Health Interview Survey 2022

Table 3.18. Distribution of 15 and Over Aged Individuals Wearing Glasses or Lenses by Sex, (%), 2019, 2022

Type of Wearing	2019			2022		
	Male	Female	Total	Male	Female	Total
Wearing	35,7	40,6	38,2	32,4	37,7	35,1
Not Wearing	63,9	58,9	61,4	67,5	62,2	64,8
Profoundly Deaf	0,3	0,5	0,4	0,1	0,1	0,1

Source: TURKSTAT Türkiye Health Interview Survey 2019, 2022

Table 3.19. Distribution of 15 and Over Aged Individuals Having Vision Problem by Sex and Age Groups, (%), 2019, 2022

Age Group	2019			2022		
	Male	Female	Total	Male	Female	Total
15-24	1,1	2,3	1,7	1,1	1,9	1,5
25-34	1,5	2,4	2,0	1,2	1,8	1,5
35-44	1,9	3,2	2,5	1,8	2,9	2,4
45-54	6,2	8,6	7,4	4,4	7,1	5,7
55-64	7,5	11,7	9,6	6,3	10,5	8,4
65-74	11,3	17,4	14,6	8,3	13,0	10,8
75+	20,8	26,3	24,1	20,1	28,4	25,1
15+	4,4	7,2	5,8	3,7	6,5	5,1

Source: TURKSTAT Türkiye Health Interview Survey 2019, 2022

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, (%), 2019, 2022

Type of Wearing	2019			2022		
	Male	Female	Total	Male	Female	Total
Wearing	4,2	4,2	4,2	2,8	2,7	2,8
Not Wearing	95,4	95,1	95,2	97,1	97,2	97,2
Profoundly Deaf	0,4	0,7	0,6	0,1	0,1	0,1

Source: TURKSTAT Türkiye Health Interview Survey 2019, 2022

Table 3.21. Distribution of 15 and Over Aged Individuals Having Hearing Problem by Sex and Age Groups, (%), 2019, 2022

Age Group	2019			2022		
	Male	Female	Total	Male	Female	Total
15-24	1,0	1,5	1,2	0,4	0,5	0,5
25-34	1,1	1,4	1,3	0,7	0,7	0,7
35-44	0,9	2,2	1,6	0,9	0,9	0,9
45-54	3,6	4,2	3,9	2,9	2,3	2,6
55-64	4,8	5,5	5,2	3,5	3,1	3,3
65-74	12,4	11,5	11,9	8,5	11,4	10,0
75+	30,8	32,0	31,5	27,8	27,7	27,8
15+	3,8	5,0	4,4	3,1	3,7	3,4

Source: TURKSTAT Türkiye Health Interview Survey 2019, 2022

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, (Day) and the Percentage of in 15 and Over Aged Individuals Absent from Work for Reasons of Health Problems, (%), by Years

	2012	2014	2016	2019	2022
The Percentage of in 15 and Over Aged Individuals Absent From Work for Reasons of Health Problems, (%)	13,4	14,9	10,6	13,4	13,4
Days of Absence From Work for Reasons of Health Problems in 15 and Over Aged Individuals, (Day)	3,0	3,2	2,5	2,9	3,2

Source: TURKSTAT Türkiye Health Interview Survey 2012, 2014, 2016, 2019, 2022

Table 3.23. In the Last Two Weeks, Percentage of 15 and Over Aged Individuals Having Some Mental Problems Almost Every Day by Sex, (%), 2019, 2022

	2019			2022		
	Male	Female	Total	Male	Female	Total
Doing something with little pleasure/interest	3,0	4,4	3,7	1,8	2,9	2,3
Downhearted, depressed, or hopeless	3,7	5,1	4,4	2,5	3,4	2,9
Have difficulty falling asleep /too much sleep	4,9	7,1	6,0	3,5	5,4	4,5
Tired/Lack of energy	4,7	7,6	6,1	3,3	5,5	4,4
Anorexia/Overeating	2,8	3,8	3,3	1,3	2,4	1,9
Feeling worthless and bad	1,8	3,1	2,5	1,2	1,7	1,4
Concentration problem (while reading the newspaper, TV, etc.)	1,7	2,7	2,2	1,1	1,7	1,4
Moving or speaking so slowly/too much that other people could have noticed	1,1	1,7	1,4	0,8	1,1	1,0

Source: TURKSTAT Türkiye Health Interview Survey 2019, 2022

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 15 February 2024.

☑ 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 2022

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 11.170 households.

☑ **Sampling Distribution:** In 10.028 of 11.170 households the questionnaire was completed. The information of a total of 29.761 individuals, 22.742 of whom were 15 years old and over and 7.019 of whom were 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 and 2022 for four 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

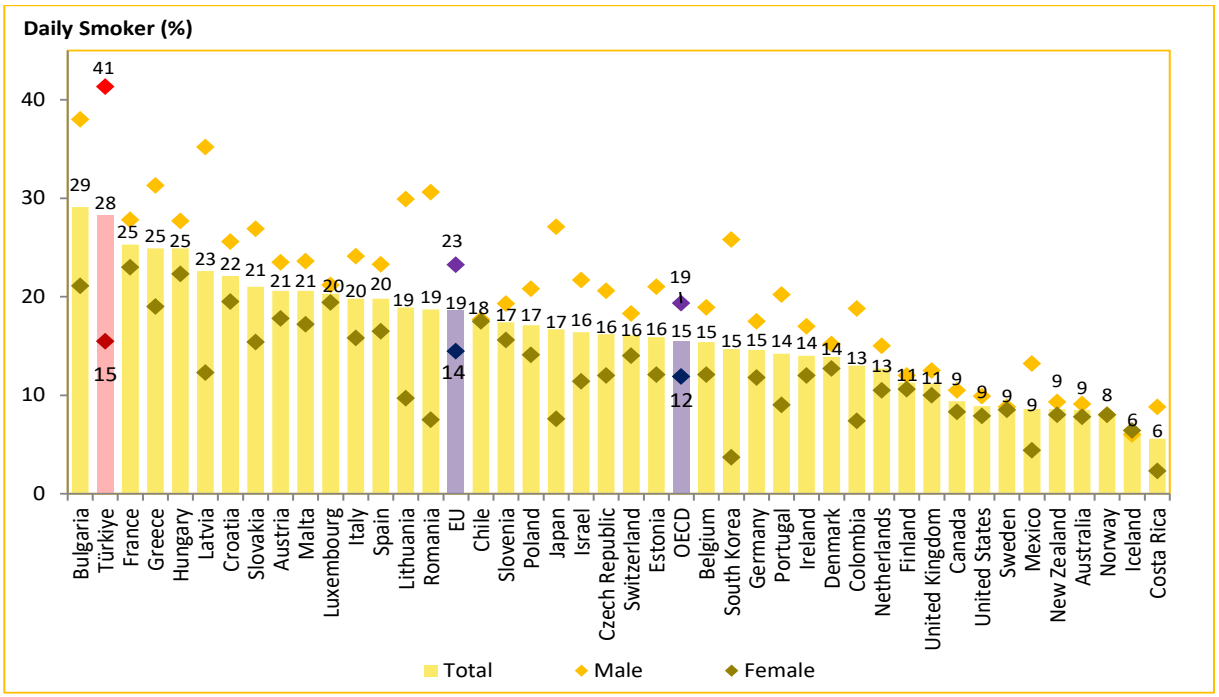
Risk Factors

Table 4.1. Distribution of Individuals Using Tobacco Product by Sex and Age Groups, (%), 2016, 2019, 2022

Tobacco Consumption	Age Group	2016			2019			2022		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Daily Smoker	15-24	28,2	7,8	18,1	31,0	7,9	19,6	29,0	9,0	19,3
	25-34	49,6	16,6	33,2	51,3	17,6	34,4	51,4	18,3	34,9
	35-44	50,6	19,6	35,2	52,9	24,1	38,6	49,0	23,2	36,1
	45-54	45,3	17,7	31,6	45,1	18,4	31,8	48,4	20,6	34,5
	55-64	35,0	10,9	22,8	37,8	12,8	25,1	40,9	14,3	27,4
	65-74	24,2	4,4	13,5	19,9	6,1	12,5	26,1	5,6	15,2
	75+	10,7	1,0	4,8	13,2	3,1	7,1	11,6	2,1	5,9
	15+	**40,1**	**13,3**	**26,5**	**41,3**	**14,9**	**28,0**	**41,3**	**15,5**	**28,3**
Occasional Smoker	15-24	3,6	3,0	3,3	3,6	2,9	3,2	3,6	2,5	3,1
	25-34	5,1	6,1	5,6	3,9	3,6	3,8	4,7	3,9	4,3
	35-44	5,0	5,9	5,4	3,9	4,6	4,2	4,6	5,0	4,8
	45-54	4,1	4,1	4,1	3,6	3,2	3,4	4,0	4,6	4,3
	55-64	2,5	2,3	2,4	3,2	2,8	3,0	3,7	3,2	3,5
	65-74	1,9	1,3	1,6	1,6	1,5	1,6	2,3	1,6	1,9
	75+	2,8	2,0	2,3	2,9	1,7	2,2	3,9	1,3	2,3
	15+	**4,0**	**4,1**	**4,1**	**3,5**	**3,2**	**3,4**	**4,0**	**3,5**	**3,8**
Non-Smoker	15-24	3,4	2,1	2,7	4,2	2,0	3,1	2,2	1,2	1,7
	25-34	9,3	6,6	8,0	10,5	7,0	8,7	4,9	2,7	3,8
	35-44	16,6	8,2	12,4	15,9	6,9	11,4	9,1	4,6	6,8
	45-54	24,5	8,7	16,7	26,2	9,4	17,8	15,3	5,8	10,6
	55-64	39,5	9,0	24,1	39,7	11,3	25,3	24,0	8,7	16,2
	65-74	47,4	7,7	26,0	53,6	9,7	30,2	35,8	7,7	20,8
	75+	47,3	5,4	22,0	53,7	6,1	25,2	36,2	5,0	17,4
	15+	**19,3**	**6,7**	**12,9**	**21,3**	**7,2**	**14,2**	**13,0**	**4,7**	**8,8**
Never Smoker	15-24	64,9	87,0	75,9	61,2	87,3	74,1	65,2	87,2	75,9
	25-34	36,0	70,7	53,3	34,3	71,8	53,1	39,1	75,1	57,0
	35-44	27,8	66,3	47,0	27,4	64,3	45,8	37,3	67,2	52,2
	45-54	26,1	69,5	47,7	25,1	69,0	47,0	32,4	69,0	50,6
	55-64	22,9	77,8	50,7	19,3	73,1	46,5	31,4	73,8	52,9
	65-74	26,5	86,6	58,9	24,8	82,7	55,7	35,8	85,2	62,1
	75+	39,2	91,6	70,9	30,1	89,1	65,5	48,4	91,6	74,4
	15+	**36,6**	**75,9**	**56,5**	**33,8**	**74,7**	**54,5**	**41,7**	**76,3**	**59,2**

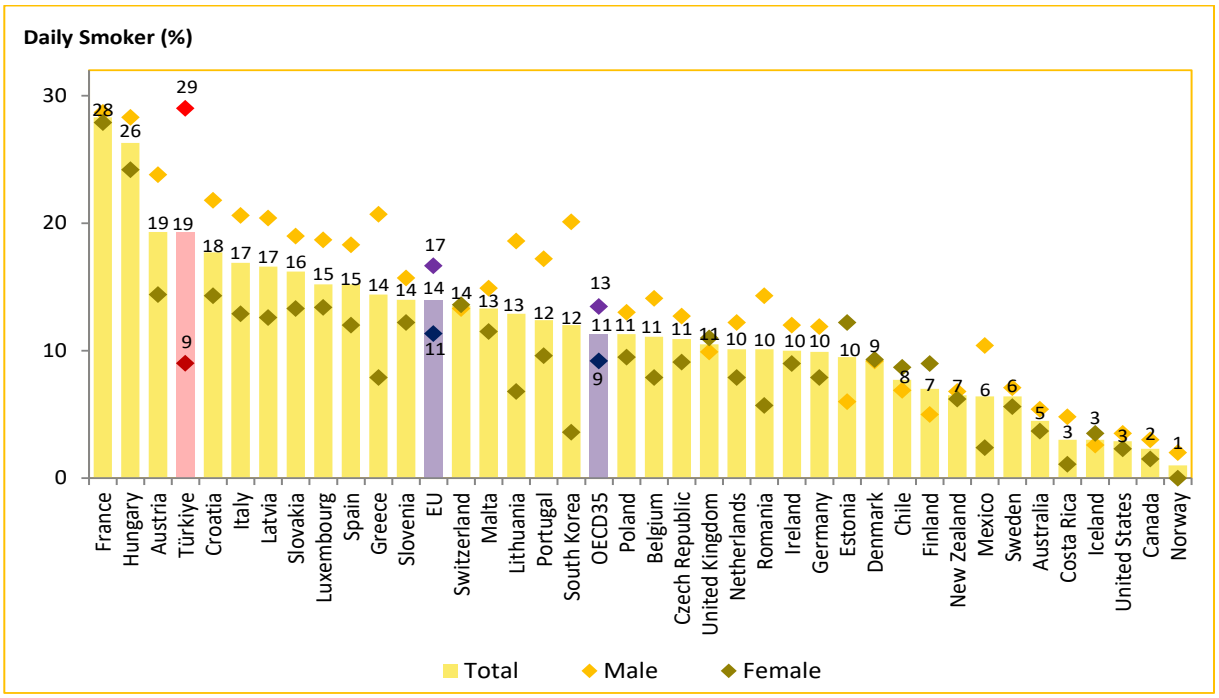
Source: TURKSTAT Türkiye Health Interview Survey 2016, 2019, 2022

Figure 4.1. International Comparison of Distribution of 15 and Over Aged Individuals Using Tobacco Product by Sex, (%), 2022



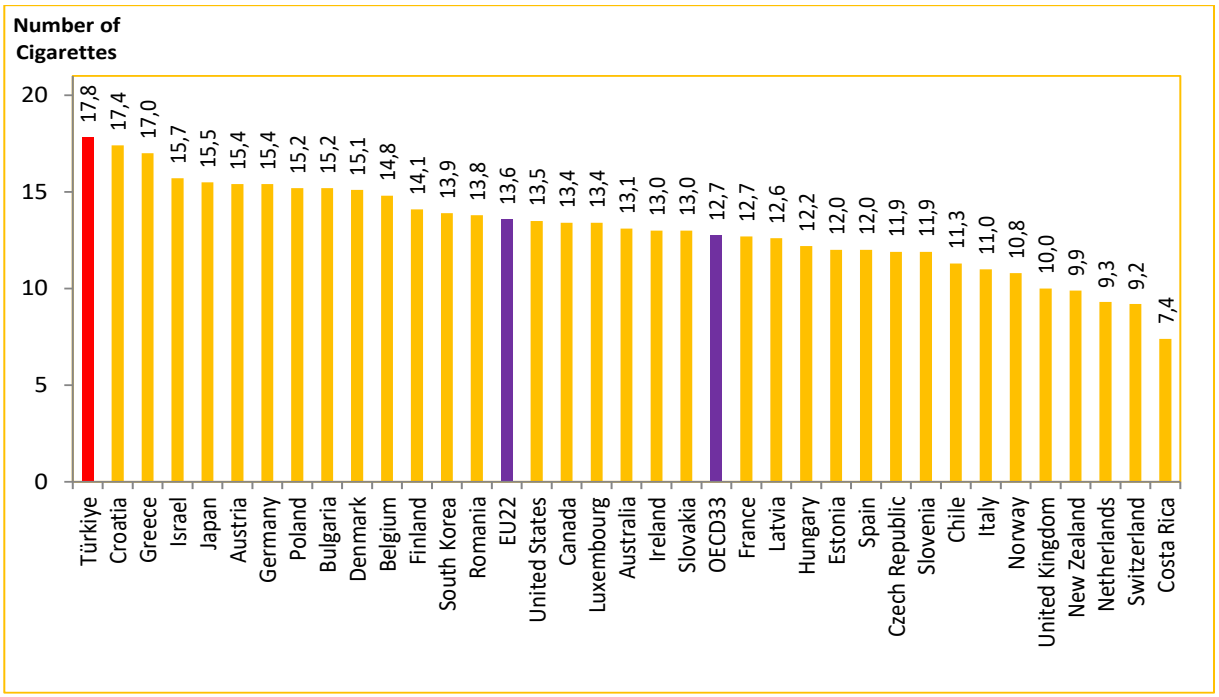
Source: TURKSTAT Türkiye Health Interview Survey 2022, OECD Health Data 2024, EUROSTAT Database

Figure 4.2. International Comparison of Distribution of 15-24 Aged Individuals Using Tobacco Product by Sex, (%), 2022



Source: TURKSTAT Türkiye Health Interview Survey 2022, OECD Health Data 2024, EUROSTAT Database

Figure 4.3. International Comparison of the Average Number of Daily Cigarette per 15 and Over Aged Individuals Using Cigarette, 2022



Source: TURKSTAT Türkiye Health Interview Survey 2022, OECD Health Data 2024

Table 4.2. Distribution of Reasons Behind Starting Tobacco Use of 15 and Over Aged Individuals by Sex, (%), 2016, 2019, 2022

Reason	2016			2019			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Impact of Friend	30,3	25,9	29,1	34,4	29,9	33,2	31,7	30,2	31,3
Desire	31,7	24,3	29,7	26,7	20,8	25,1	24,1	20,7	23,2
Interest	22,4	19,4	21,6	20,3	17,7	19,6	25,5	19,2	23,8
Personal Problems	5,0	10,1	6,3	5,4	10,2	6,6	5,4	8,3	6,2
No Special Reason	4,3	4,5	4,4	5,9	5,7	5,9	6,0	7,2	6,3
Family Problems	3,1	11,2	5,2	3,5	10,5	5,3	3,1	9,5	4,9
For Fun	3,0	3,8	3,3	3,7	5,0	4,0	4,2	4,8	4,4

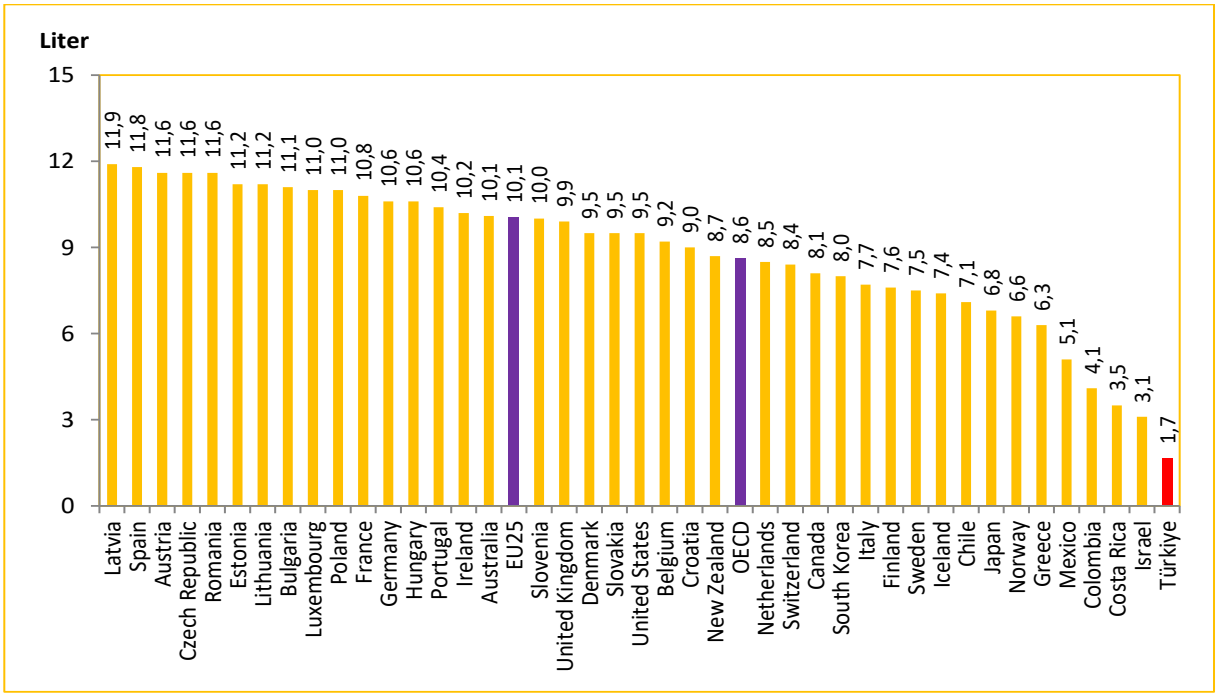
Source: TURKSTAT Türkiye Health Interview Survey 2016, 2019, 2022

Table 4.3. Distribution of 15 and Over Aged Individuals' Alcohol Consumption by Sex and Age Groups, (%), 2016, 2019, 2022

Alcohol Consumption	Age Group	2016			2019			2022		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Consumes	15-24	13,1	5,4	9,3	16,4	6,2	11,4	11,6	4,9	8,3
	25-34	24,1	8,7	16,5	30,9	10,5	20,7	24,2	10,8	17,5
	35-44	25,2	6,4	15,9	30,8	8,7	19,8	23,1	7,2	15,2
	45-54	19,2	3,7	11,5	22,2	6,0	14,2	19,2	5,1	12,2
	55-64	19,7	3,8	11,6	21,3	3,9	12,5	18,6	3,6	11,0
	65-74	11,5	1,0	5,9	15,0	2,3	8,2	12,2	1,8	6,7
	75+	5,5	0,6	2,5	4,1	0,5	2,0	7,1	1,2	3,6
	15+	**19,3**	**5,3**	**12,2**	**23,3**	**6,6**	**14,9**	**18,4**	**5,9**	**12,1**
Doesn't Consume	15-24	5,9	3,9	4,9	5,7	3,0	4,4	2,3	0,9	1,6
	25-34	16,0	7,0	11,5	12,2	5,6	8,9	5,2	2,5	3,9
	35-44	21,4	4,9	13,2	16,0	5,3	10,6	6,4	1,9	4,2
	45-54	23,8	5,8	14,8	20,9	3,7	12,3	7,5	2,3	4,9
	55-64	28,7	4,4	16,4	29,9	3,5	16,6	12,5	1,6	7,0
	65-74	30,4	3,6	16,0	32,9	1,8	16,3	15,8	1,3	8,1
	75+	25,8	1,8	11,3	30,9	2,6	13,9	16,2	0,9	7,0
	15+	**19,1**	**5,0**	**11,9**	**17,6**	**4,0**	**10,7**	**7,5**	**1,7**	**4,6**
Never Consume	15-24	81,0	90,6	85,8	77,9	90,7	84,2	86,1	94,2	90,0
	25-34	59,9	84,3	72,0	56,9	83,9	70,4	70,5	86,8	78,6
	35-44	53,4	88,7	71,0	53,3	86,1	69,6	70,5	90,9	80,7
	45-54	57,0	90,5	73,6	56,9	90,3	73,5	73,3	92,6	82,9
	55-64	51,6	91,9	72,0	48,8	92,6	70,9	68,9	94,8	82,0
	65-74	58,1	95,4	78,2	52,1	95,9	75,5	72,0	96,8	85,2
	75+	68,8	97,5	86,2	65,0	96,9	84,1	76,7	97,9	89,5
	15+	**61,6**	**89,8**	**75,8**	**59,1**	**89,4**	**74,4**	**74,1**	**92,4**	**83,3**

Source: TURKSTAT Türkiye Health Interview Survey 2016, 2019, 2022

Figure 4.4. Consumption of Absolute Alcohol per 15 and Over Aged Individuals, Liter, 2022



Source: Ministry of Agriculture and Forestry, OECD Health Data 2024

Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Table 4.4. Distribution of Reasons Behind Starting Alcohol Use of 15 and Over Aged Individuals by Sex, (%), 2016, 2019, 2022

Reason	2016			2019			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
For Fun	25,9	55,1	29,4	46,9	70,8	52,3	50,4	62,1	53,3
Impact of Friend	25,0	13,4	23,6	19,8	6,7	16,8	14,9	8,5	13,3
No Special Reason	6,5	7,4	6,6	10,9	12,0	11,2	10,0	15,0	11,2
Interest	19,8	7,6	18,3	10,0	6,0	9,1	11,8	9,6	11,3
Desire	15,1	3,4	13,7	7,2	2,4	6,1	8,0	2,9	6,7
Personal Problems	5,3	9,3	5,8	3,8	1,0	3,2	3,7	1,4	3,1
Family Problems	1,5	1,9	1,5	1,4	0,9	1,3	1,3	0,4	1,1

Source: TURKSTAT Türkiye Health Interview Survey 2016, 2019, 2022

Table 4.5. Distribution of Height and Weight Averages by Sex and Age Groups, (Self-Reported), 2022

Age Group	Weight (kg)			Height (cm)		
	Male	Female	Total	Male	Female	Total
15-24	71,1	58,4	64,9	175,0	163,0	169,1
25-34	79,6	64,8	72,2	175,9	163,0	169,5
35-44	82,0	69,3	75,7	174,8	162,2	168,5
45-54	82,8	74,3	78,6	173,3	161,5	167,4
55-64	81,1	75,6	78,3	171,4	160,3	165,7
65-74	78,6	74,5	76,4	170,4	159,7	164,7
75+	73,6	69,5	71,2	168,9	157,9	162,3
15+	**78,9**	**68,6**	**73,7**	**173,8**	**161,7**	**167,7**

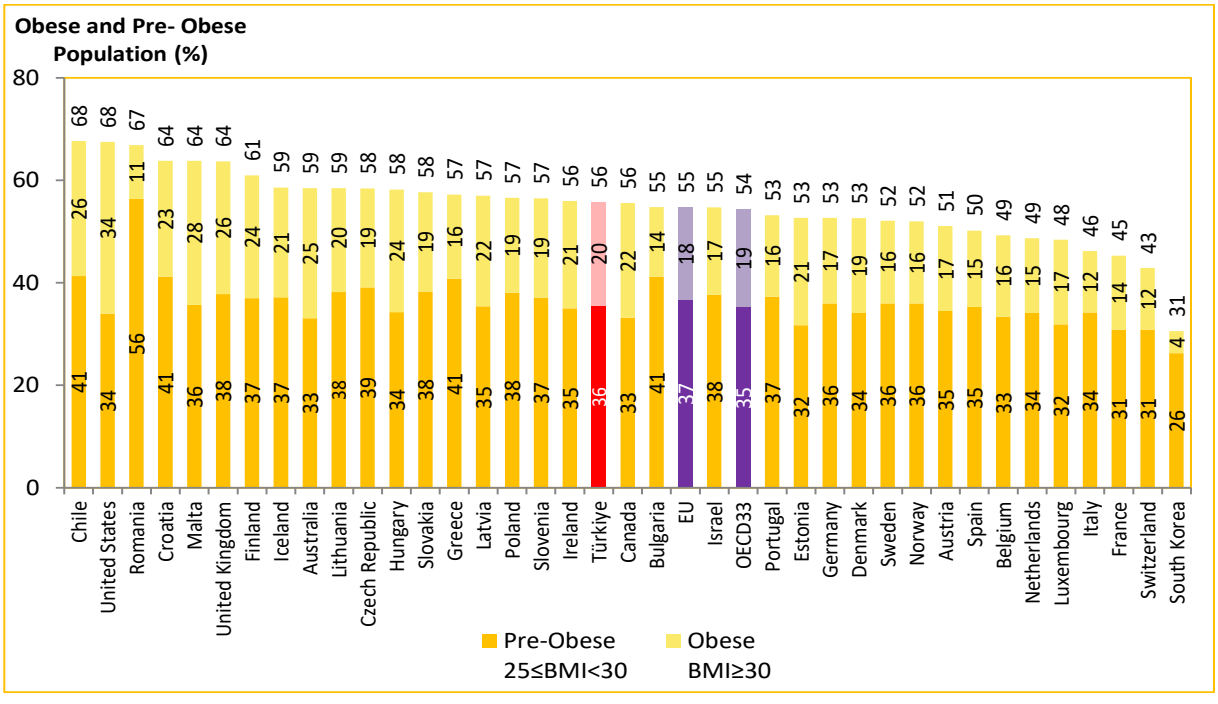
Source: TURKSTAT Türkiye Health Interview Survey 2022

Table 4.6. Distribution of Body Mass Index of 15 and Over Aged Individuals by Sex, (Self-Reported), (%), 2016, 2019, 2022

Year	Sex	Underweight	Normal	Pre-Obese	Obese
2016	Male	2,5	43,8	38,6	15,2
	Female	5,6	40,4	30,1	23,9
	Total	**4,0**	**42,1**	**34,3**	**19,6**
2019	Male	2,7	40,3	39,7	17,3
	Female	4,9	40,0	30,4	24,8
	Total	**3,8**	**40,1**	**35,0**	**21,1**
2022	Male	2,3	40,6	40,4	16,8
	Female	4,9	40,6	30,9	23,6
	Total	**3,6**	**40,6**	**35,6**	**20,2**

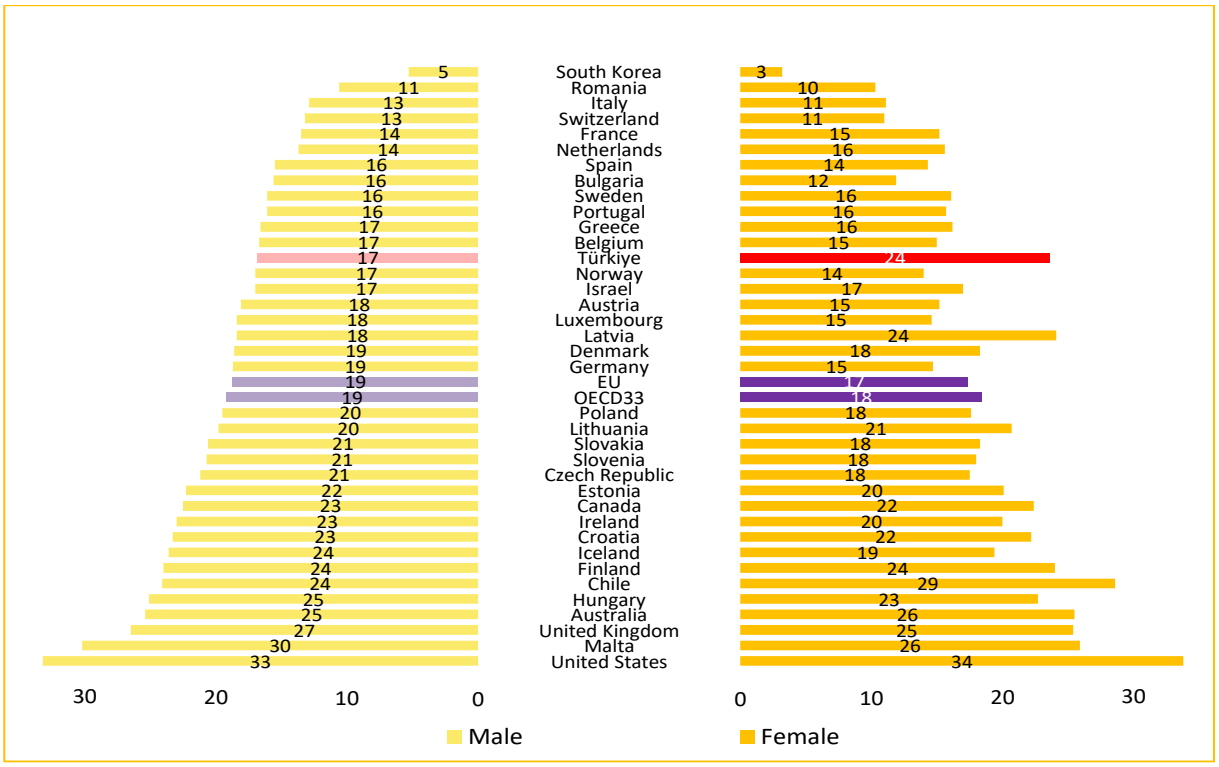
Source: TURKSTAT Türkiye Health Interview Survey 2016, 2019, 2022
Note: The phrase "overweight" has been changed with "pre-obese".

Figure 4.5. International Comparison of Obesity and Pre-Obesity Among 15 and Over Aged Individuals (Self-Reported), (%), 2022



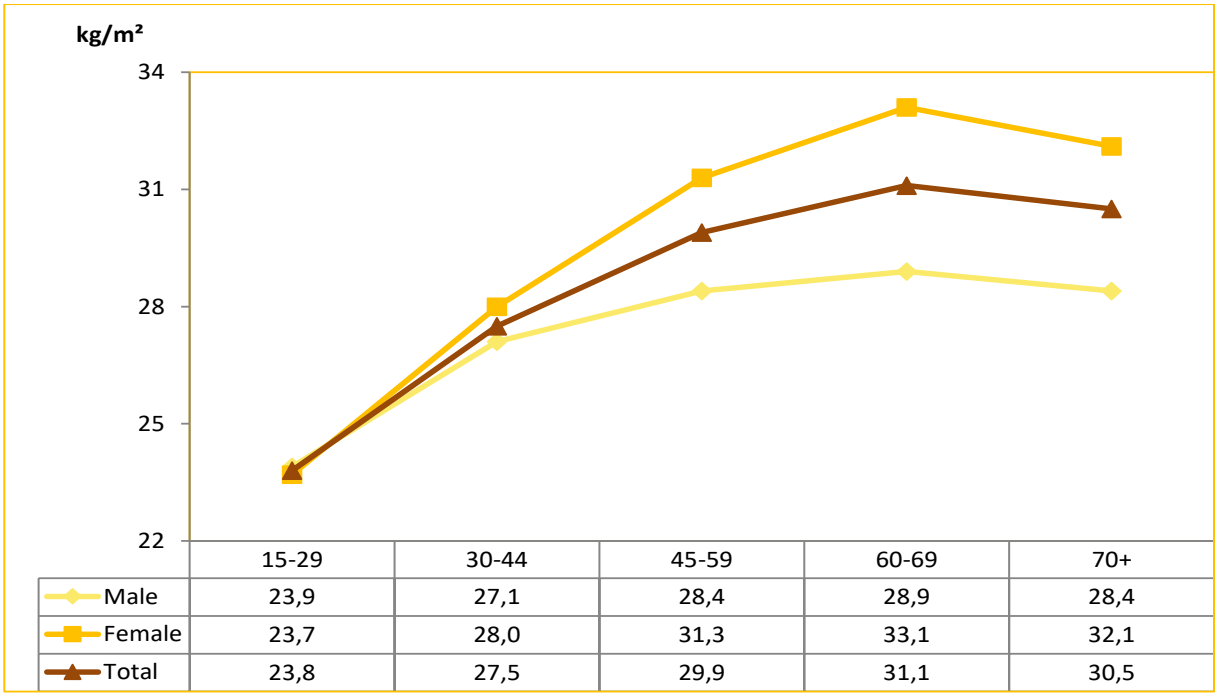
Source: TURKSTAT Türkiye Health Interview Survey 2022, OECD Health Data 2024, EUROSTAT Database

Figure 4.6. International Comparison of Obesity (BMI≥30) Among 15 and Over Aged Individuals by Sex (Self-Reported), (%), 2022



Source: TURKSTAT Türkiye Health Interview Survey 2022, OECD Health Data 2024, EUROSTAT Database

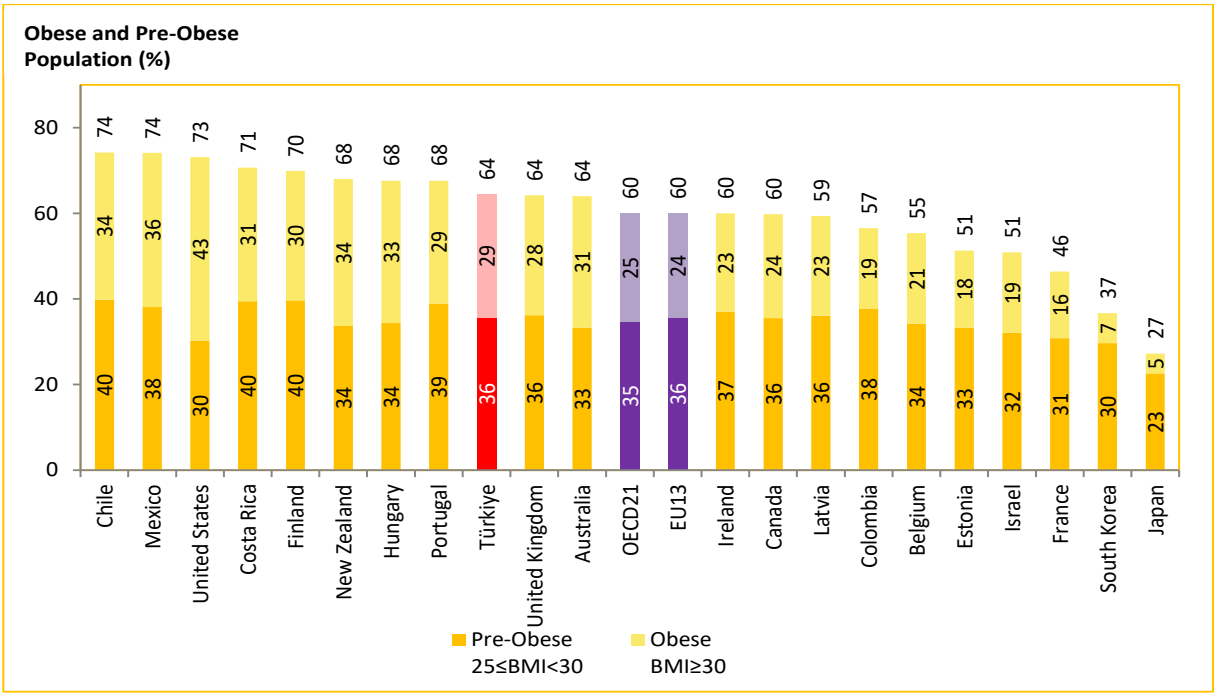
Figure 4.7. Distribution of Body Mass Index by Sex and Age Groups, (Measured), kg/m², 2017



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

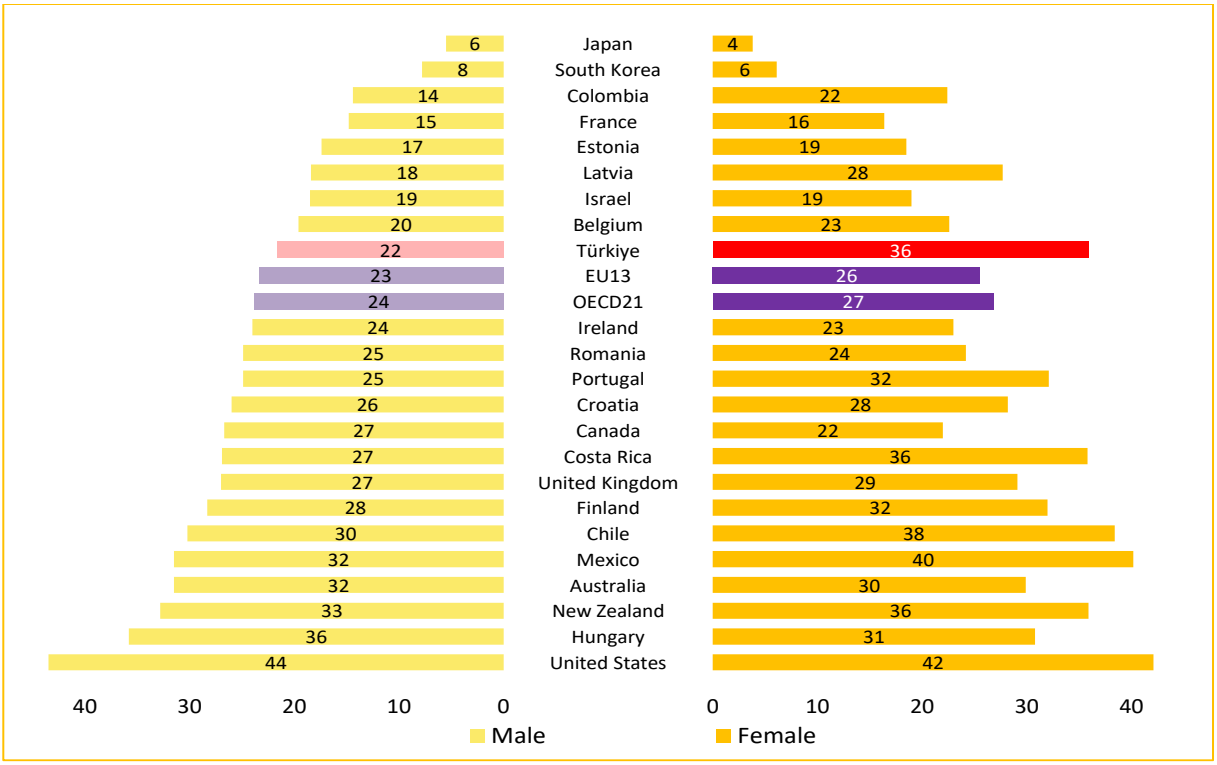
Source: Ministry of Health, National Household Health Survey in Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017

Figure 4.8. International Comparison of Obesity and Pre-Obesity Among 15 and Over Aged Individuals (Measured), (%), 2022



Source: Ministry of Health, National Household Health Survey in Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017, OECD Health Data 2024
Note: Türkiye's data belong to the year 2017. Countries' data belong to the year 2022 or nearest.

Figure 4.9. International Comparison of Obesity (BMI≥30) Among 15 and Over Aged Individuals by Sex (Measured), (%), 2022



Source: Ministry of Health, National Household Health Survey in Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017, OECD Health Data 2024
Note: Türkiye's data belong to the year 2017. Countries' data belong to the year 2022 or nearest.

Table 4.7. Distribution of Anthropometric Measurements of 2nd 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 (2nd 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 4.8. Distribution of Feeding Time with Only Breast Milk, Average of Feeding Time with Breast Milk and BMI Z-Scores Obesity Ratio for 2nd 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
Türkiye	**4,5**	**15,6**	**9,9**

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

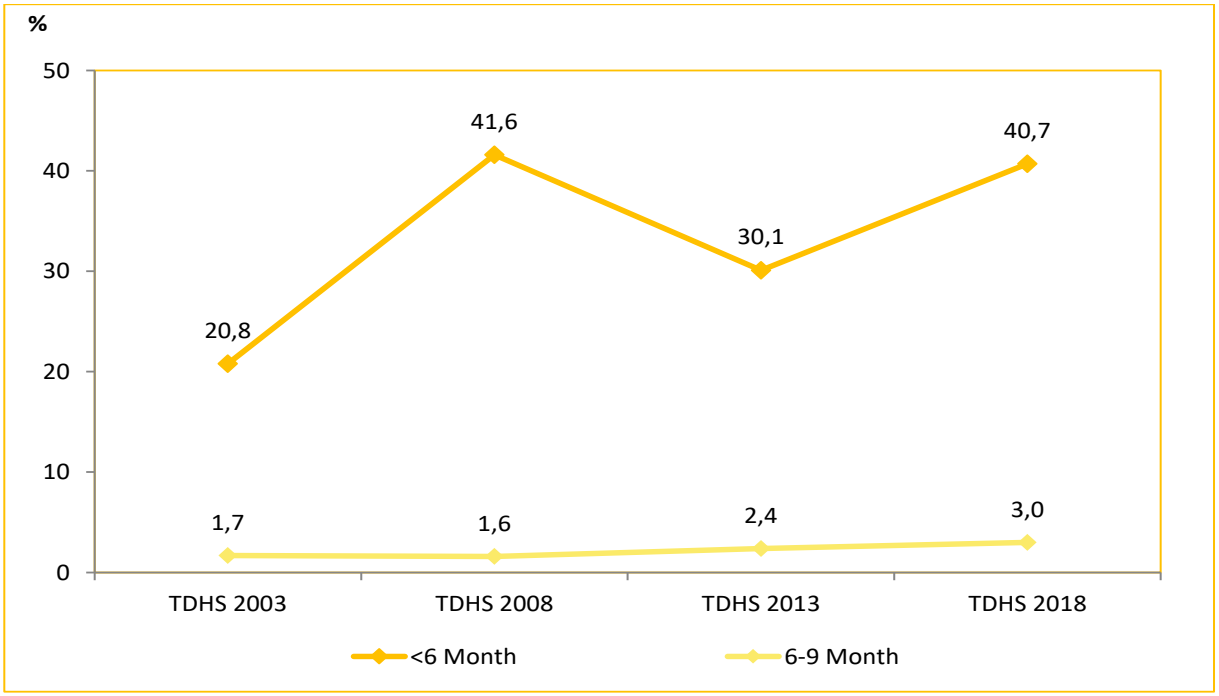
Table 4.9. Distribution of Breastfeeding Status of Children Under Two Years by Age (in Months), (%), 2018

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

Source: TDHS 2018

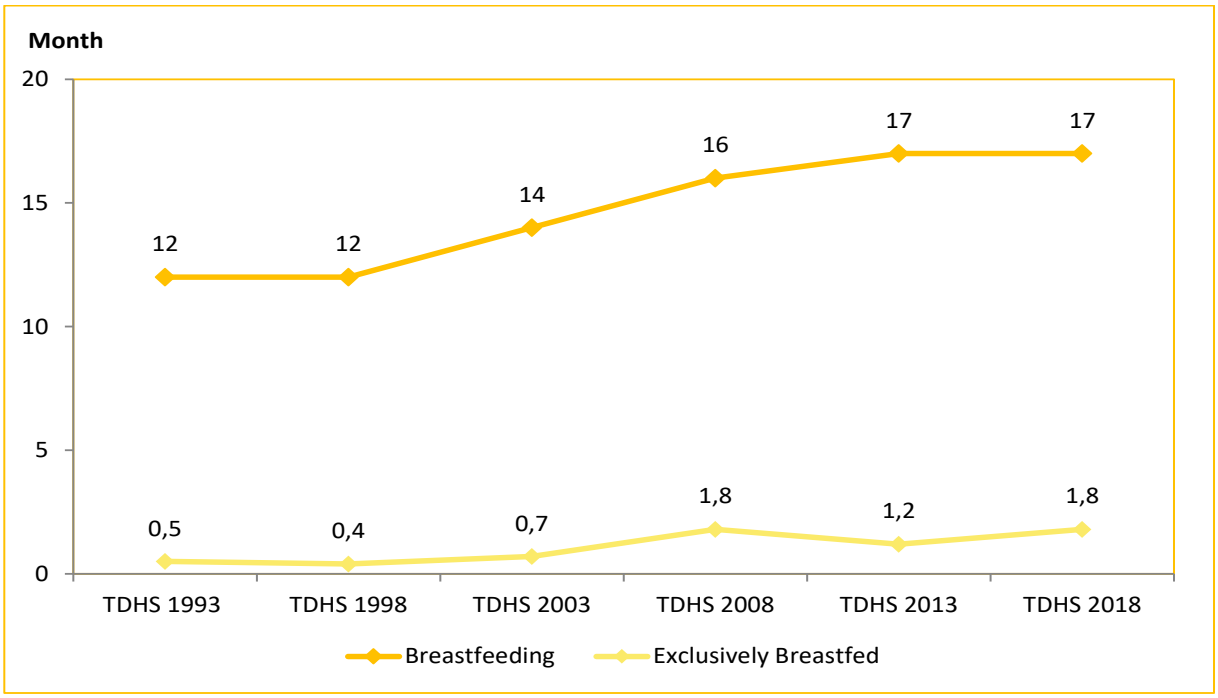
** Non-milk liquids include juice, juice drinks, clear broth or other liquids.*

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



Source: TDHS 2003, 2008, 2013, 2018

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



Source: TDHS 2018

Table 4.10. Distribution of the Consumption Frequencies of Some Foods and Drinks by 2nd 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 (2nd Grade Students in Primary School) Obesity Research (COSI-TUR-2016)

Table 4.11. Distribution of Consumption Fresh Fruit Habits by Sex and Age Groups, (%), 2016, 2019, 2022

Fruit Consumption	Age Group	2016			2019			2022		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Once a Day or More	15-24	47,9	48,5	48,2	37,9	42,7	40,3	27,0	29,9	28,4
	25-34	43,4	51,1	47,2	35,3	45,1	40,2	30,3	36,3	33,3
	35-44	46,3	50,7	48,5	42,4	45,8	44,1	31,9	37,0	34,4
	45-54	54,2	57,1	55,7	47,3	50,1	48,7	36,0	41,0	38,5
	55-64	59,4	60,0	59,7	52,2	56,5	54,4	43,1	46,9	45,0
	65-74	60,5	59,1	59,7	54,9	52,4	53,5	46,0	46,7	46,4
	75+	58,0	50,9	53,7	52,7	50,2	51,2	41,4	42,2	41,9
	15+	**50,2**	**53,1**	**51,6**	**43,4**	**47,9**	**45,7**	**34,3**	**38,7**	**36,5**
4-6 Times a Week	15-24	18,2	17,0	17,6	19,1	17,0	18,1	27,1	27,5	27,3
	25-34	16,8	15,7	16,3	19,8	16,6	18,2	25,5	23,5	24,5
	35-44	17,9	16,6	17,2	18,7	15,7	17,2	24,2	24,1	24,1
	45-54	16,7	15,5	16,1	17,6	13,8	15,7	25,6	22,3	24,0
	55-64	15,8	16,4	16,1	16,8	16,0	16,4	24,5	24,0	24,3
	65-74	16,5	15,7	16,0	19,5	18,1	18,7	25,1	25,4	25,3
	75+	18,6	20,8	20,0	19,8	19,6	19,7	26,3	25,0	25,6
	15+	**17,2**	**16,4**	**16,8**	**18,7**	**16,2**	**17,4**	**25,4**	**24,5**	**24,9**
1-3 Times a Week	15-24	25,9	25,7	25,8	32,5	30,4	31,5	35,1	32,0	33,6
	25-34	30,4	25,8	28,1	33,7	27,6	30,6	32,2	30,4	31,4
	35-44	25,9	24,4	25,2	29,0	27,7	28,4	33,9	28,5	31,2
	45-54	21,8	20,9	21,4	26,2	27,3	26,7	30,4	28,0	29,2
	55-64	20,0	18,4	19,2	24,2	20,0	22,1	25,2	20,9	23,0
	65-74	18,7	19,0	18,9	19,3	22,0	20,8	22,0	21,1	21,5
	75+	20,6	22,2	21,6	21,0	25,6	23,8	24,3	25,2	24,9
	15+	**24,9**	**23,2**	**24,0**	**28,6**	**26,6**	**27,6**	**30,8**	**27,6**	**29,2**
Less Than Once a Week	15-24	6,4	6,6	6,5	8,2	7,2	7,7	9,2	8,1	8,7
	25-34	7,1	5,3	6,2	9,1	8,1	8,6	9,5	7,0	8,3
	35-44	8,1	6,5	7,3	7,8	7,9	7,9	7,7	7,6	7,7
	45-54	5,9	5,3	5,6	7,3	7,0	7,2	6,6	7,2	6,9
	55-64	3,7	4,5	4,1	5,9	5,8	5,8	5,8	6,8	6,3
	65-74	3,8	4,9	4,4	5,8	6,4	6,1	5,5	5,2	5,4
	75+	2,1	4,8	3,7	5,5	3,7	4,4	5,8	6,0	6,0
	15+	**6,2**	**5,7**	**5,9**	**7,6**	**7,1**	**7,3**	**7,7**	**7,1**	**7,4**
Never	15-24	1,6	2,3	1,9	2,2	2,6	2,4	1,6	2,5	2,0
	25-34	2,3	2,2	2,2	2,1	2,6	2,4	2,4	2,7	2,6
	35-44	1,8	1,8	1,8	2,0	2,9	2,5	2,3	2,8	2,5
	45-54	1,4	1,2	1,3	1,7	1,7	1,7	1,4	1,5	1,4
	55-64	1,0	0,7	0,9	1,0	1,8	1,4	1,3	1,4	1,4
	65-74	0,6	1,4	1,0	0,5	1,1	0,8	1,4	1,5	1,4
	75+	0,7	1,2	1,0	1,0	0,9	1,0	2,1	1,5	1,7
	15+	**1,6**	**1,7**	**1,6**	**1,7**	**2,2**	**2,0**	**1,8**	**2,2**	**2,0**

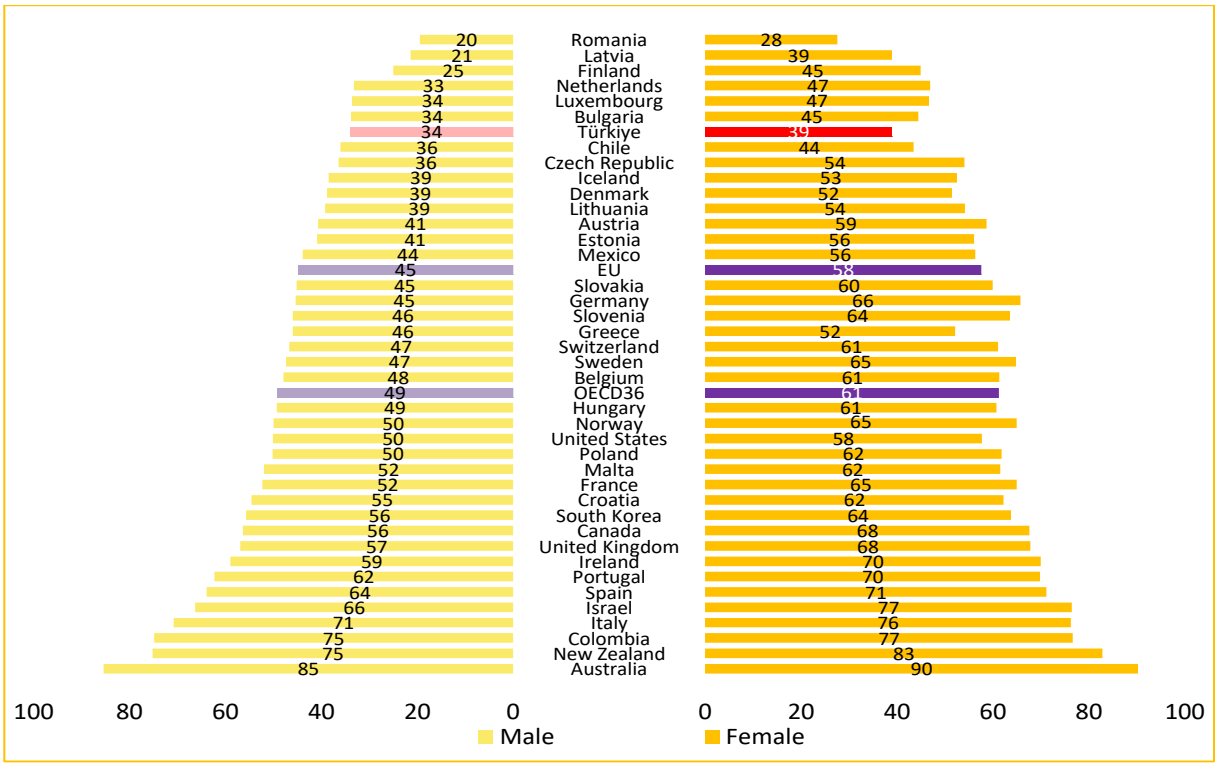
Source: TURKSTAT Türkiye Health Interview Survey 2016, 2019, 2022

Table 4.12. Distribution of Consumption Vegetable or Salad Habits by Sex and Age Groups, (%), 2016, 2019, 2022

Vegetable or Salad Consumption	Age Group	2016			2019			2022		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Once a Day or More	15-24	53,9	58,3	56,1	44,7	53,7	49,1	33,5	36,7	35,1
	25-34	53,2	62,1	57,6	45,1	57,0	51,1	35,7	43,1	39,4
	35-44	59,9	63,7	61,8	53,8	59,2	56,5	37,3	43,8	40,5
	45-54	64,5	67,3	65,9	58,5	61,6	60,0	39,0	46,4	42,7
	55-64	65,4	66,2	65,8	58,1	64,7	61,4	44,6	50,3	47,5
	65-74	66,5	64,4	65,4	58,8	55,7	57,1	46,0	47,4	46,7
	75+	58,8	55,1	56,6	55,9	57,4	56,8	40,9	42,8	42,1
	15+	**59,0**	**62,8**	**60,9**	**52,0**	**58,5**	**55,3**	**38,3**	**44,0**	**41,2**
4-6 Times a Week	15-24	19,4	20,5	19,9	21,1	20,2	20,6	27,1	30,6	28,8
	25-34	21,0	20,3	20,7	22,7	21,2	21,9	27,5	28,7	28,1
	35-44	19,7	19,8	19,8	19,2	18,0	18,6	28,4	30,3	29,3
	45-54	17,8	18,3	18,0	18,7	18,6	18,6	29,8	25,8	27,8
	55-64	17,7	20,0	18,9	20,9	17,9	19,4	28,6	26,6	27,6
	65-74	18,1	17,9	18,0	21,0	20,9	20,9	29,7	31,0	30,4
	75+	19,7	23,1	21,7	18,6	22,3	20,8	31,7	29,4	30,3
	15+	**19,3**	**19,9**	**19,6**	**20,5**	**19,6**	**20,0**	**28,5**	**28,8**	**28,6**
1-3 Times a Week	15-24	21,1	17,1	19,1	26,5	22,2	24,4	31,7	26,6	29,2
	25-34	20,9	15,5	18,2	26,4	19,0	22,7	29,3	24,3	26,8
	35-44	16,5	14,1	15,3	23,1	19,7	21,4	29,3	22,7	26,0
	45-54	13,8	11,8	12,8	18,8	16,7	17,8	26,8	24,0	25,4
	55-64	15,0	12,1	13,6	18,4	13,9	16,1	22,5	19,8	21,1
	65-74	12,3	14,3	13,3	18,0	19,1	18,5	20,7	18,5	19,6
	75+	18,7	17,5	18,0	19,0	16,9	17,8	22,4	23,8	23,2
	15+	**17,6**	**14,6**	**16,1**	**22,6**	**18,6**	**20,6**	**27,5**	**23,2**	**25,3**
Less Than Once a Week	15-24	4,2	3,3	3,8	6,5	3,2	4,9	6,2	4,6	5,4
	25-34	3,7	1,6	2,6	4,8	2,6	3,7	6,2	3,1	4,6
	35-44	3,2	2,0	2,6	3,3	2,8	3,1	3,9	2,7	3,3
	45-54	3,4	2,4	2,9	3,8	2,6	3,2	3,8	3,4	3,6
	55-64	1,5	1,6	1,6	2,1	3,3	2,7	3,2	2,9	3,1
	65-74	2,8	2,7	2,8	1,8	3,8	2,9	2,9	2,5	2,7
	75+	1,8	2,7	2,4	5,7	3,0	4,0	4,2	2,7	3,3
	15+	**3,3**	**2,3**	**2,8**	**4,1**	**2,9**	**3,5**	**4,6**	**3,2**	**3,9**
Never	15-24	1,4	0,8	1,1	1,3	0,7	1,0	1,5	1,6	1,5
	25-34	1,2	0,5	0,8	1,1	0,2	0,6	1,4	0,9	1,1
	35-44	0,6	0,4	0,5	0,5	0,2	0,4	1,1	0,5	0,8
	45-54	0,5	0,3	0,4	0,3	0,4	0,4	0,7	0,5	0,6
	55-64	0,5	0,0	0,2	0,5	0,2	0,3	1,2	0,4	0,8
	65-74	0,3	0,7	0,5	0,5	0,6	0,6	0,7	0,6	0,6
	75+	1,1	1,6	1,4	0,8	0,4	0,6	0,9	1,2	1,1
	15+	**0,9**	**0,5**	**0,7**	**0,7**	**0,4**	**0,6**	**1,1**	**0,8**	**1,0**

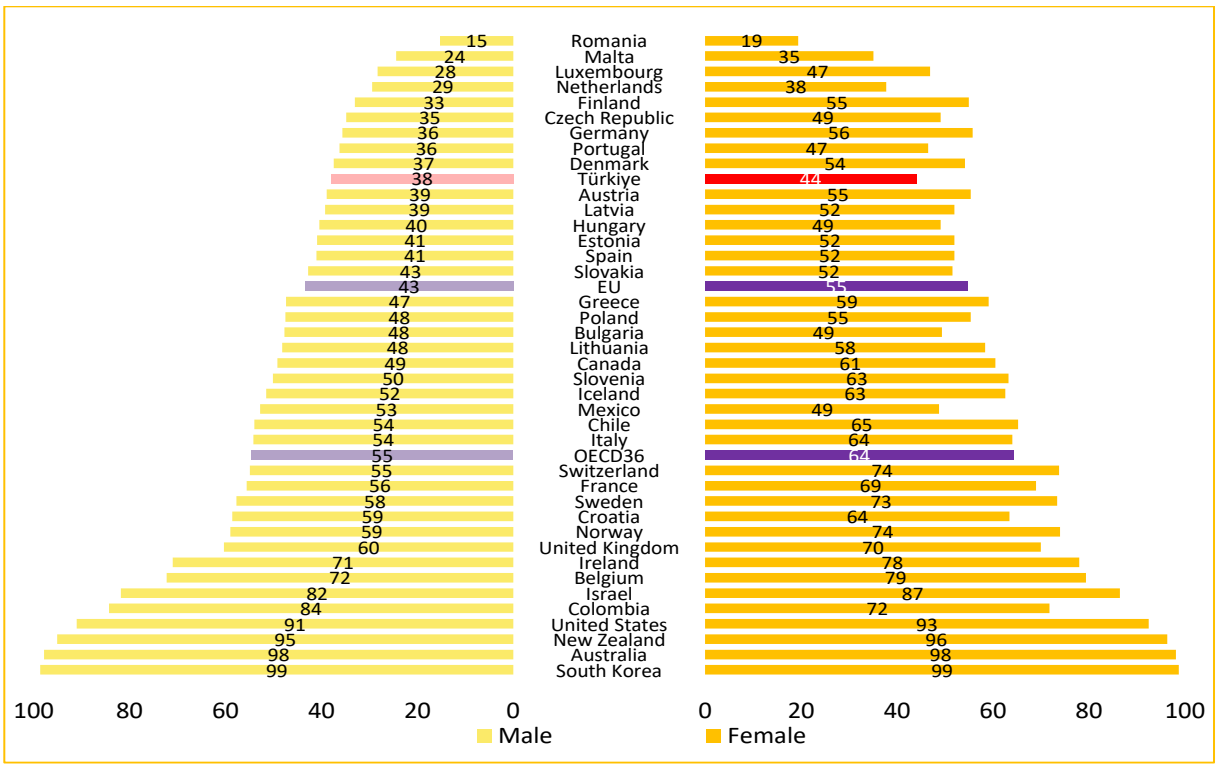
Source: TURKSTAT Türkiye Health Interview Survey 2016, 2019, 2022

Figure 4.12. International Comparison of Distribution of 15 and Over Aged Individuals' Fruit Consumption Once a Day or More by Sex, (%), 2022



Source: TURKSTAT Türkiye Health Interview Survey 2022, OECD Health Data 2024, EUROSTAT Database

Figure 4.13. International Comparison of Distribution of 15 and Over Aged Individuals' Vegetable or Salad Consumption Once a Day or More by Sex, (%), 2022



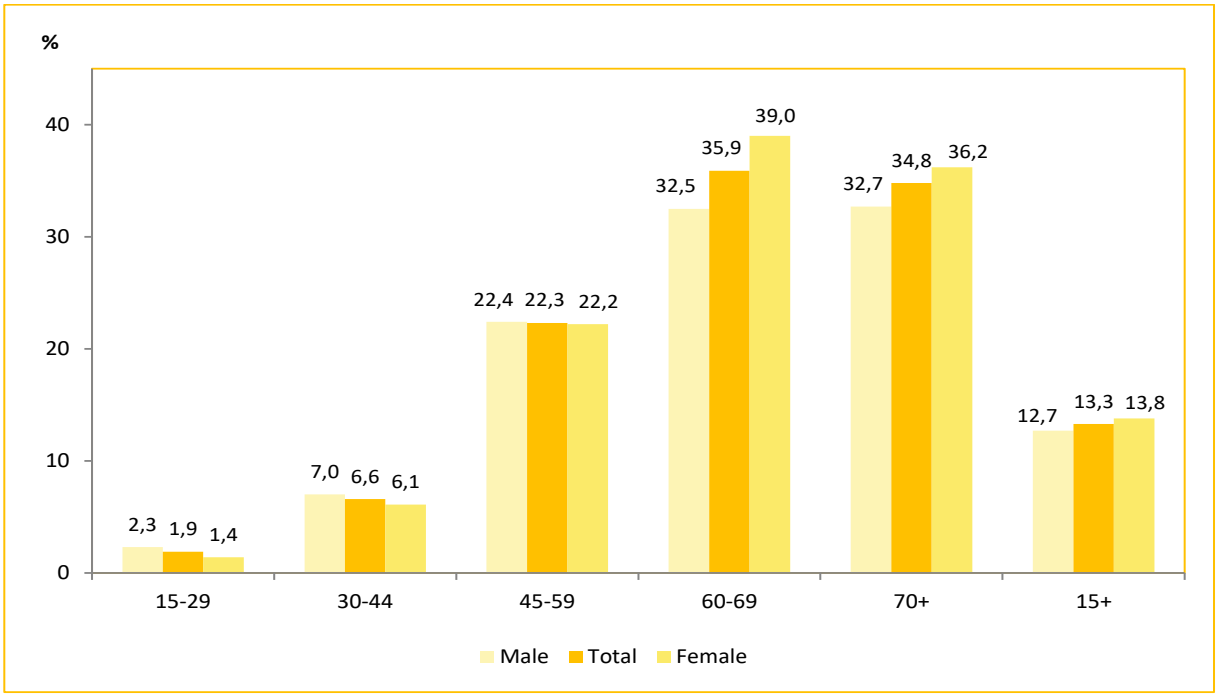
Source: TURKSTAT Türkiye Health Interview Survey 2022, OECD Health Data 2024, EUROSTAT Database

Table 4.13. Distribution of 15 and Over Aged Individuals' Benefit from Preventive Services in the Last 12 Months by Sex, (%), 2019, 2022

Measurements	2019			2022		
	Male	Female	Total	Male	Female	Total
Blood Pressure Measurement	44,0	57,5	50,8	38,3	51,1	44,7
Blood Sugar Measurement	36,6	52,1	44,4	34,9	48,3	41,6
Blood Cholesterol Measurement	33,8	48,5	41,2	33,2	45,8	39,6
Faecal Occult Blood Test	10,7	14,1	12,4	9,5	12,2	10,9
Vaccinated Against Flu	2,8	1,6	2,2	3,1	2,4	2,7
Colonoscopy	2,1	2,6	2,4	2,0	2,4	2,2

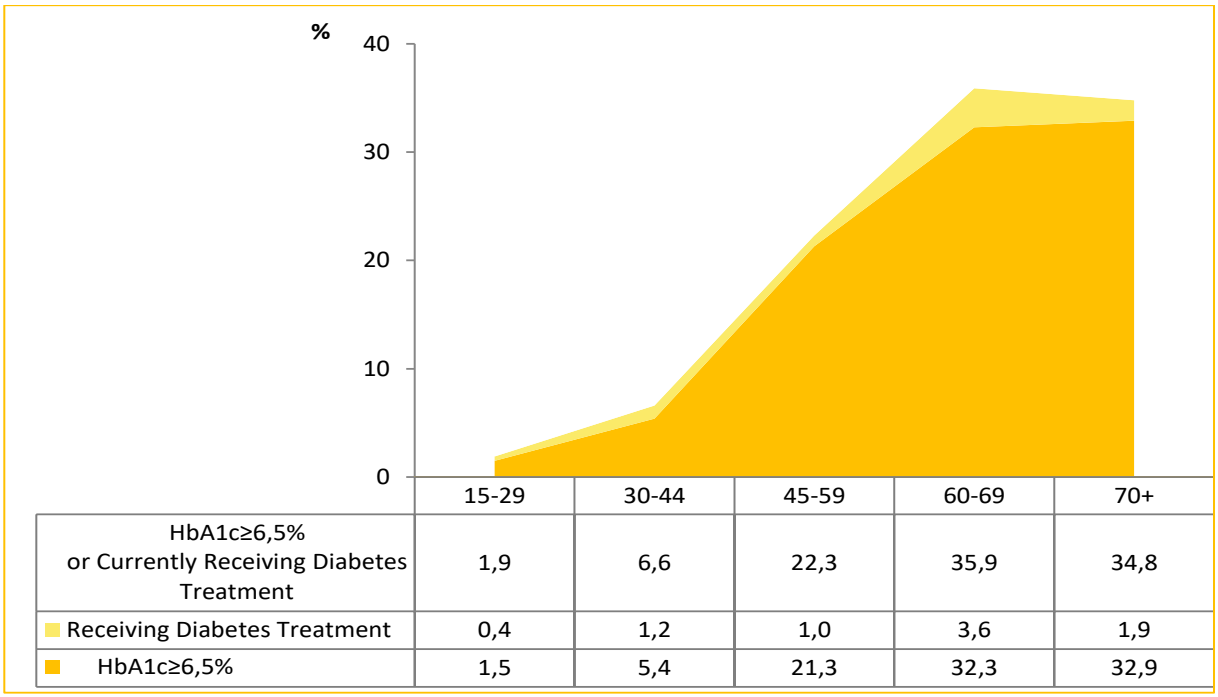
Source: TURKSTAT Türkiye Health Interview Survey 2019, 2022

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



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

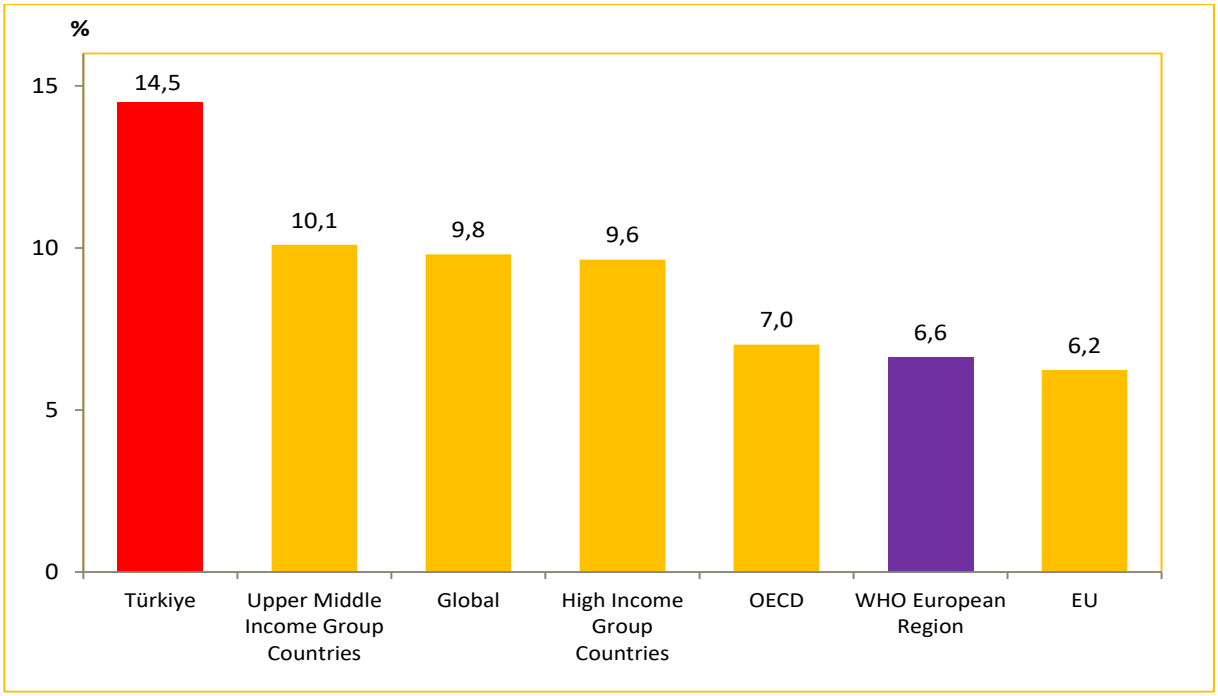
Figure 4.15. Distribution of Individuals with HbA1c≥6,5% and Currently Receiving Diabetes Treatment by Age Groups, (%), 2017



	15-29	30-44	45-59	60-69	70+
HbA1c≥6,5% or Currently Receiving Diabetes Treatment	1,9	6,6	22,3	35,9	34,8
Receiving Diabetes Treatment	0,4	1,2	1,0	3,6	1,9
HbA1c≥6,5%	1,5	5,4	21,3	32,3	32,9

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 4.14. 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

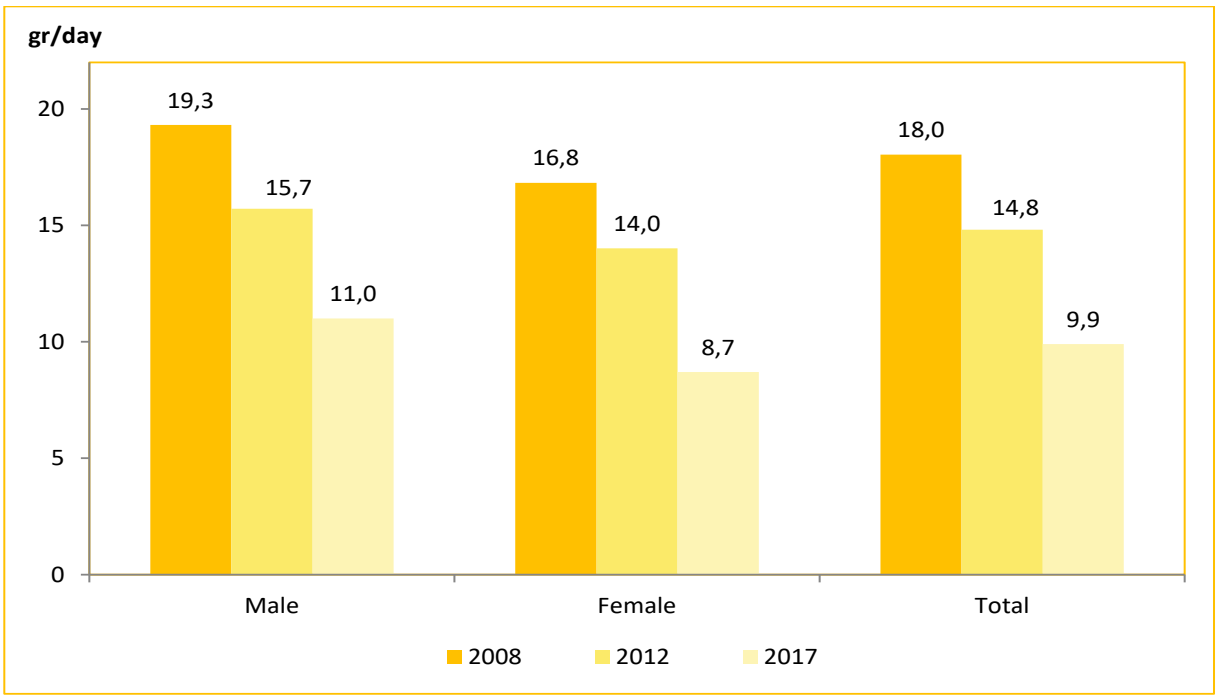
Note: Individuals using drugs were also included in the calculation of total cholesterol. Low HDL threshold was considered as <40 mg/dl for men and <50 mg/dl for women.

Table 4.15. 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 SALTurk-I, 2012 SALTurk-II, Ministry of Health National Household Health Survey in Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017

Table 4.16. 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
15+	**37,4**	**26,3**	**36,3**	**61,1**	**25,8**	**13,1**	**49,4**	**26,0**	**24,6**

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

Table 4.17. Distribution of Individuals Who Felt Physical Pain in the Last 4 Weeks by Sex and Age Groups, (%), 2016, 2019, 2022

Age Group	2016			2019			2022		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-24	8,6	13,5	11,0	9,0	17,3	13,1	8,3	14,4	11,3
25-34	11,8	21,1	16,4	13,6	22,2	17,9	12,9	19,8	16,3
35-44	16,0	28,9	22,4	16,0	32,5	24,2	17,1	27,7	22,4
45-54	20,3	40,1	30,2	22,4	41,7	32,0	19,0	36,8	27,9
55-64	19,6	44,4	32,2	22,0	50,1	36,2	19,8	43,1	31,6
65-74	34,7	57,9	47,2	29,7	56,3	43,9	28,1	49,8	39,6
75+	47,7	69,4	60,8	44,5	67,4	58,3	40,0	62,2	53,3
15+	**17,0**	**32,0**	**24,6**	**18,0**	**35,1**	**26,7**	**17,0**	**31,2**	**24,1**

Source: TURKSTAT Türkiye Health Interview Survey 2016, 2019, 2022

Table 4.18. Distribution of Individuals Not Able to Walk, Walk Up and Down Stairs without Any Aid or Assistance by Sex and Age Groups, (%), 2016, 2019, 2022

	Age Group	2016			2019			2022		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Not Able to Walk	15-44	1,4	1,1	1,3	0,5	1,1	0,8	0,6	1,1	0,9
	45-54	2,7	7,6	5,1	2,9	6,0	4,4	2,2	3,7	3,0
	55-64	4,3	17,1	10,8	4,3	12,0	8,2	3,7	9,8	6,8
	65-74	15,4	30,2	23,4	9,3	23,9	17,1	9,6	20,5	15,4
	75+	36,0	55,8	48,0	32,0	53,1	44,7	25,8	45,0	37,3
	15+	**4,0**	**8,9**	**6,5**	**3,1**	**7,9**	**5,5**	**2,9**	**6,8**	**4,9**
Not Able to Walk Up and Down Stairs	15-44	1,7	2,2	1,9	1,0	2,0	1,5	1,0	1,9	1,4
	45-54	4,2	13,4	8,8	4,5	10,6	7,5	2,8	7,3	5,1
	55-64	6,5	24,1	15,4	6,7	18,9	12,9	4,9	15,5	10,3
	65-74	18,6	38,5	29,3	13,6	34,3	24,7	11,3	25,6	18,9
	75+	39,8	65,7	55,4	39,0	58,7	50,8	30,9	51,6	43,4
	15+	**5,0**	**12,4**	**8,7**	**4,6**	**11,1**	**7,9**	**3,7**	**9,4**	**6,6**

Source: TURKSTAT Türkiye Health Interview Survey 2016, 2019, 2022

Table 4.19. 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, (%), 2019, 2022

	2019			2022		
	Male	Female	Total	Male	Female	Total
Providing Help	7,8	9,1	8,4	7,5	7,6	7,5
Members of Family	68,0	66,9	67,4	66,2	73,7	70,0
Other	32,0	33,1	32,6	33,8	26,3	30,0
Not Providing Help	92,2	90,9	91,6	92,5	92,4	92,5

Source: TURKSTAT Türkiye Health Interview Survey 2019, 2022

Table 4.20. Distribution of Individuals Having Difficulty in Learning and Remembering Events Compared to Peers by Sex and Age Groups, (%), 2019, 2022

Age Group	2019			2022		
	Male	Female	Total	Male	Female	Total
15-44	1,1	2,9	2,0	1,3	2,3	1,8
45-54	2,7	6,2	4,5	2,1	4,2	3,2
55-64	3,2	9,5	6,4	3,1	7,4	5,3
65-74	9,0	19,9	14,9	6,7	13,9	10,5
75+	31,0	37,4	34,9	22,2	34,9	29,8
15+	**3,3**	**7,4**	**5,4**	**2,9**	**6,1**	**4,5**

Source: TURKSTAT Türkiye Health Interview Survey 2019, 2022

Table 4.21. Distribution of Number of People Who Are So Close When Individuals Have Serious Personal Problems by Sex, (%), 2019, 2022

Number of Person	2019			2022		
	Male	Female	Total	Male	Female	Total
None	6,6	4,9	5,7	4,4	3,7	4,1
1-2 Person	34,0	38,5	36,3	34,0	35,0	34,5
3-5 Person	36,5	36,7	36,6	36,9	39,0	38,0
6 or More Person	22,9	19,8	21,3	24,6	22,3	23,4

Source: TURKSTAT Türkiye Health Interview Survey 2019, 2022

Table 4.22. Distribution of 15 and Over Aged Individuals' for Status of Getting Help from Neighbours by Sex, (%), 2019, 2022

Status of Getting Help	2019			2022		
	Male	Female	Total	Male	Female	Total
Very Easy/Easy	67,3	71,9	69,6	67,0	70,3	68,7
Possible	17,4	16,6	17,0	21,6	20,1	20,8
Difficult/Very Difficult	15,3	11,4	13,4	11,4	9,6	10,5

Source: TURKSTAT Türkiye Health Interview Survey 2019, 2022

Explanations for Chapter 4

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

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

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

Underweight	:	BMI< 18,5
Normal weight	:	18,5≤ BMI< 25,0
Pre-Obese	:	25,0 ≤ BMI < 30,0
Obesity	:	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 2022

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 11.170 households.

☑ **Sampling Distribution:** In 10.028 of 11.170 households the questionnaire was completed. The information of a total of 29.761 individuals, 22.742 of whom were 15 years old and over and 7.019 of whom were 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 and 2022 for four 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.

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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.
- ≥7 days of physical in any domain and intensity, reaching a minimum of 3.000 MET-minutes per week.

Moderate Physical Activity:

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

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

Ministry of Health, Turkish Childhood (2nd 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 2nd 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 3rd stage of Obesity Research implemented in 21 countries in 2012-2013. The research was conducted in 585 schools, a 2nd 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.



CHAPTER 5

Prevention of Diseases and Protection of Health

Table 5.1. Vaccination Rate by Years, (%)

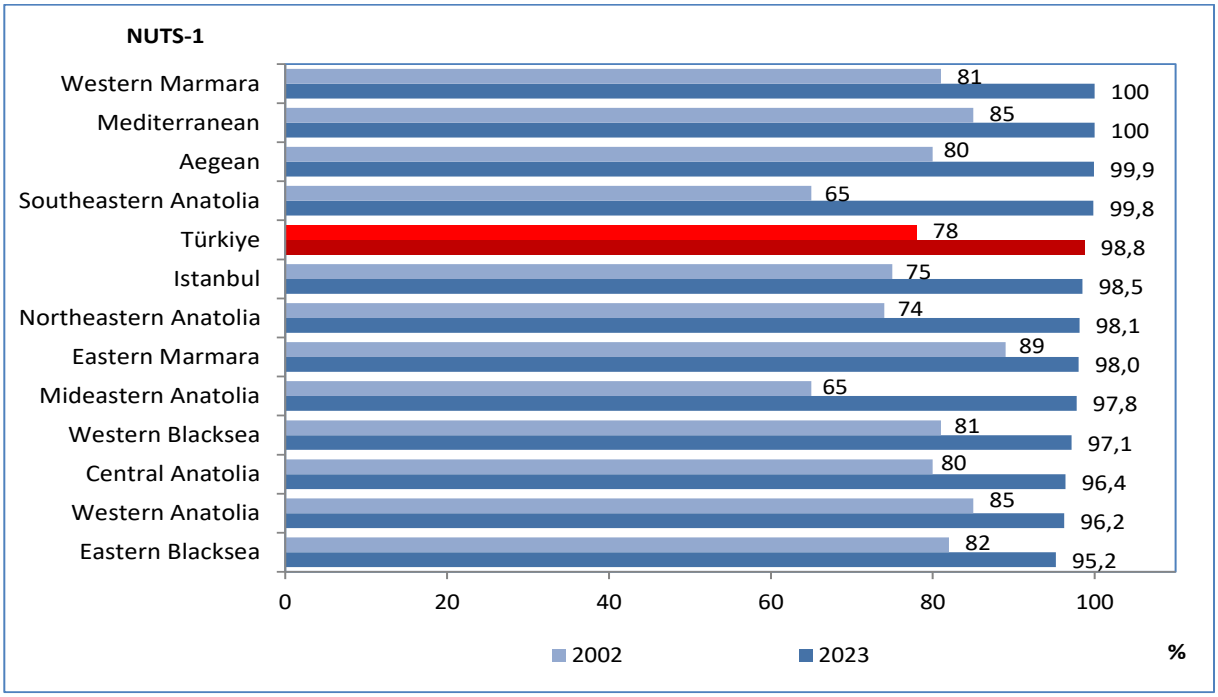
	2002	2019	2020	2021	2022	2023
DaPT 3	78	99	98	95	99,5	98,8
BCG	77	96	96	95	98,1	96,0
HBV 3	72	99	98	96	99,3	99,0
MMR	82	97	95	96	95,2	95,2
CPV Booster*	-	-	95	96	95,3	95,2

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.*

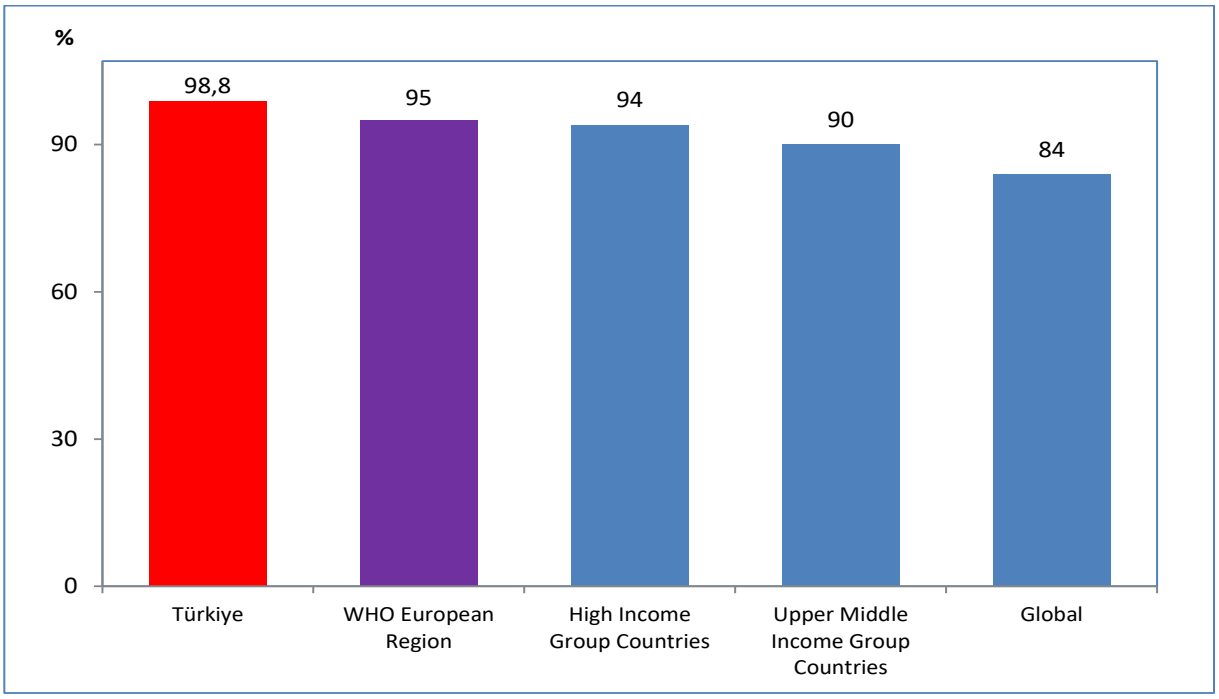
Note: Registration to MERNIS and family medicine unit in different cities affects interregional vaccination rates.

Figure 5.1. Third Dose Vaccination Rate of 5-Component Combined Vaccine (DaPT+IPV+Hib) by NUTS-1, (%), 2002, 2023



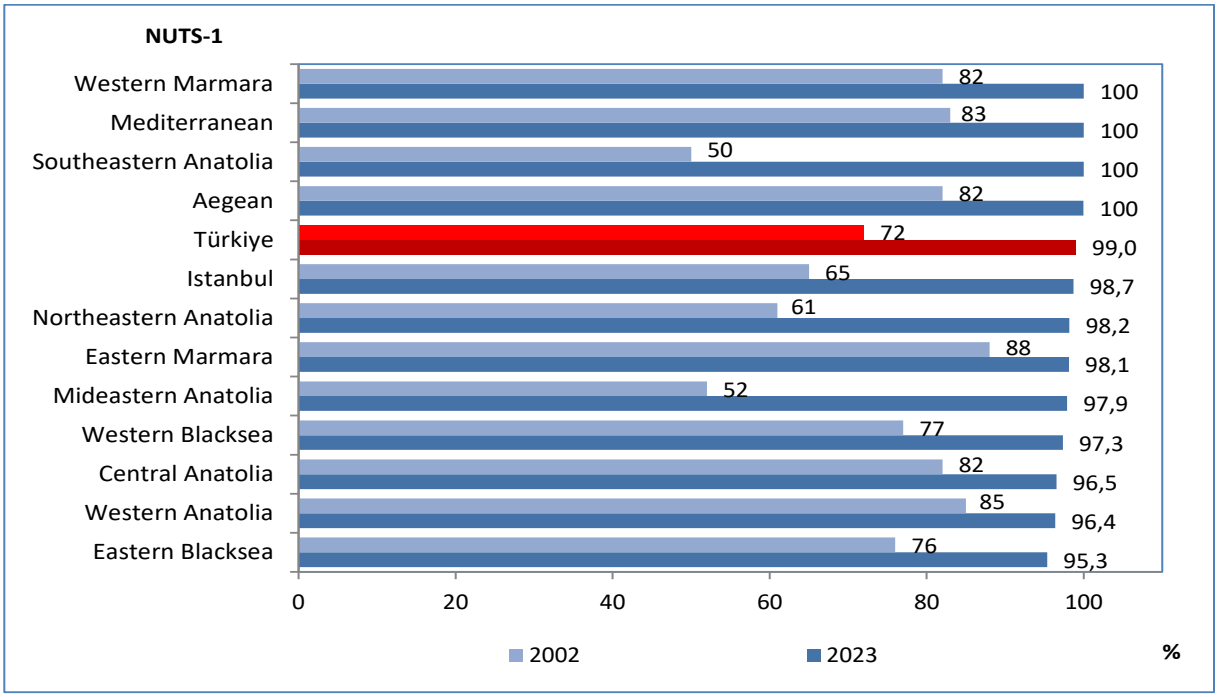
Source: General Directorate of Public Health

Figure 5.2. International Comparison of Third Dose Vaccination Rate of DaPT+IPV+Hib, (%), 2023



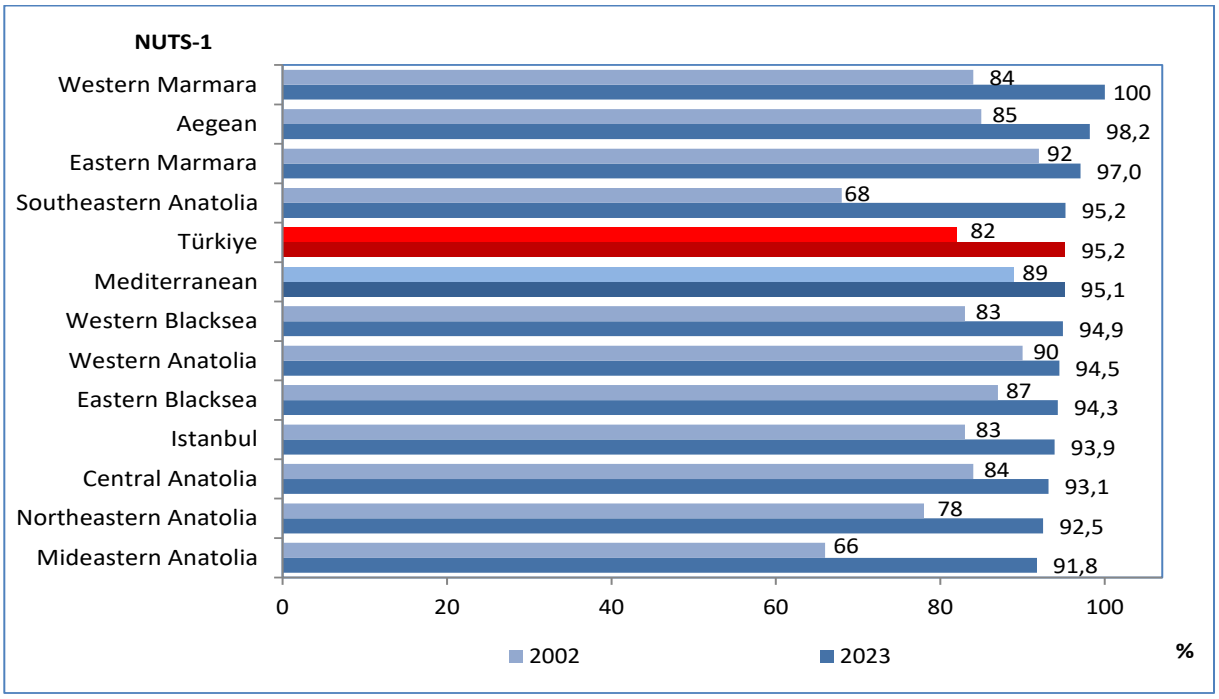
Source: General Directorate of Public Health, WHO Global Health Observatory Database

Figure 5.3. HBV 3 Vaccination Rate by NUTS-1, (%), 2002, 2023



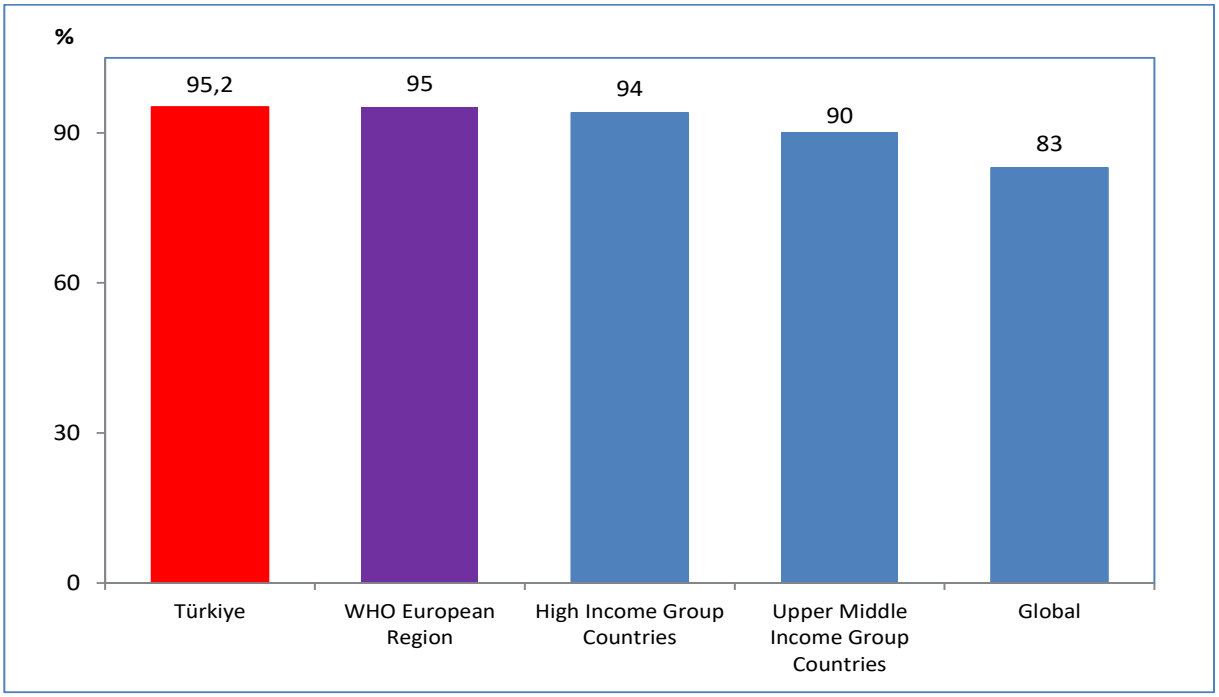
Source: General Directorate of Public Health

Figure 5.4. MMR Vaccination Rate by NUTS-1, (%), 2002, 2023



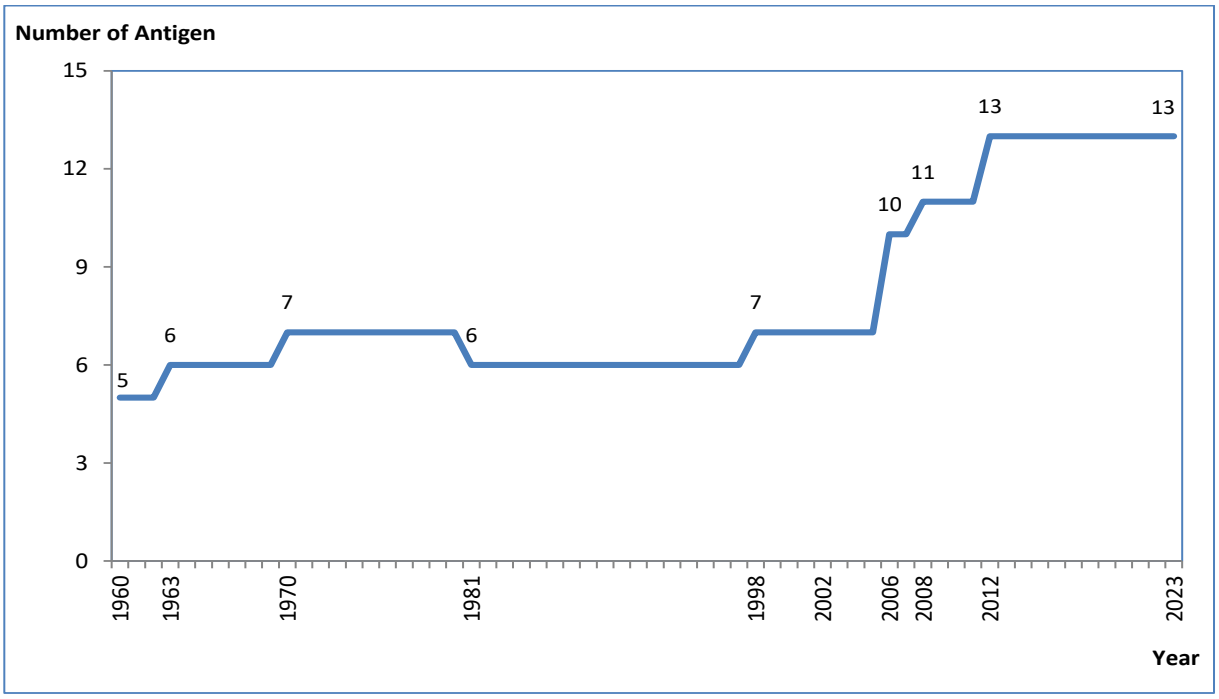
Source: General Directorate of Public Health

Figure 5.5. International Comparison of MMR Vaccination Rate, (%), 2023



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



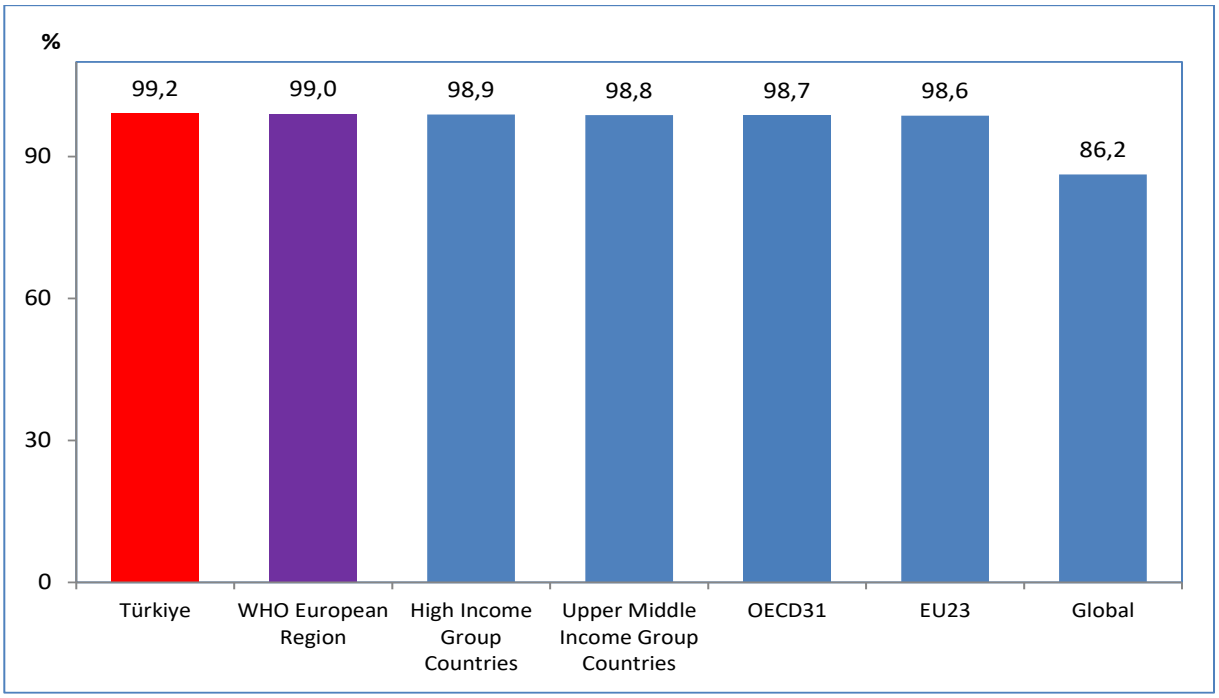
Source: General Directorate of Public Health

Table 5.2. Indicators of Birth by Years and NUTS-1, (%)

NUTS-1	Births at Hospital Among Live Births			Cesarean Sections Among Live Births			Primer Cesarean Sections Among Live Births		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
İstanbul	98,5	98,6	98,6	61,4	63,0	64,1	32,5	34,7	36,5
Western Marmara	95,8	96,1	94,9	64,6	67,1	67,5	35,7	39,7	40,7
Aegean	98,5	98,3	99,1	65,9	67,6	69,5	35,0	37,7	39,3
Eastern Marmara	97,7	97,0	97,3	61,9	62,5	63,4	32,6	34,2	35,2
Western Anatolia	98,5	98,5	100	57,1	58,7	61,9	30,2	32,0	34,7
Mediterranean	100	99,6	96,2	68,1	69,4	68,6	31,9	34,1	34,5
Central Anatolia	96,2	95,7	97,8	55,0	55,9	58,6	27,5	29,1	31,0
Western Blacksea	96,8	96,1	97,8	66,9	67,9	70,1	35,9	36,7	38,4
Eastern Blacksea	96,0	96,0	97,3	64,7	66,1	68,3	32,2	34,6	36,5
Northeastern Anatolia	94,2	91,6	94,5	43,4	43,9	49,0	22,3	22,8	25,2
Mideastern Anatolia	95,1	95,7	94,9	45,1	47,3	48,1	22,1	24,0	24,1
Southeastern Anatolia	96,0	96,1	96,4	48,5	50,7	52,0	19,8	21,4	21,9
Türkiye	97,5	97,3	97,5	58,4	60,1	61,5	29,1	31,1	32,4

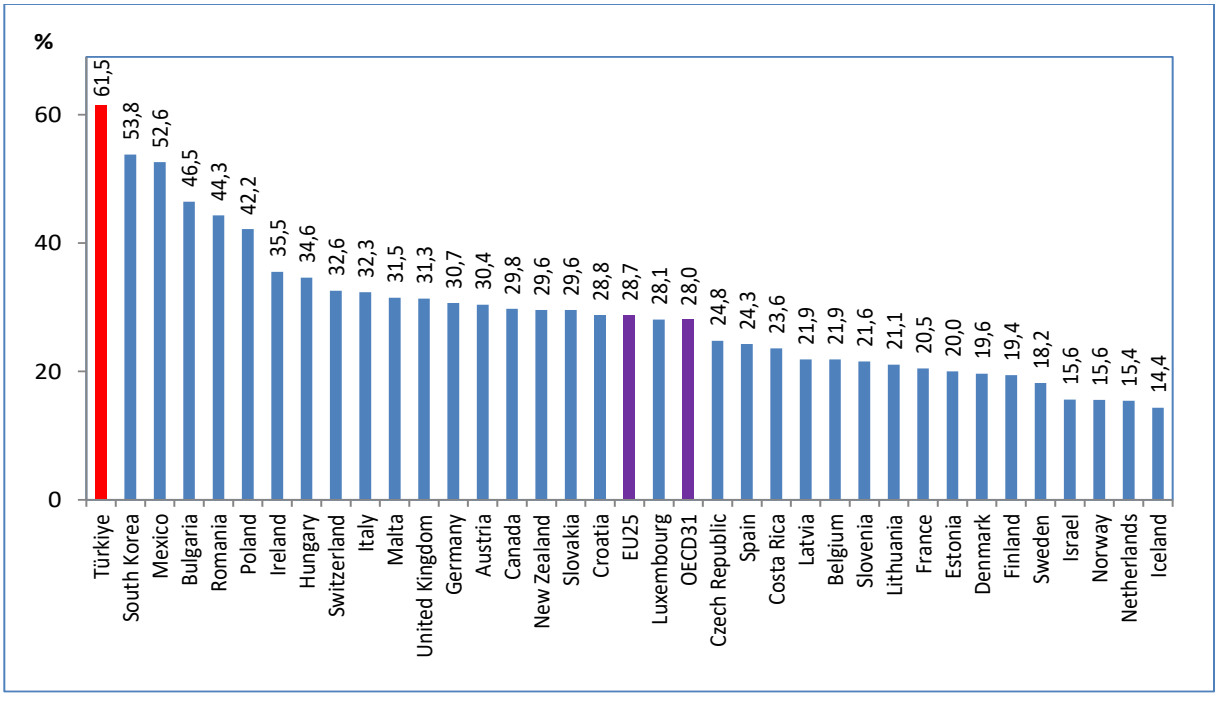
Source: General Directorate of Public Health

Figure 5.7. International Comparison of Proportion of Births Attended by Skilled Health Personnel, (%), 2022



Source: TDHS 2018, UNICEF/WHO Joint Database
Note: Türkiye's data belongs to TDHS 2018. Countries' data belong to the year 2022 or nearest.

Figure 5.8. International Comparison of Cesarean Sections Among Live Births, (%), 2022



Source: General Directorate of Public Health, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

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		
	2021	2022	2023	2021	2022	2023
Ministry of Health	44,6	46,4	49,6	17,5	18,5	20,1
University	73,1	74,4	76,4	36,8	38,8	42,4
Private	75,5	78,1	79,2	42,3	46,2	48,4
Total	60,9	62,8	64,2	30,3	32,5	33,8

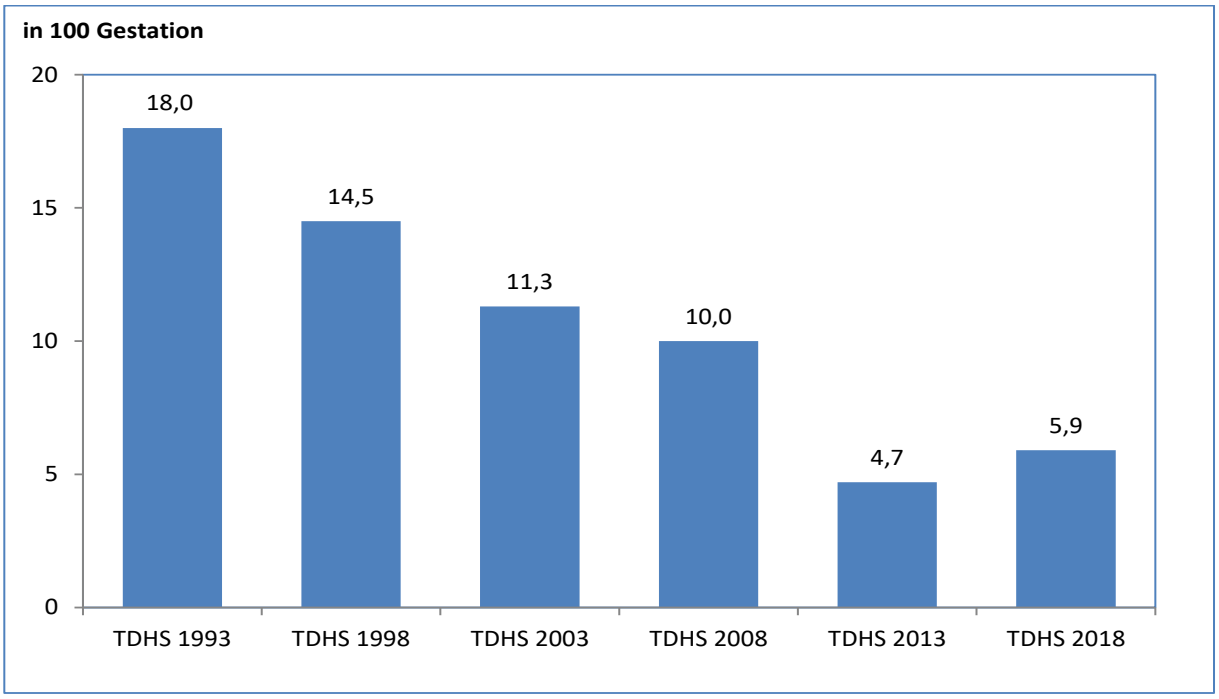
Source: General Directorate of Public Health

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

NUTS-1	2019	2020	2021	2022	2023
Istanbul	98,7	99,5	99,4	99,5	99,38
Western Marmara	99,9	99,8	99,8	99,6	99,54
Aegean	99,8	99,8	99,8	99,8	99,67
Eastern Marmara	99,8	99,8	99,7	99,7	99,53
Western Anatolia	99,4	99,7	99,7	99,7	99,57
Mediterranean	99,2	99,6	99,7	99,7	99,51
Central Anatolia	99,7	99,6	99,8	99,8	99,79
Western Blacksea	99,7	99,7	99,7	99,7	99,69
Eastern Blacksea	99,9	99,7	99,7	99,8	99,71
Northeastern Anatolia	99,8	99,8	99,7	99,8	99,74
Mideastern Anatolia	99,8	99,7	99,7	99,8	99,70
Southeastern Anatolia	99,2	99,7	99,8	99,8	99,58
Türkiye	99,4	99,7	99,7	99,7	99,57

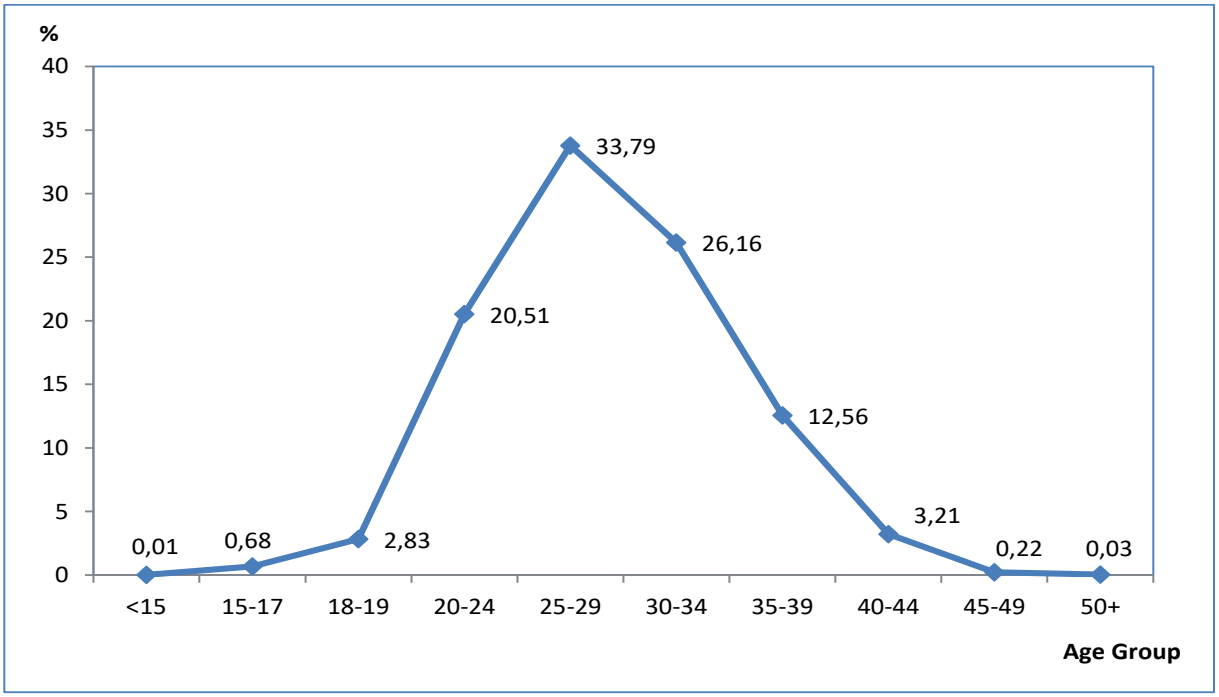
Source: General Directorate of Public Health

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



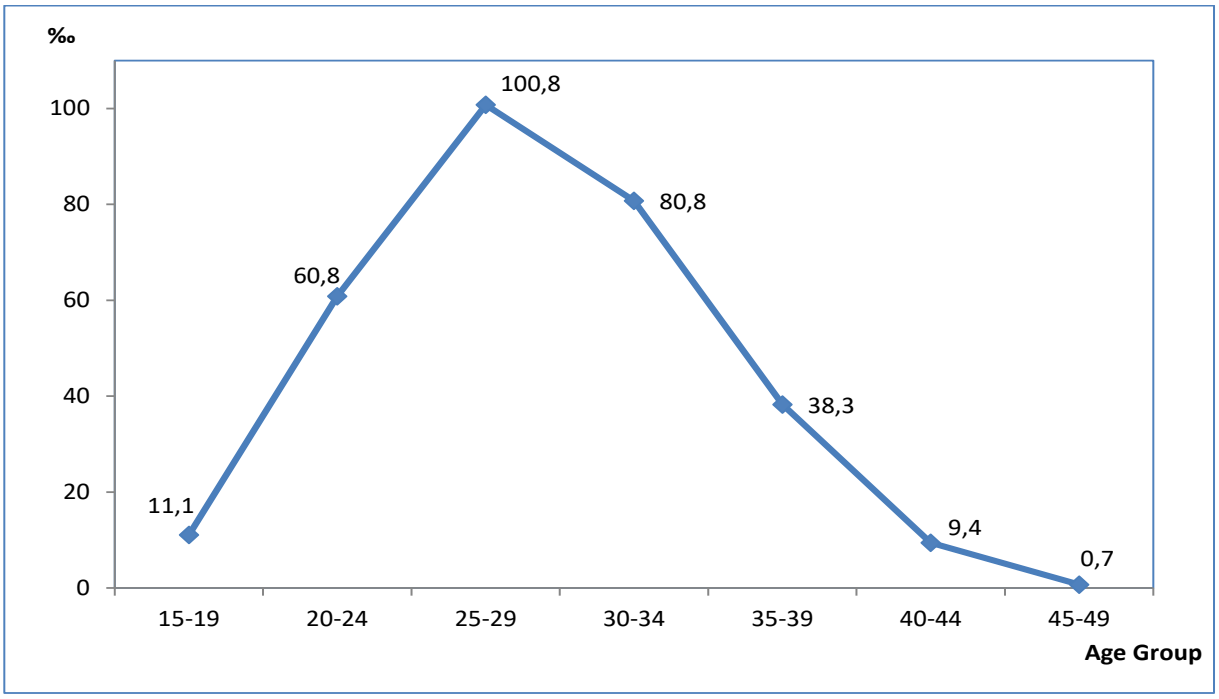
Source: TDHS 1993, 1998, 2003, 2008, 2013, 2018

Figure 5.10. Proportion of Births by Age Group of Mother Among All Births, (%), 2023



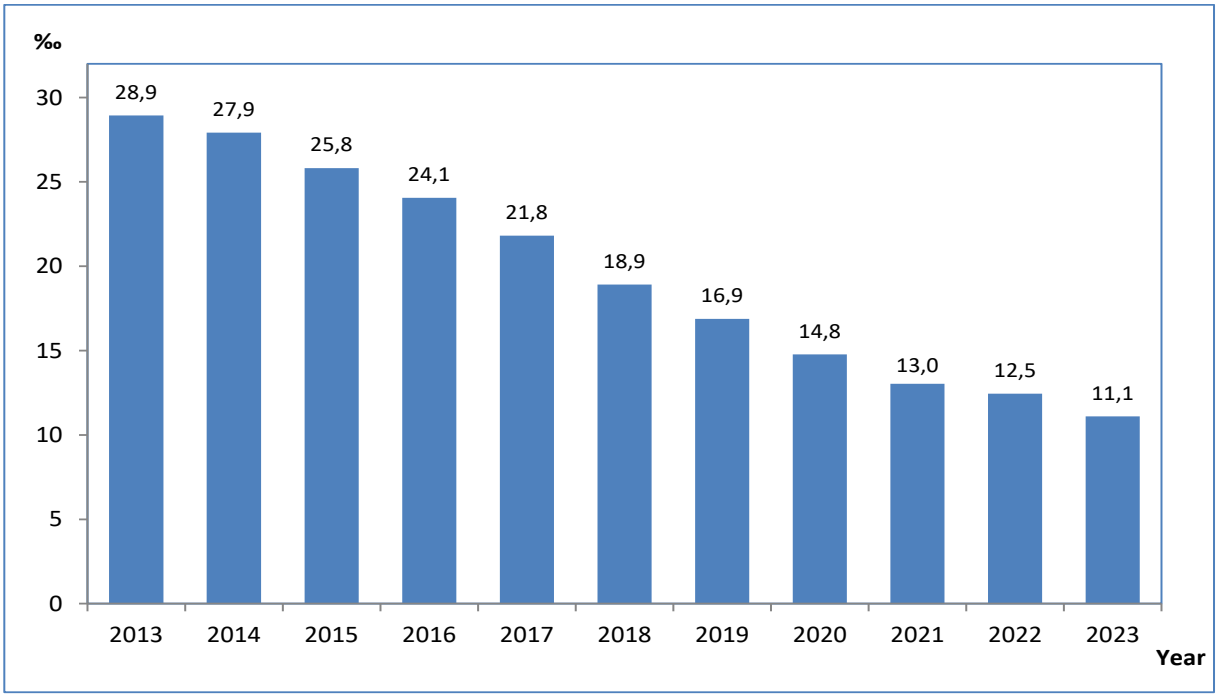
Source: TURKSTAT Birth Statistics 2023

Figure 5.11. Age-Specific Fertility Rate, (‰), 2023



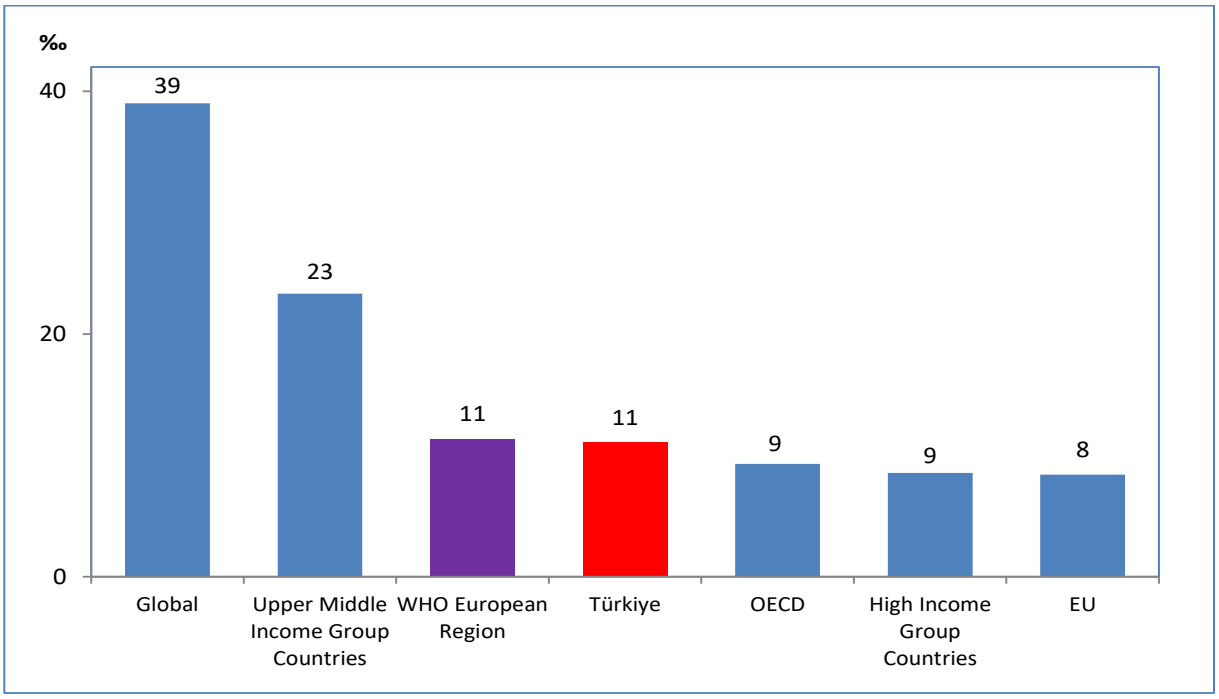
Source: TURKSTAT Birth Statistics 2023

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



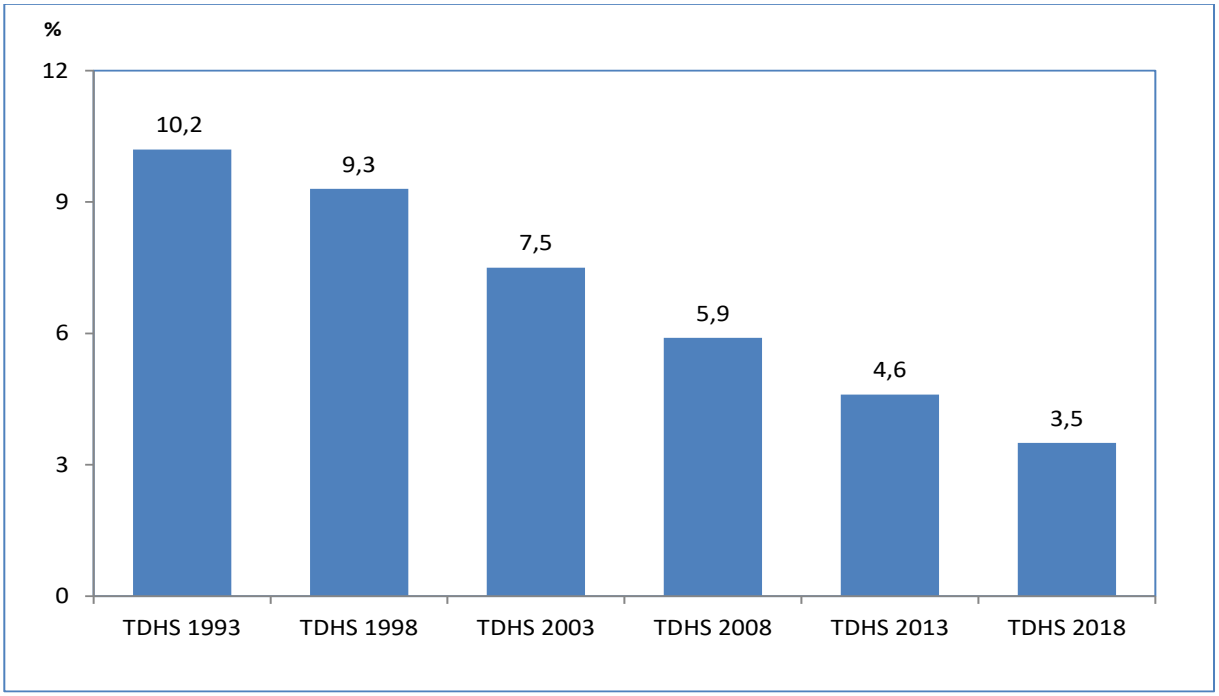
Source: TURKSTAT Birth Statistics 2023

Figure 5.13. International Comparison of Adolescent Fertility Rate, (‰), 2023



Source: TURKSTAT Birth Statistics 2023, 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, (%), 2022, 2023

NUTS-1	Pregnant		Infant		Child	
	2022	2023	2022	2023	2022	2023
Istanbul	96,0	96,1	93,1	92,6	95,9	92,9
Western Marmara	99,0	98,8	95,4	95,0	98,1	95,8
Aegean	98,8	98,6	94,1	93,8	97,5	94,4
Eastern Marmara	97,4	97,2	94,8	94,4	96,9	94,2
Western Anatolia	95,1	95,3	95,3	94,6	97,2	94,2
Mediterranean	94,5	92,7	93,6	82,8	96,1	88,0
Central Anatolia	96,7	97,2	94,5	93,0	97,5	91,2
Western Blacksea	98,7	99,0	97,9	97,0	98,1	95,1
Eastern Blacksea	99,4	99,5	98,1	96,5	97,7	93,7
Northeastern Anatolia	98,1	98,3	94,8	94,8	97,4	95,5
Mideastern Anatolia	97,1	97,0	93,2	90,1	96,8	92,5
Southeastern Anatolia	95,1	93,5	88,1	84,8	94,8	90,3
Türkiye	96,4	95,9	90,8	90,6	94,0	92,4

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.

☑ **Live Birth:** Regardless of the gestation period, it is the birth where the baby lives for at least a few minutes from the moment of birth and shows signs of life such as crying, breathing and moving.

☑ **Births at Hospital Among Live Births, (%):** 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.

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

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

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

Pregnancy follow-up periods and intervals;

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

☑ **Full Follow-Up of Infant:** A baby should be followed 9 times during the first year of life. The baby who has been followed first in the hospital immediately after birth and in addition at least 8 times (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.***

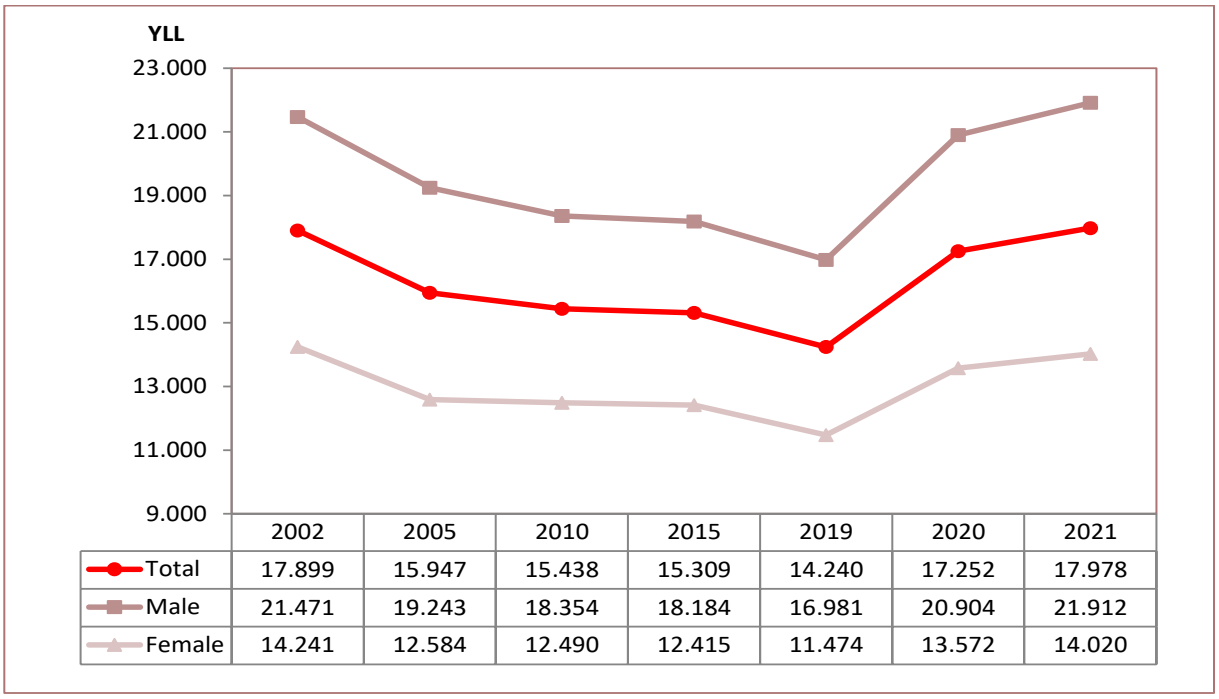
Child follow-up period and time intervals;

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 1021th-1110th days)
6. Follow-up: 48 months follow-up (Between 1321th-1530th days)
7. Follow-up: 60-month follow-up (Between 1681th-1890th days)

CHAPTER 6

Global Burden of Disease 2021 Türkiye Results

Figure 6.1. YLL per 100.000 Population by Years and Sex



	2002	2005	2010	2015	2019	2020	2021
Total	17.899	15.947	15.438	15.309	14.240	17.252	17.978
Male	21.471	19.243	18.354	18.184	16.981	20.904	21.912
Female	14.241	12.584	12.490	12.415	11.474	13.572	14.020

Source: IHME Global Burden of Disease Study 2021

Table 6.1. Change in 2021 Top 10 YLL Causes Compared to 2002, (%), Total

Rank	Cause	2002	2021	Change (%)
1	COVID-19	-	2.621.459	-
2	Ischemic Heart Disease	1.516.175	2.127.974	40,35
3	Stroke	877.991	1.054.175	20,07
4	Tracheal, Bronchus, and Lung Cancer	527.613	819.330	55,29
5	Chronic Obstructive Pulmonary Disease	324.952	597.649	83,92
6	Chronic Kidney Disease	239.436	479.476	100,25
7	Diabetes Mellitus	266.754	453.602	70,04
8	Neonatal Disorders	1.721.702	406.749	-76,38
9	Road Injuries	408.529	377.666	-7,55
10	Congenital Birth Defects	1.354.836	368.839	-72,78

Source: IHME Global Burden of Disease Study 2021

Table 6.2. Change in 2021 Top 10 YLL Causes Compared to 2002, (%), Male

Rank	Cause	2002	2021	Change (%)
1	COVID-19	-	1.703.200	-
2	Ischemic Heart Disease	1.013.506	1.330.679	31,29
3	Tracheal, Bronchus, and Lung Cancer	461.091	689.220	49,48
4	Stroke	477.805	535.904	12,16
5	Chronic Obstructive Pulmonary Disease	221.342	402.615	81,90
6	Road Injuries	315.318	301.991	-4,23
7	Chronic Kidney Disease	127.951	244.160	90,82
8	Diabetes Mellitus	127.171	225.456	77,29
9	Neonatal Disorders	1.003.037	224.418	-77,63
10	Congenital Birth Defects	738.159	201.367	-72,72

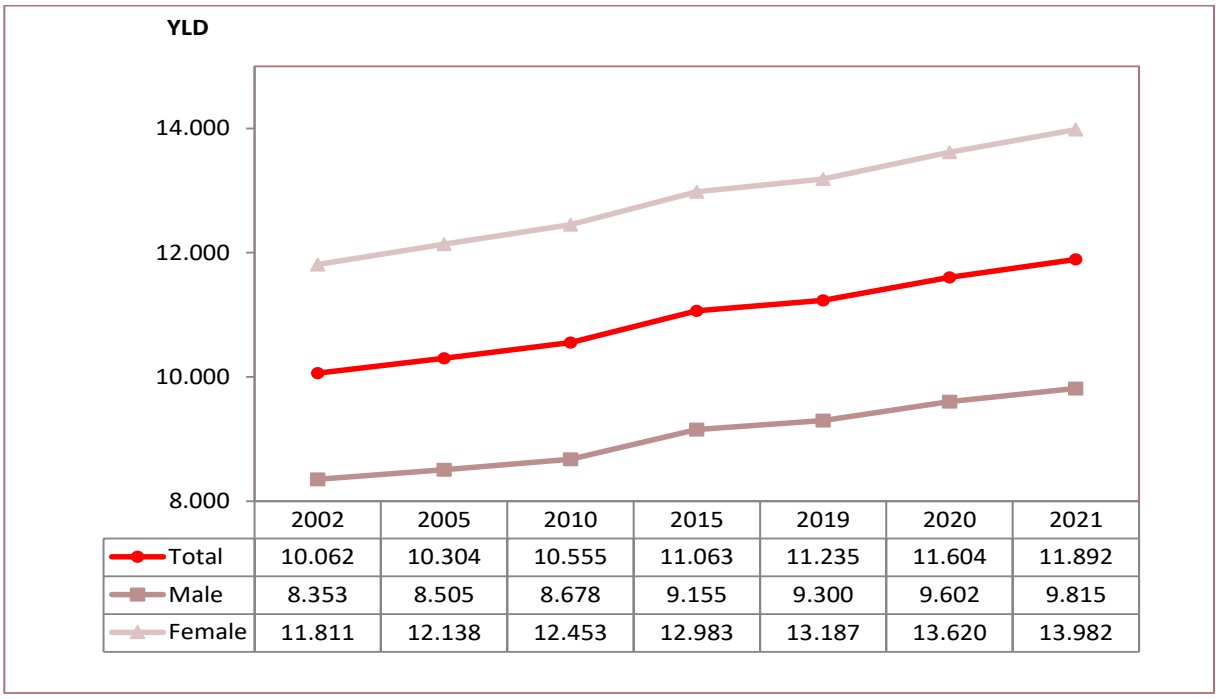
Source: IHME Global Burden of Disease Study 2021

Table 6.3. Change in 2021 Top 10 YLL Causes Compared to 2002, (%), Female

Rank	Cause	2002	2021	Change (%)
1	COVID-19	-	918.258	-
2	Ischemic Heart Disease	502.669	797.294	58,61
3	Stroke	400.186	518.271	29,51
4	Chronic Kidney Disease	111.485	235.316	111,08
5	Diabetes Mellitus	139.584	228.146	63,45
6	Chronic Obstructive Pulmonary Disease	103.610	195.034	88,24
7	Breast Cancer	40.131	184.755	360,38
8	Neonatal Disorders	718.665	182.331	-74,63
9	Hypertensive Heart Disease	93.849	173.776	85,16
10	Congenital Birth Defects	616.677	167.471	-72,84

Source: IHME Global Burden of Disease Study 2021

Figure 6.2. YLD per 100.000 Population by Years and Sex



	2002	2005	2010	2015	2019	2020	2021
Total	10.062	10.304	10.555	11.063	11.235	11.604	11.892
Male	8.353	8.505	8.678	9.155	9.300	9.602	9.815
Female	11.811	12.138	12.453	12.983	13.187	13.620	13.982

Source: IHME Global Burden of Disease Study 2021

Table 6.4. Change in 2021 Top 10 YLD Causes Compared to 2002, (%), Total

Rank	Cause	2002	2021	Change (%)
1	Low Back Pain	639.855	915.900	43,14
2	Depressive Disorders	509.742	766.500	50,37
3	Headache Disorders	457.226	588.581	28,73
4	Diabetes Mellitus	176.536	560.709	217,62
5	Anxiety Disorders	365.067	559.351	53,22
6	Gynaecological Diseases	380.386	513.023	34,87
7	Other Musculoskeletal Disorders	247.520	443.970	79,37
8	Age-Related and Other Hearing Loss	268.619	433.732	61,47
9	Neck Pain	232.642	349.841	50,38
10	Oral Disorders	232.142	343.056	47,78

Source: IHME Global Burden of Disease Study 2021

Table 6.5. Change in 2021 Top 10 YLD Causes Compared to 2002, (%), Male

Rank	Cause	2002	2021	Change (%)
1	Low Back Pain	303.123	402.422	32,76
2	Depressive Disorders	178.305	277.807	55,80
3	Diabetes Mellitus	80.278	262.293	226,73
4	Age-Related and Other Hearing Loss	134.118	216.923	61,74
5	Anxiety Disorders	144.469	216.329	49,74
6	Headache Disorders	158.414	211.697	33,64
7	Other Musculoskeletal Disorders	97.842	180.421	84,40
8	Oral Disorders	112.998	171.042	51,37
9	Blindness and Vision Loss	80.776	122.984	52,25
10	Neonatal Disorders	101.292	105.216	3,87

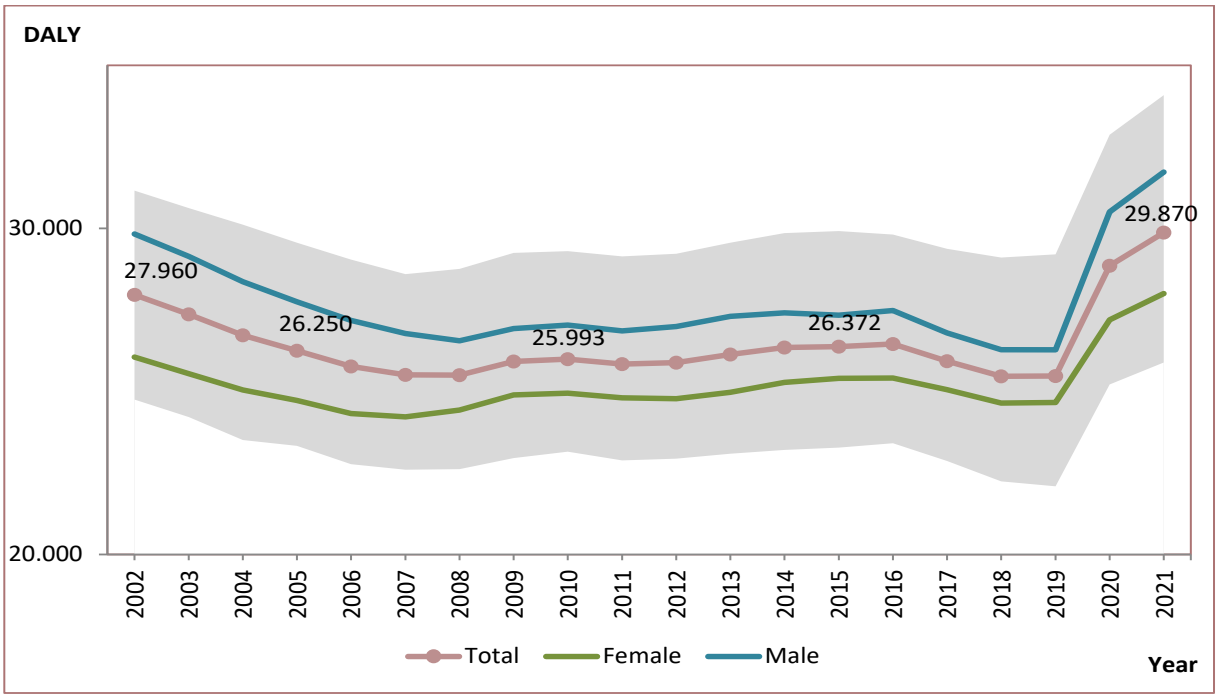
Source: IHME Global Burden of Disease Study 2021

Table 6.6. Change in 2021 Top 10 YLD Causes Compared to 2002, (%), Female

Rank	Cause	2002	2021	Change (%)
1	Low Back Pain	336.732	513.478	52,49
2	Gynaecological Diseases	380.386	513.023	34,87
3	Depressive Disorders	331.438	488.693	47,45
4	Headache Disorders	298.812	376.884	26,13
5	Anxiety Disorders	220.597	343.023	55,50
6	Diabetes Mellitus	96.258	298.416	210,02
7	Other Musculoskeletal Disorders	149.679	263.549	76,08
8	Neck Pain	166.472	250.904	50,72
9	Age-Related and Other Hearing Loss	134.500	216.809	61,20
10	Oral Disorders	119.144	172.014	44,37

Source: IHME Global Burden of Disease Study 2021

Figure 6.3. DALY per 100.000 Population by Years and Sex



Source: IHME Global Burden of Disease Study 2021
Note: The gray area in the chart represents the confidence interval for the total DALY.

Table 6.7. Change in 2021 Top 10 DALY Causes Compared to 2002, (%), Total

Rank	Cause	2002	2021	Change (%)
1	COVID-19	-	2.791.167	-
2	Ischemic Heart Disease	1.551.785	2.187.119	40,94
3	Stroke	981.350	1.185.231	20,78
4	Diabetes Mellitus	443.290	1.014.311	128,81
5	Low Back Pain	639.855	915.900	43,14
6	Tracheal, Bronchus, and Lung Cancer	531.855	826.314	55,36
7	Depressive Disorders	509.742	766.500	50,37
8	Chronic Obstructive Pulmonary Disease	420.927	761.035	80,80
9	Neonatal Disorders	1.905.664	599.308	-68,55
10	Headache Disorders	457.226	588.581	28,73

Source: IHME Global Burden of Disease Study 2021

Table 6.8. Change in 2021 Top 10 DALY Causes Compared to 2002, (%), Male

Rank	Cause	2002	2021	Change (%)
1	COVID-19	-	1.767.613	-
2	Ischemic Heart Disease	1.034.697	1.366.117	32,03
3	Tracheal, Bronchus, and Lung Cancer	464.785	695.015	49,53
4	Stroke	525.923	595.536	13,24
5	Diabetes Mellitus	207.449	487.749	135,12
6	Chronic Obstructive Pulmonary Disease	265.278	476.296	79,55
7	Low Back Pain	303.123	402.422	32,76
8	Road Injuries	345.830	338.816	-2,03
9	Neonatal Disorders	1.104.329	329.635	-70,15
10	Chronic Kidney Disease	158.387	280.329	76,99

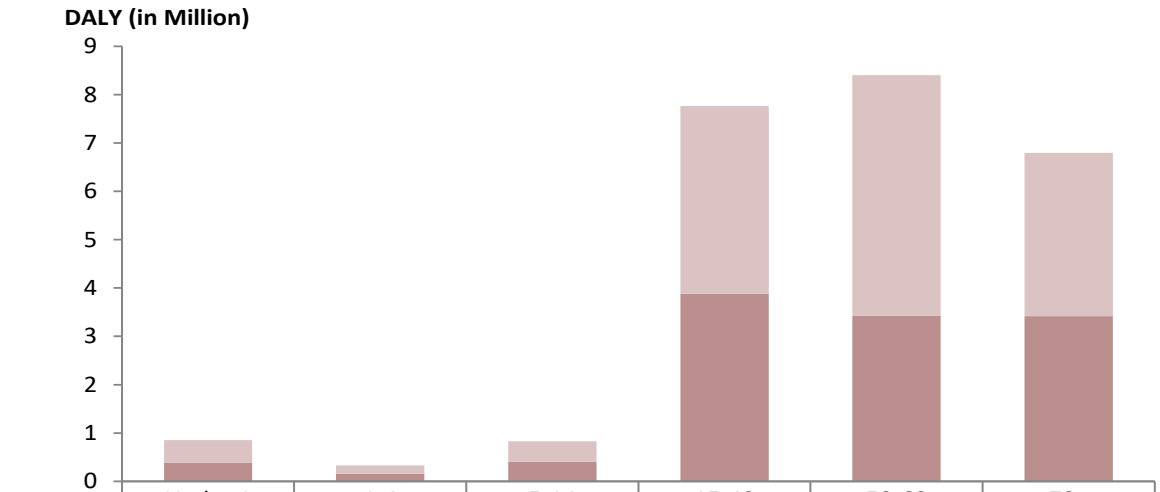
Source: IHME Global Burden of Disease Study 2021

Table 6.9. Change in 2021 Top 10 DALY Causes Compared to 2002, (%), Female

Rank	Cause	2002	2021	Change (%)
1	COVID-19	-	1.023.554	-
2	Ischemic Heart Disease	517.088	821.001	58,77
3	Stroke	455.427	589.694	29,48
4	Diabetes Mellitus	235.842	526.562	123,27
5	Gynaecological Diseases	382.283	514.425	34,57
6	Low Back Pain	336.732	513.478	52,49
7	Depressive Disorders	331.438	488.693	47,45
8	Headache Disorders	298.812	376.884	26,13
9	Anxiety Disorders	220.597	343.023	55,50
10	Chronic Obstructive Pulmonary Disease	155.649	284.739	82,94

Source: IHME Global Burden of Disease Study 2021

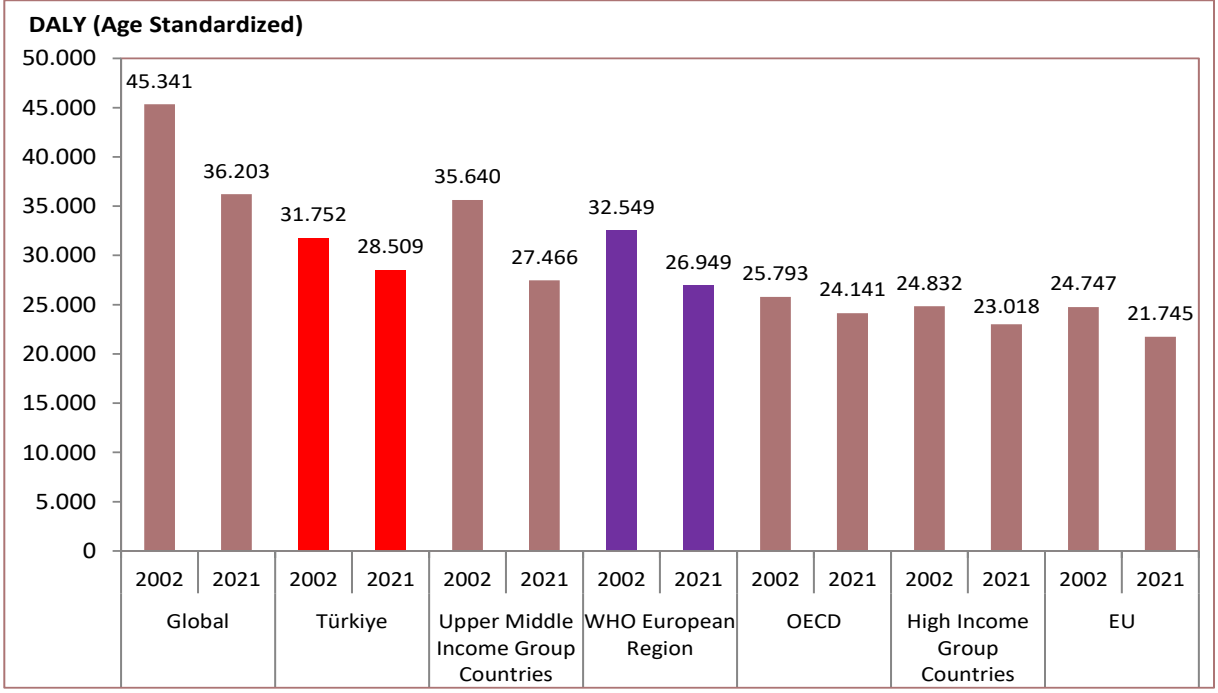
Figure 6.4. DALY by Sex and Age Groups, (in Million), 2021



	Under 1	1-4	5-14	15-49	50-69	70+
Total	0,85	0,33	0,83	7,77	8,40	6,80
Male	0,46	0,18	0,42	3,89	4,98	3,38
Female	0,39	0,15	0,41	3,88	3,42	3,42

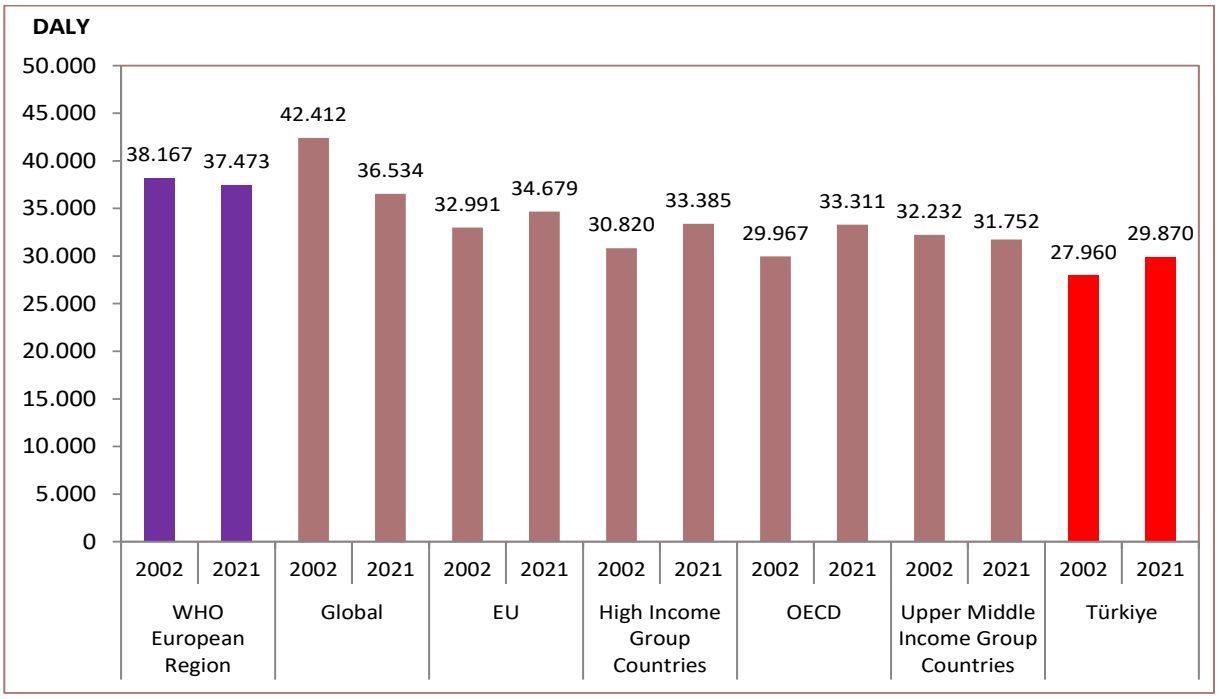
Source: IHME Global Burden of Disease Study 2021

Figure 6.5. International Comparison of DALY per 100.000 Population, Age Standardized, 2002, 2021



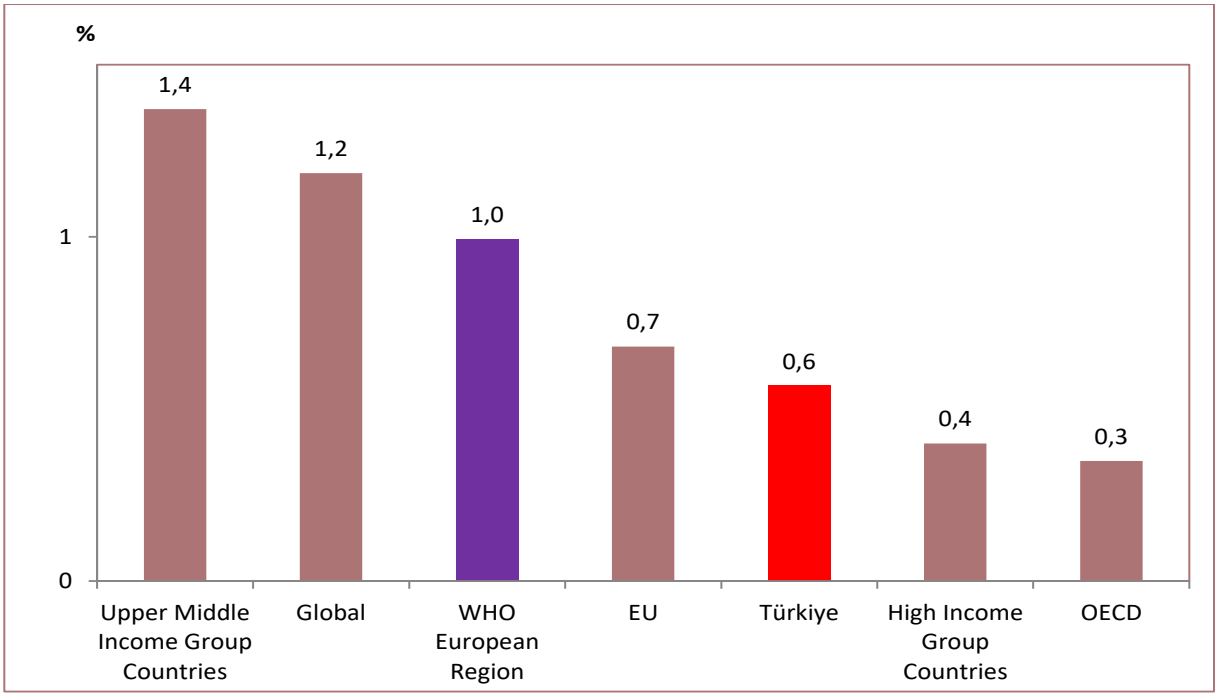
Source: IHME Global Burden of Disease Study 2021
Note: To allow comparisons between countries and over time this metric is age-standardized.

Figure 6.6. International Comparison of DALY per 100.000 Population, 2002, 2021



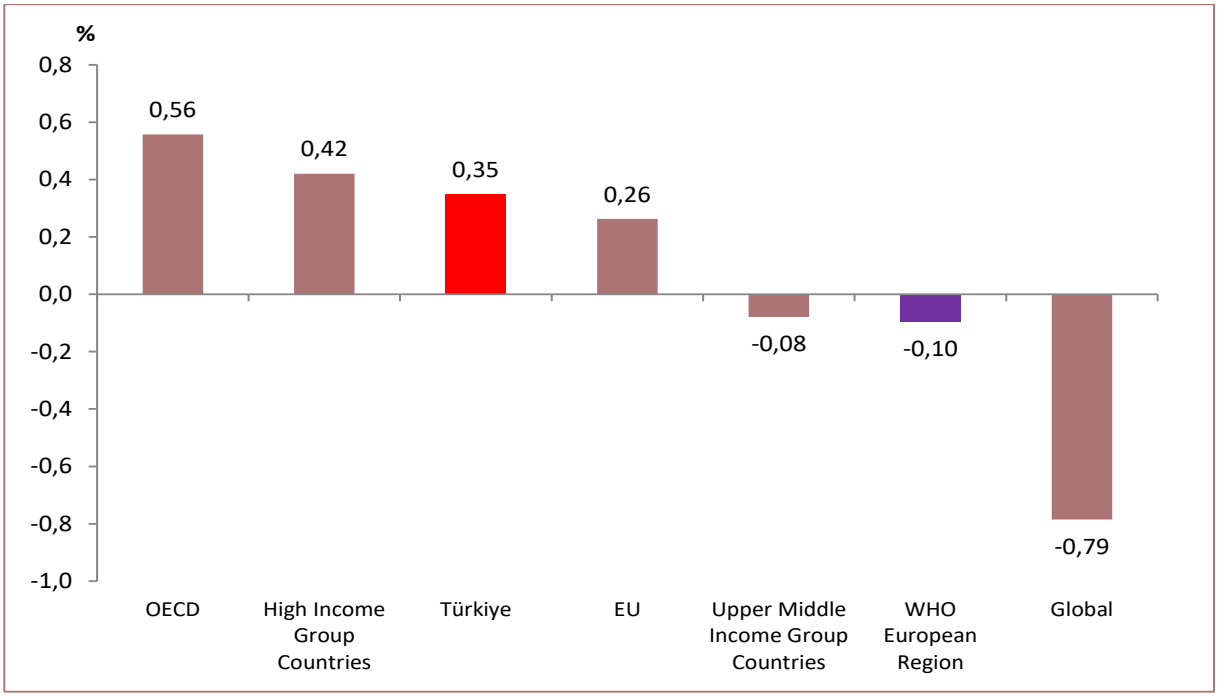
Source: IHME Global Burden of Disease Study 2021
Note: Age standardization is not used to analyze effect of age pattern.

Figure 6.7. International Comparison of Annual Average Decreasing in DALY per 100.000 Population Between 2002-2021, Age Standardized, (%)



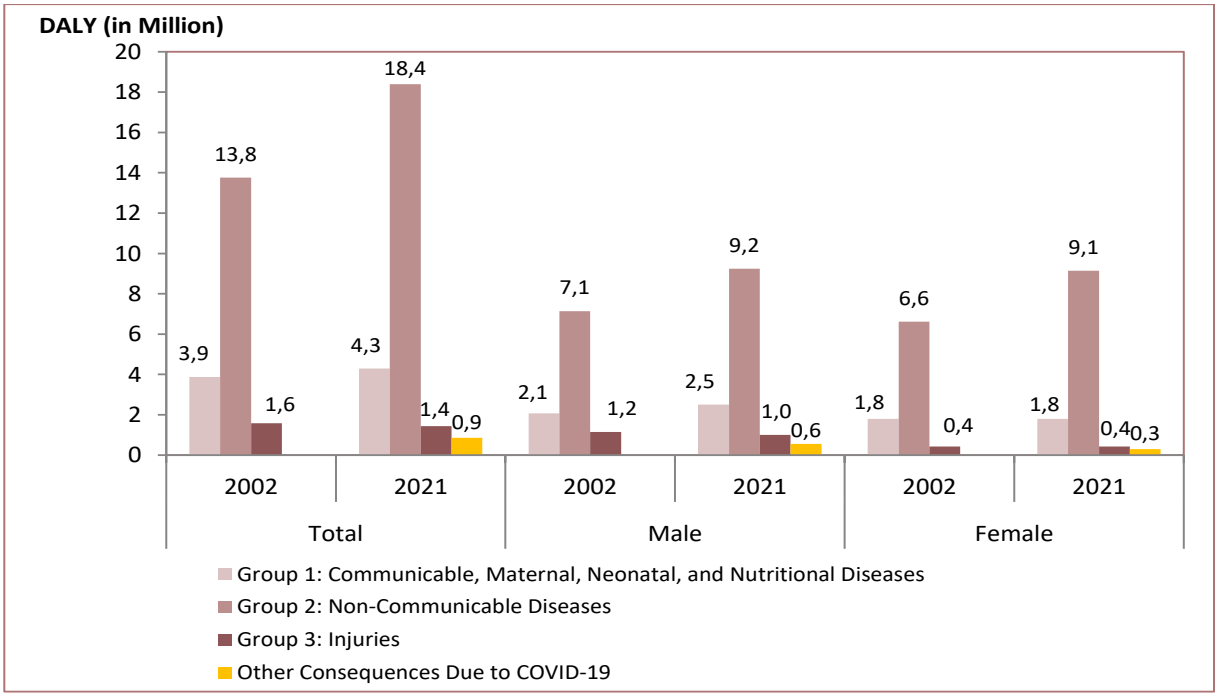
Source: IHME Global Burden of Disease Study 2021
Note: To allow comparisons between countries and over time this metric is age-standardized.

Figure 6.8. International Comparison of Annual Average Change in DALY per 100.000 Population Between 2002-2021, (%)



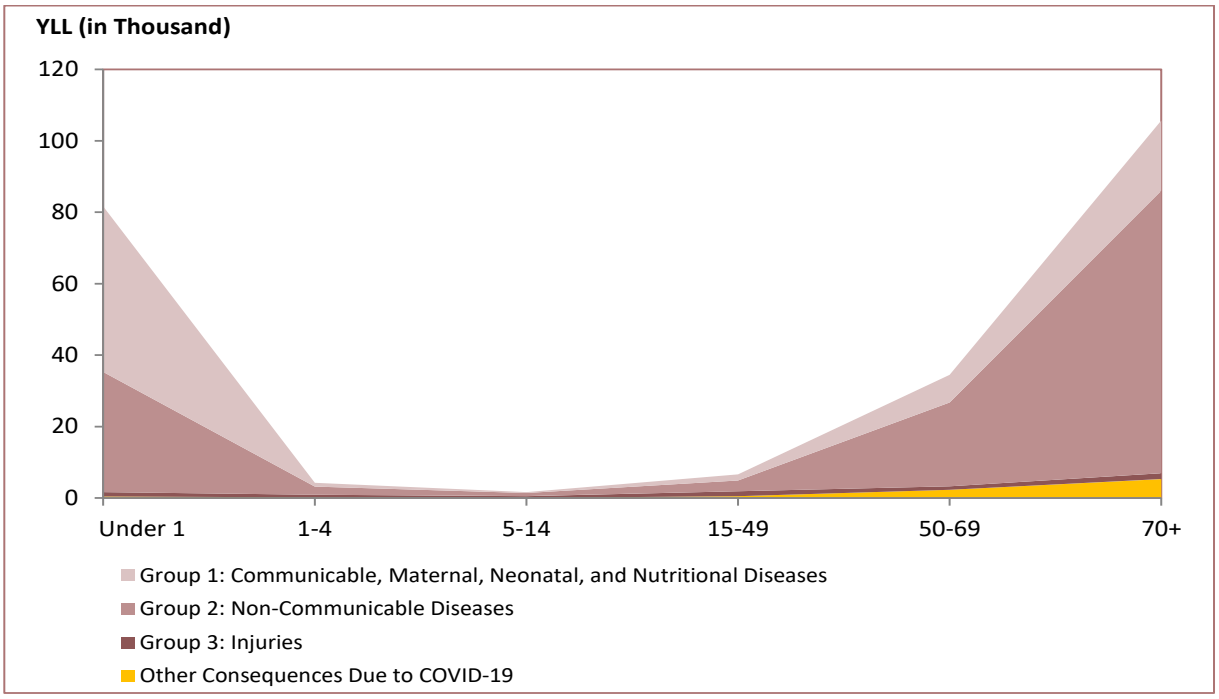
Source: IHME Global Burden of Disease Study 2021
Note: Age standardization is not used to analyze effect of age pattern.

Figure 6.9. DALY by Major Disease Groups and Sex, (in Million), 2002, 2021



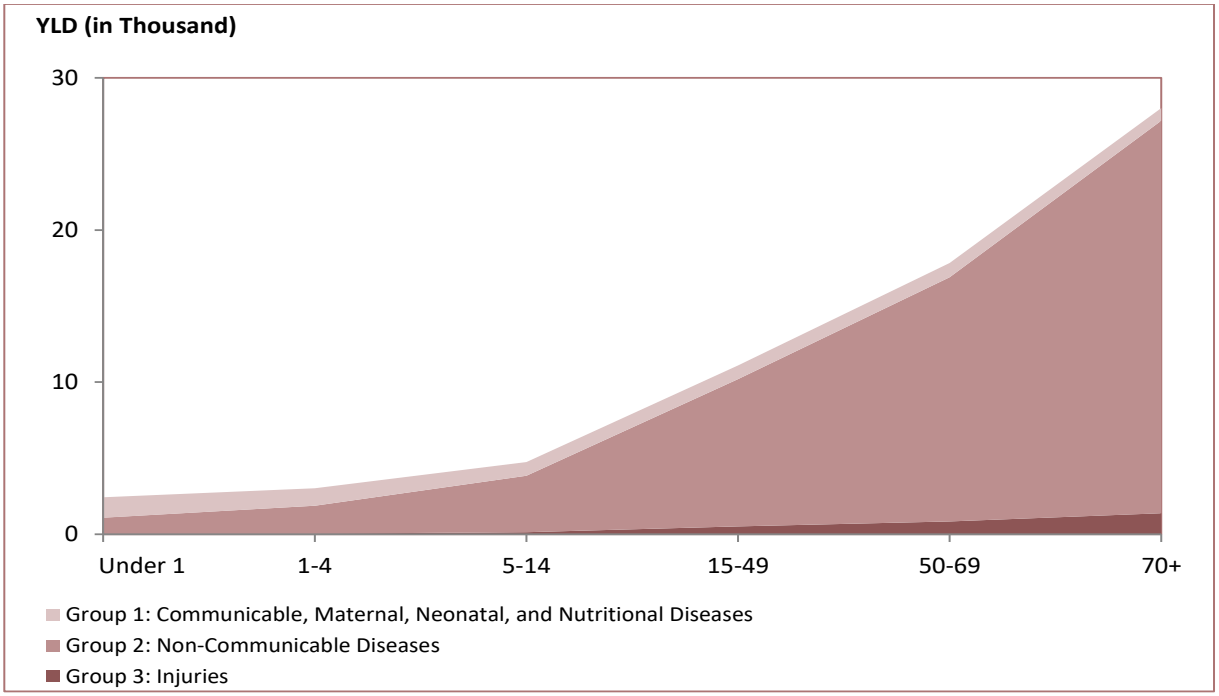
Source: IHME Global Burden of Disease Study 2021

Figure 6.10. YLL per 100.000 Population by Major Disease Group and Age Group, (in Thousand), 2021



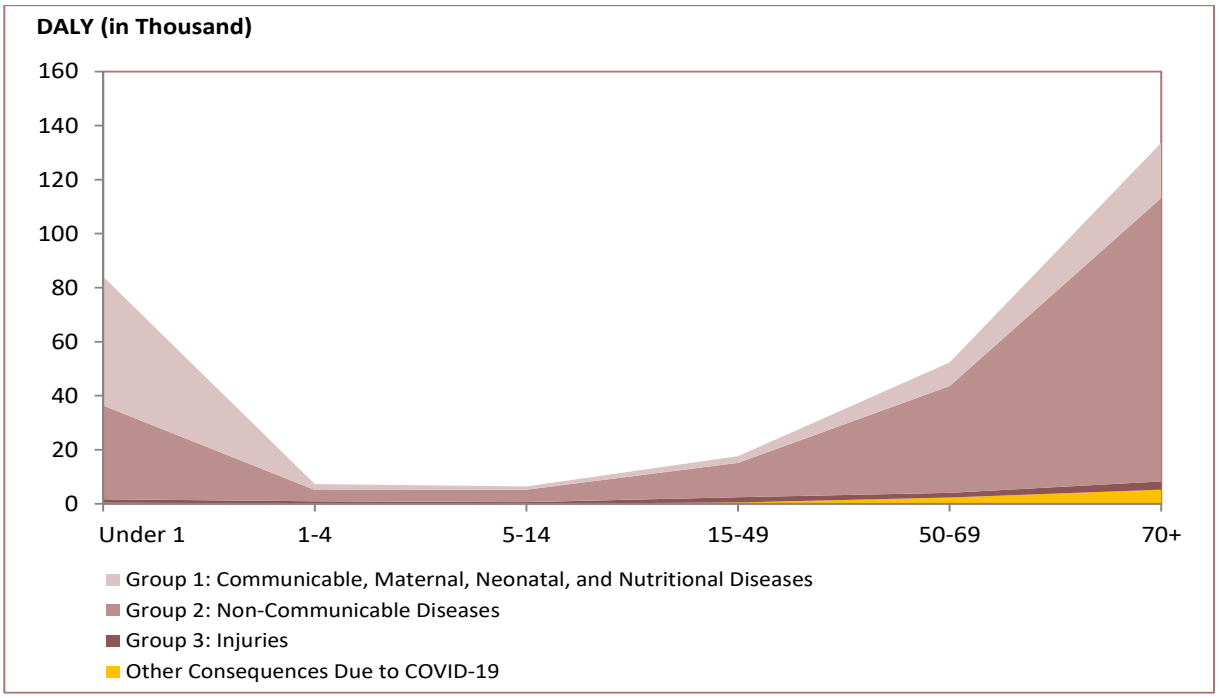
Source: IHME Global Burden of Disease Study 2021

Figure 6.11. YLD per 100.000 Population by Major Disease Group and Age Group, (in Thousand), 2021



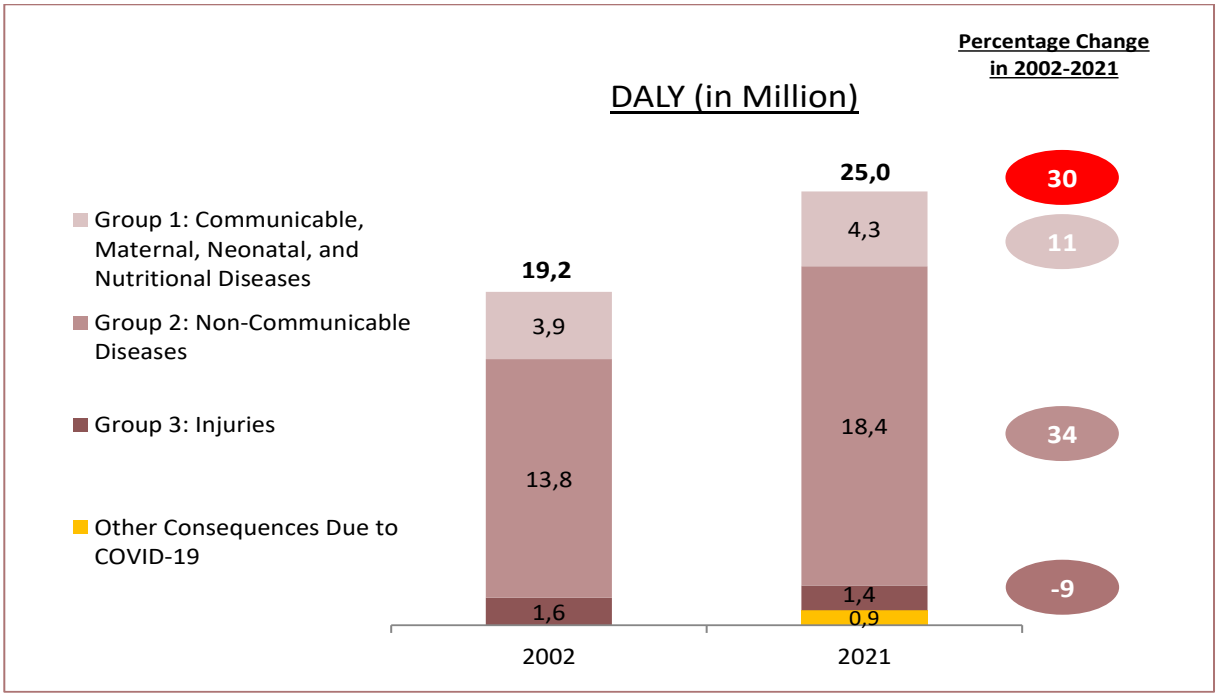
Source: IHME Global Burden of Disease Study 2021

Figure 6.12. DALY per 100.000 Population by Major Disease Group and Age Group, (in Thousand), 2021



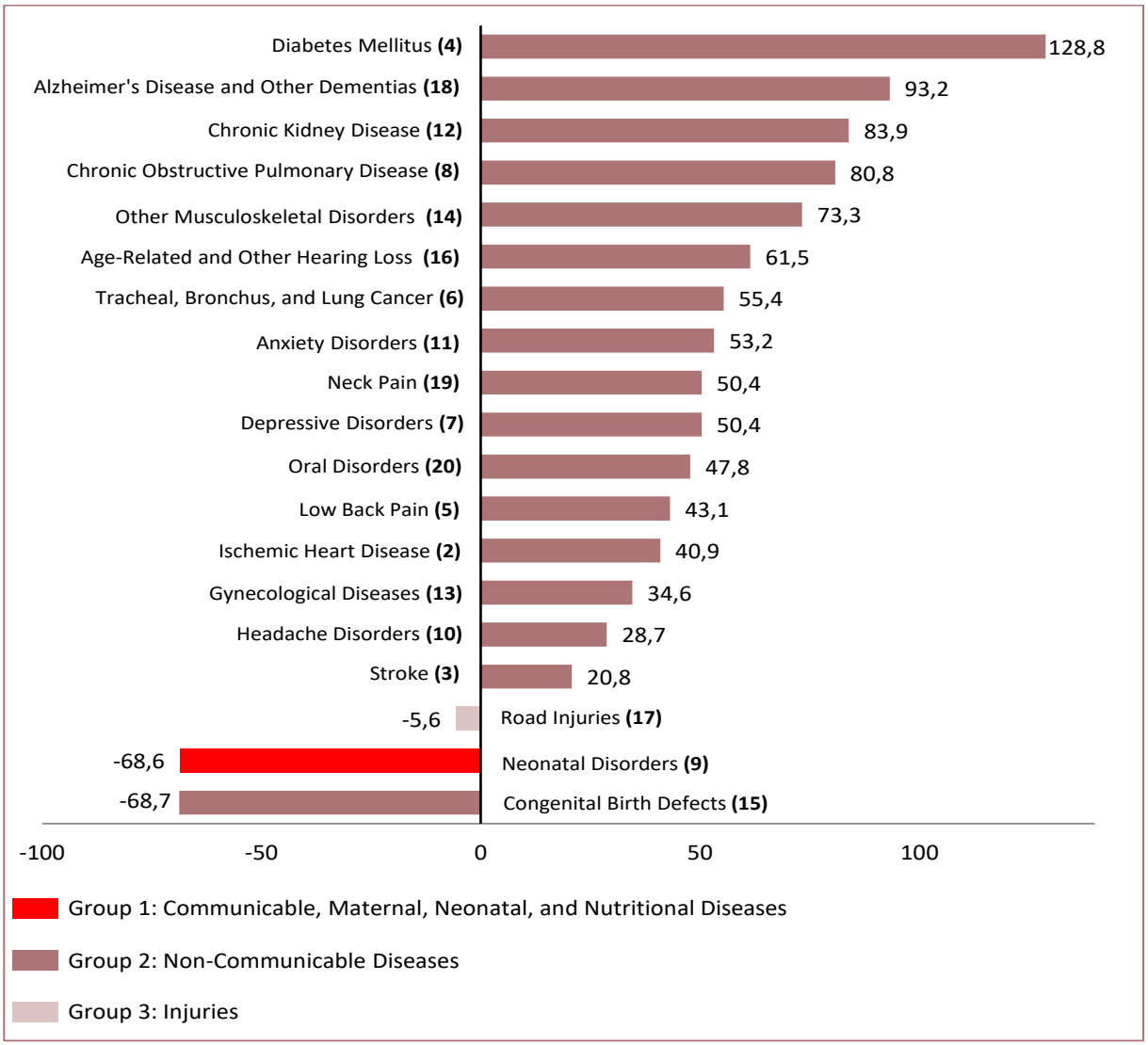
Source: IHME Global Burden of Disease Study 2021

Figure 6.13. DALY in Major Disease Groups (in Million) and Percentage Change, (%), 2002, 2021



Source: IHME Global Burden of Disease Study 2021

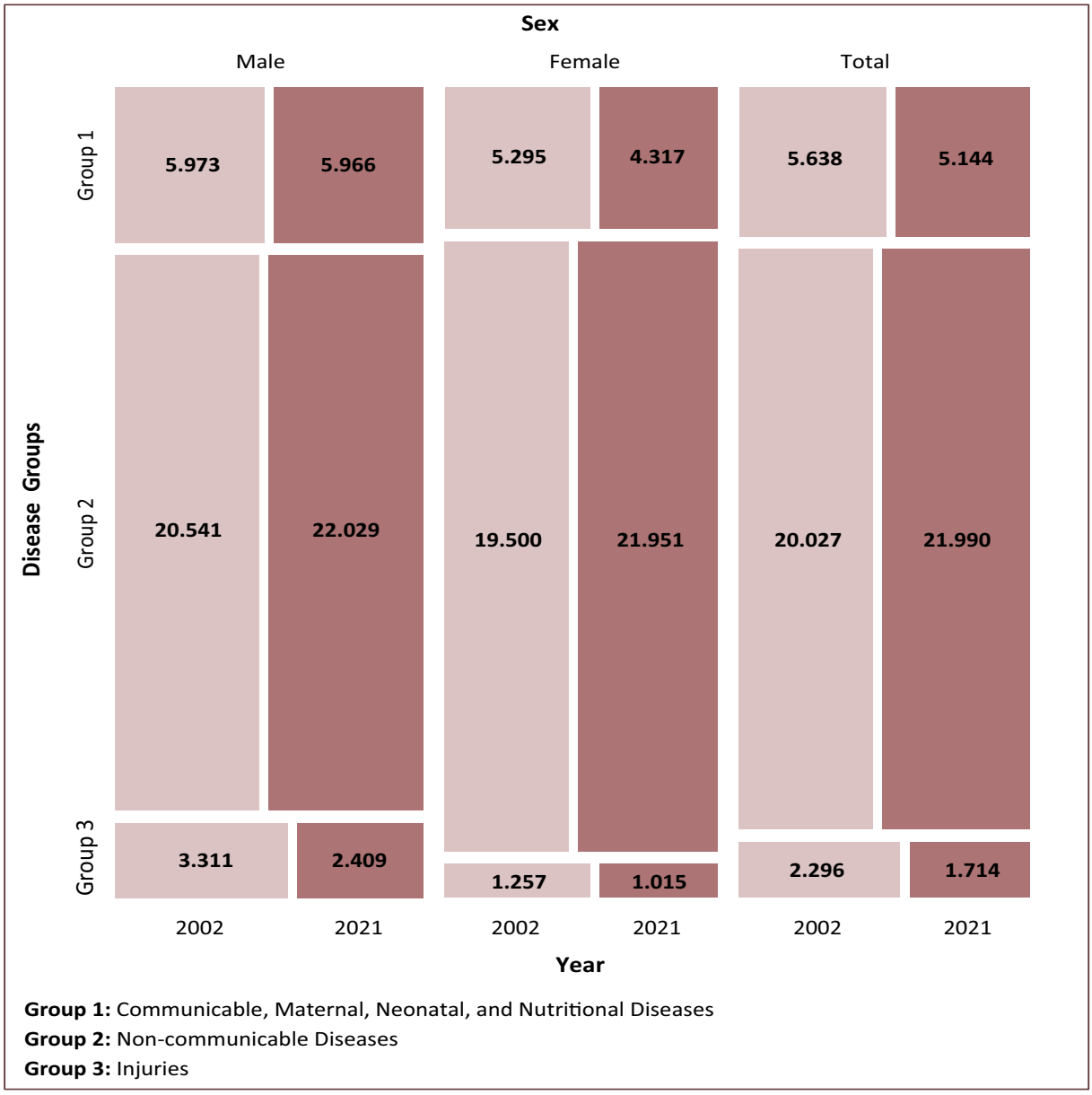
Figure 6.14. Change in Year of 2021 Top 20 DALY Causes Compared to Year of 2002, (%)



Source: IHME Global Burden of Disease Study 2021

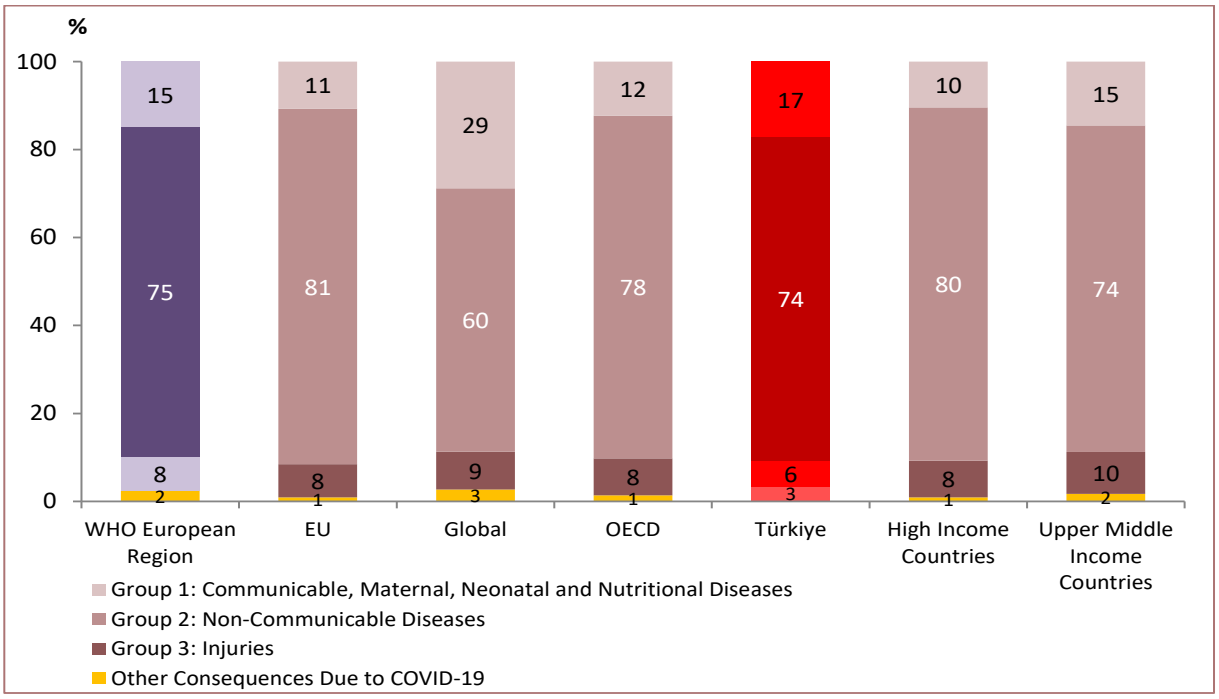
Note: The number in parenthesis written with cause show the rank of related cause in the "2021 Top 20 DALY Causes". COVID-19 is not shown in the chart due to the absence in 2002. The highest number of DALYs in 2021 belongs to COVID-19.

Figure 6.15. DALY per 100.000 Population by Major Disease Groups and Sex, 2002, 2021



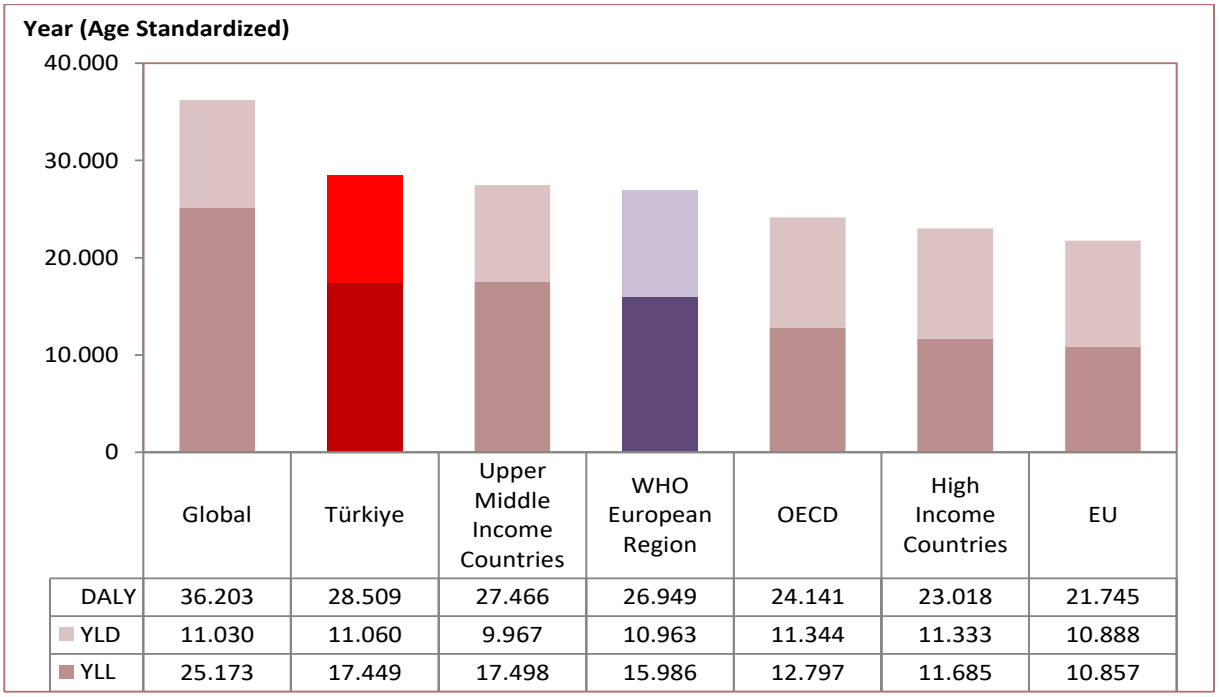
Source: IHME Global Burden of Disease Study 2021

Figure 6.16. International Comparison of DALY by Major Disease Groups as Percentage, (%), 2021



Source: IHME Global Burden of Disease Study 2021

Figure 6.17. International Comparison of YLL, YLD and DALY per 100.000 Population, Age Standardized, 2021



	Global	Türkiye	Upper Middle Income Countries	WHO European Region	OECD	High Income Countries	EU
DALY	36.203	28.509	27.466	26.949	24.141	23.018	21.745
YLD	11.030	11.060	9.967	10.963	11.344	11.333	10.888
YLL	25.173	17.449	17.498	15.986	12.797	11.685	10.857

Source: IHME Global Burden of Disease Study 2021
Note: To allow comparisons between countries and over time this metric is age-standardized.

Figure 6.18. International Comparison of Türkiye's Top 10 YLL Causes, 2021

Countries	COVID-19	Ischemic Heart Disease	Stroke	Tracheal, Bronchus, and Lung Cancer	Chronic Obstructive Pulmonary Disease	Chronic Kidney Disease	Diabetes Mellitus	Neonatal Disorders	Road Injuries	Congenital Birth Defects
Türkiye	1	2	3	4	5	6	7	8	9	10
Global	1	2	4	10	6	16	14	3	7	12
Brazil	1	2	4	13	9	10	8	6	5	11
Chile	1	2	3	9	13	7	14	16	6	15
France	1	3	4	2	11	15	14	26	18	38
Hungary	1	2	4	3	5	15	11	41	18	42
India	1	2	5	24	4	17	12	3	9	13
Israel	1	2	5	3	10	6	7	23	15	16
Mexico	1	2	9	20	12	5	4	7	8	10
Poland	1	2	3	4	15	23	10	40	16	30
Portugal	1	3	2	4	8	9	10	41	17	39
Russia	1	2	3	7	18	23	11	32	12	40
Spain	1	2	4	3	6	8	13	41	23	40
United Kingdom	1	2	5	3	4	20	28	21	41	29
United States	1	2	6	3	4	7	13	20	11	26
Austria	2	1	5	3	6	9	14	35	25	32
Canada	2	1	4	3	5	14	12	19	17	28
Croatia	2	1	3	4	6	10	8	33	21	36
Germany	2	1	4	3	6	8	14	37	30	35
Greece	2	1	3	4	9	6	18	32	13	31
Ireland	2	1	5	3	4	12	21	24	31	17
Italy	2	1	3	5	8	12	10	39	18	38
Belgium	3	1	4	2	6	14	20	28	16	31
Netherlands	3	2	4	1	5	13	15	21	29	27
Switzerland	3	1	5	2	6	9	17	24	31	19
Denmark	7	2	4	1	3	12	13	24	35	31
Norway	13	1	4	2	3	16	18	39	36	31
Australia	15	1	3	2	6	11	10	25	14	30
Japan	24	3	1	4	13	10	29	63	35	41
New Zealand	85	1	3	2	4	10	13	14	9	17
China	118	2	1	4	3	12	16	21	6	22

Source: IHME Global Burden of Disease 2021
Note: The numbers on the boxes indicate the rank of the relevant cause in that country.

Figure 6.19. International Comparison of Türkiye's Top 10 YLD Causes, 2021

Countries	Low Back Pain	Depressive Disorders	Headache Disorders	Diabetes Mellitus	Anxiety Disorders	Gynaecological Diseases	Other Musculoskeletal Disorders	Age-related and Other Hearing Loss	Neck Pain	Oral Disorders
Türkiye	1	2	3	4	5	6	7	8	9	10
Global	1	2	3	7	6	10	5	4	15	12
Australia	1	2	7	8	5	11	3	6	23	10
Austria	1	5	4	12	3	6	10	7	8	11
Belgium	1	4	3	6	5	7	12	8	11	9
Brazil	1	3	4	6	2	12	5	7	13	8
Canada	1	4	5	3	7	15	2	6	14	12
Chile	1	3	6	5	4	9	2	8	15	10
Croatia	1	5	6	3	7	11	19	4	15	8
Denmark	1	2	5	12	3	6	7	8	10	9
France	1	3	5	11	4	8	10	6	14	12
Germany	1	4	5	7	2	8	11	6	13	12
Greece	1	2	4	5	3	8	10	6	12	11
Hungary	1	4	6	2	7	16	20	3	13	9
Ireland	1	2	4	8	3	6	7	9	11	12
Israel	1	2	3	6	4	5	8	9	10	12
Italy	1	3	4	7	5	14	9	6	11	12
Japan	1	7	9	3	12	17	2	4	13	11
Netherlands	1	3	5	6	2	7	8	9	12	10
New Zealand	1	4	5	7	2	10	12	6	31	8
Norway	1	3	5	7	2	8	11	6	12	9
Poland	1	8	4	2	7	18	17	3	13	6
Portugal	1	2	5	4	3	10	9	6	12	11
Russia	1	2	3	7	6	8	19	4	14	10
Spain	1	2	4	3	6	8	10	7	12	14
Switzerland	1	3	6	5	4	7	10	8	12	11
United Kingdom	1	2	3	4	5	10	8	7	11	13
United States	1	4	7	3	6	17	2	8	15	12
China	2	4	5	3	8	14	6	1	12	13
Mexico	2	3	5	1	6	9	4	7	12	8
India	4	2	5	10	9	11	3	8	21	14

Source: IHME Global Burden of Disease 2021

Note: The numbers on the boxes indicate the rank of the relevant cause in that country.

Figure 6.20. International Comparison of Türkiye's Top 10 DALY Causes, 2021

Countries	COVID-19	Ischemic Heart Disease	Stroke	Diabetes Mellitus	Low Back Pain	Tracheal, Bronchus, and Lung Cancer	Depressive Disorders	Chronic Obstructive Pulmonary Disease	Neonatal Disorders	Headache Disorders
Türkiye	1	2	3	4	5	6	7	8	9	10
Global	1	2	4	7	8	16	11	6	3	14
Brazil	1	2	4	5	6	24	10	15	8	12
Chile	1	3	5	6	2	19	7	22	17	13
France	1	5	7	13	2	4	8	18	30	10
Hungary	1	2	3	7	4	5	14	6	27	15
India	1	2	5	9	17	46	12	4	3	18
Mexico	1	3	13	2	8	40	10	17	7	14
Poland	1	2	3	6	4	5	21	16	37	14
Portugal	1	4	2	5	3	9	7	10	37	13
Russia	1	2	3	7	4	10	12	20	33	13
Spain	1	2	6	3	5	7	8	9	37	11
United Kingdom	1	2	7	9	3	5	6	4	29	11
United States	1	2	7	4	5	9	10	6	22	16
Austria	2	1	6	10	3	7	12	9	28	11
Canada	2	1	8	5	3	6	12	11	21	13
Croatia	2	1	3	6	4	5	12	9	29	14
Greece	2	1	3	9	5	4	7	10	31	13
Ireland	2	1	11	12	3	6	4	9	27	7
Israel	2	5	8	4	1	11	3	15	22	6
Italy	2	1	5	8	4	7	9	12	37	10
Netherlands	2	3	5	12	4	1	11	7	26	13
Germany	3	1	5	9	2	6	11	8	29	12
Belgium	4	1	7	10	3	5	11	8	31	9
Switzerland	8	2	10	5	1	9	6	12	26	11
Denmark	13	3	5	9	1	4	8	2	30	12
Norway	26	1	6	11	2	8	9	4	27	10
Australia	33	2	8	9	1	7	4	11	25	13
Japan	41	4	1	7	3	5	18	17	48	19
New Zealand	121	1	5	8	2	6	10	9	24	12
China	154	2	1	7	8	4	12	3	24	13

Source: IHME Global Burden of Disease 2021

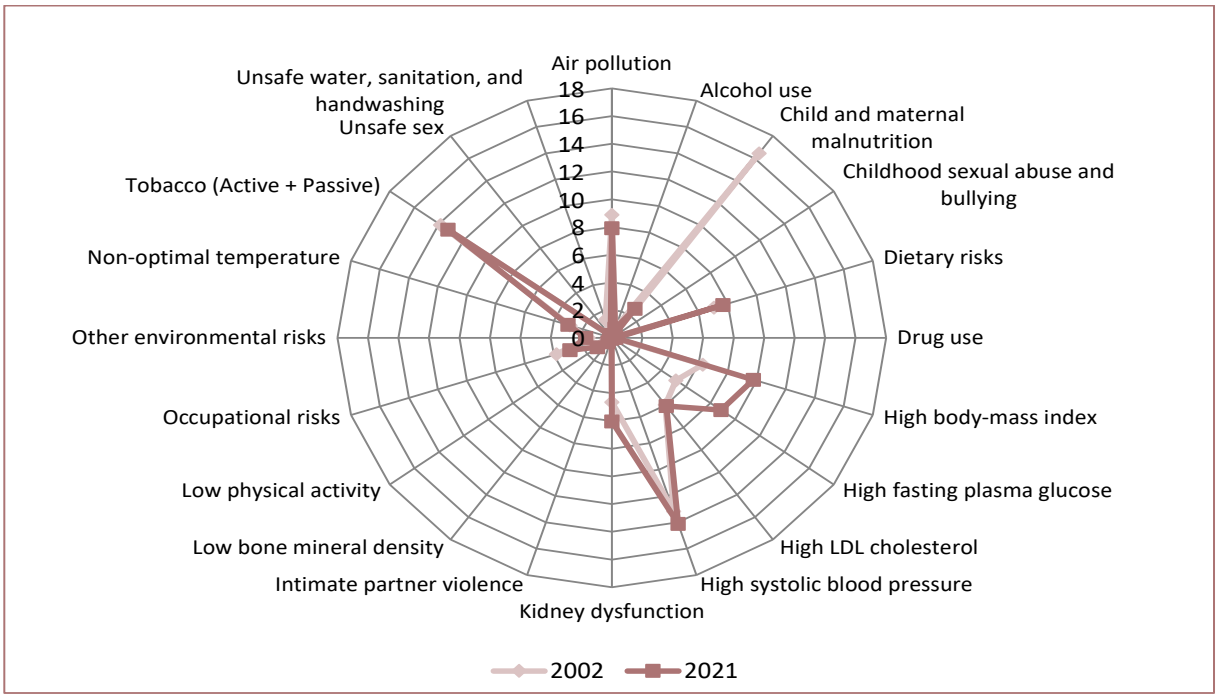
Note: The numbers on the boxes indicate the rank of the relevant cause in that country.

Table 6.10. Attributable DALY per 100.000 Population for Selected Risk Factors by Sex, 2002, 2021

Risk Factors	2002			2021		
	Male	Female	Total	Male	Female	Total
Tobacco (Active + Passive)	4.571	1.115	2.863	4.658	1.059	2.864
High Body-Mass Index	1.462	1.720	1.589	2.581	2.844	2.712
High Systolic Blood Pressure	2.809	2.195	2.506	2.888	2.506	2.698
High Fasting Plasma Glucose	1.281	1.236	1.259	2.428	2.353	2.391
Air Pollution	2.098	1.327	1.717	1.984	1.302	1.645
Dietary Risks	1.719	1.028	1.377	1.893	1.379	1.637
Kidney Dysfunction	1.093	792	944	1.308	1.090	1.199
High LDL Cholesterol	1.464	790	1.131	1.420	902	1.162
Occupational Risks	1.935	426	1.189	1.464	389	928
Child and Maternal Malnutrition	3.809	3.198	3.507	779	977	878
Non-Optimal Temperature	556	474	516	603	485	545
Other Environmental Risks	402	231	317	402	278	340
Low Physical Activity	125	230	177	193	372	282
Alcohol Use	342	50	198	335	44	190
Childhood Sexual Abuse and Bullying	191	151	171	188	158	173
Low Bone Mineral Density	91	98	94	137	149	143
Drug Use	126	127	126	149	119	134
Intimate Partner Violence	-	187	92	-	198	99
Unsafe Water, Sanitation, and Handwashing	309	272	291	64	64	64
Unsafe Sex	14	91	52	28	86	57

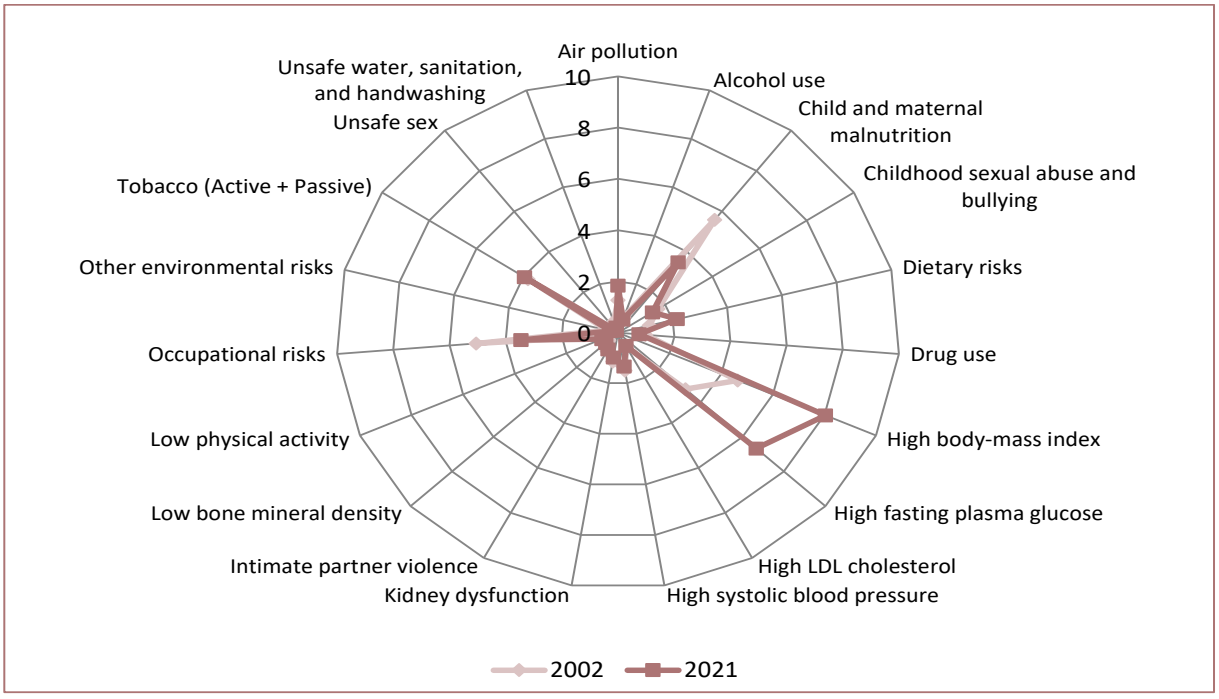
Source: IHME Global Burden of Disease Study 2021

Figure 6.21. Share of Attributable YLL to Selected Risk Factors, (%), 2002, 2021



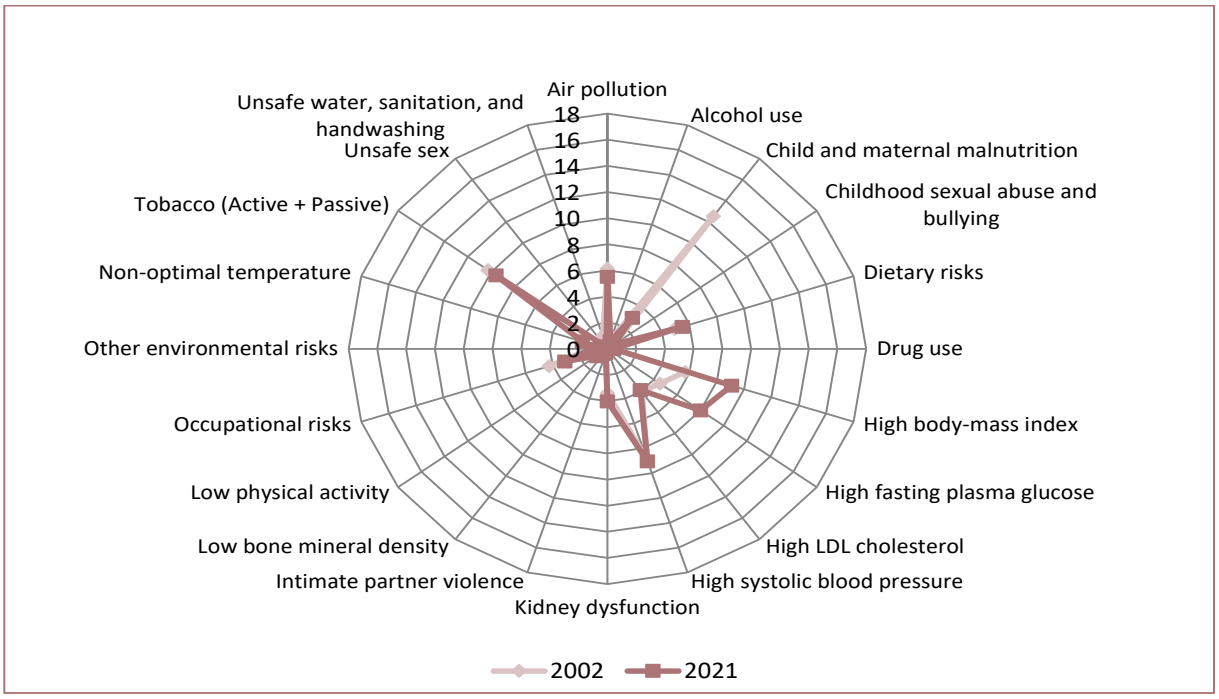
Source: IHME Global Burden of Disease Study 2021

Figure 6.22. Share of Attributable YLD to Selected Risk Factors, (%), 2002, 2021



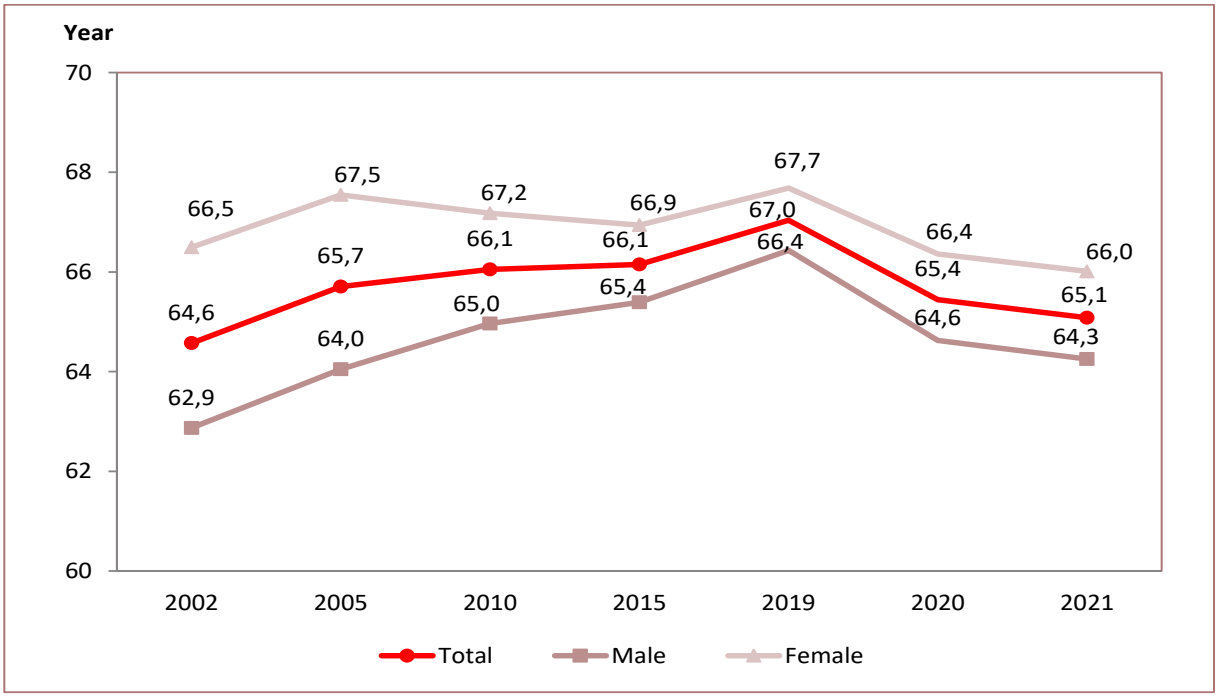
Source: IHME Global Burden of Disease Study 2021

Figure 6.23. Share of Attributable DALY to Selected Risk Factors, (%), 2002, 2021



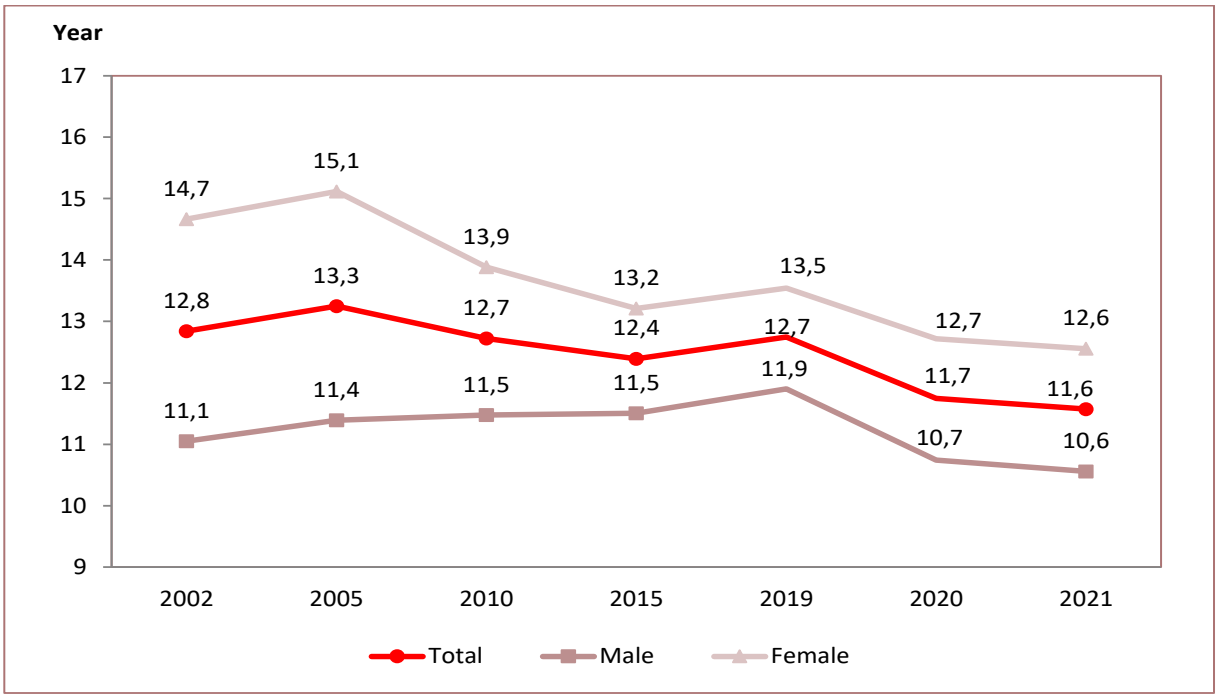
Source: IHME Global Burden of Disease Study 2021

Figure 6.24. HALE at Birth by Years and Sex



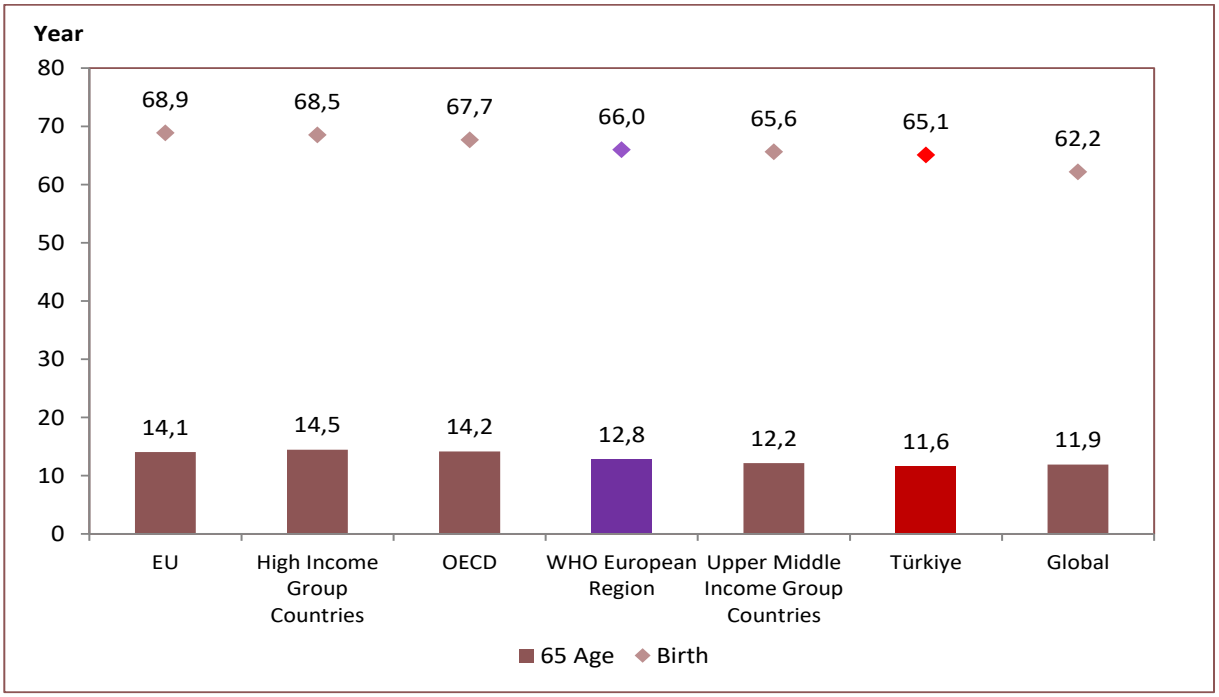
Source: IHME Global Burden of Disease Study 2021

Figure 6.25. HALE at Age of 65 by Years and Sex



Source: IHME Global Burden of Disease Study 2021

Figure 6.26. International Comparison of HALE at Birth and 65 Age, 2021



Source: IHME Global Burden of Disease Study 2021

Explanations for Chapter 6

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

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

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

☑ DALY is the sum of two components;

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

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

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

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

☑ **Other Consequences Due to COVID-19:** It refers to all excess deaths due to the COVID-19 pandemic that are not attributable to SARS-CoV-2 infection, after attributing all other excess deaths to known causes. It may include deaths associated with deferred care seeking or other societal, economic, or behavioral changes tied to the pandemic, but which we could not attribute to a specific cause.

☑ **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.

The Global Burden of Diseases 2021

☑ Global Burden of Diseases 2021 (GBD-2021) was carried out to analyze 288 causes of death, 371 diseases and injuries, and 88 risk factors in 204 countries. The aim evaluate to 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.

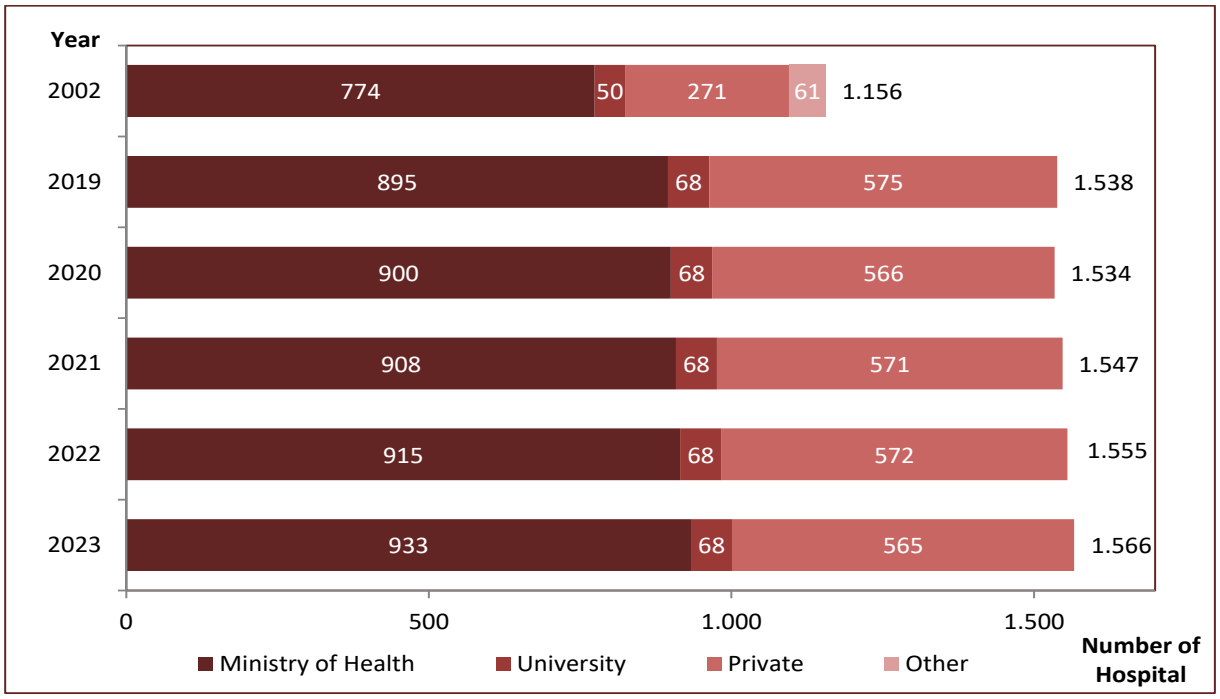
☑ The study enables to comparison of burden of diseases in detail by providing data on gender, age group, year, country, region, disease and risk factors.



CHAPTER 7

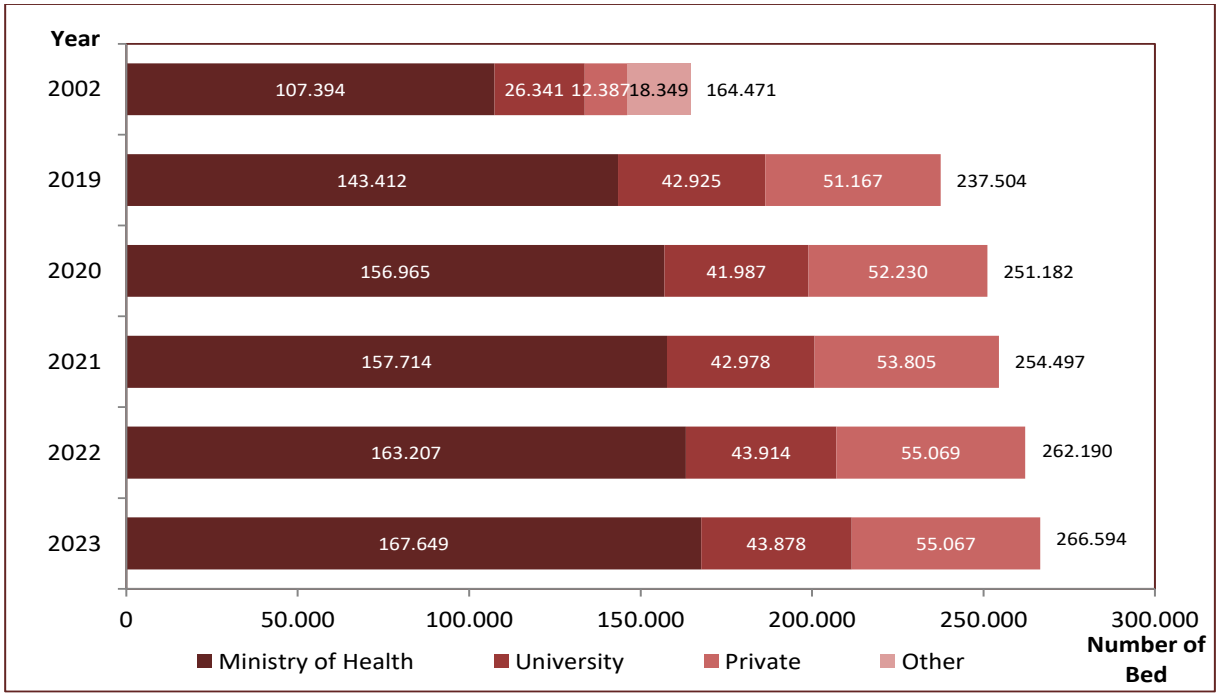
Health Care Facilities and Infrastructures

Figure 7.1. Number of Hospitals by Years and Sectors



Source: General Directorate of Health Services

Figure 7.2. Number of Hospital Beds by Years and Sectors



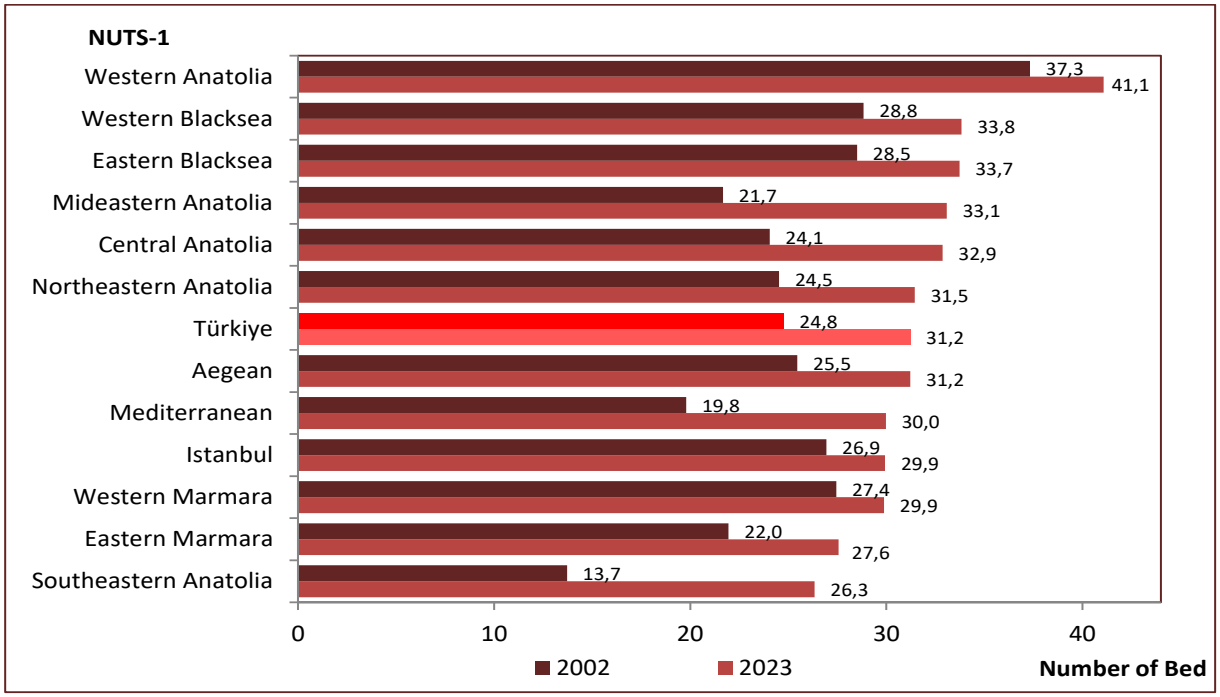
Source: General Directorate of Health Services

Table 7.1. Number of Hospitals and Beds by Branches, 2023

Branches	Hospital	Bed
General Hospital	**1.469**	**250.223**
Integrated District State Hospital	300	1.680
City Hospital	23	34.899
Municipal Hospital	2	333
General Training Hospital	130	88.061
Other General Hospital	1.014	125.250
Ophthalmology Hospital	25	281
Physical Treatment and Rehabilitation Hospital	18	2.737
Obstetric and Child Hospital	16	2.853
Psychiatry Hospital	10	3.617
Chest Diseases Hospital	9	2.966
Child Diseases Hospital	5	1.757
Cardiovascular Surgery Hospital	3	560
Oncology Hospital	3	780
Bone Diseases Hospital	3	436
Occupational Diseases Hospital	2	285
Spastic Children's Hospital and Rehab Center	1	32
Leprosy Hospital	1	34
Orthopedics and Traumatology Hospital	1	33
Total	1.566	266.594

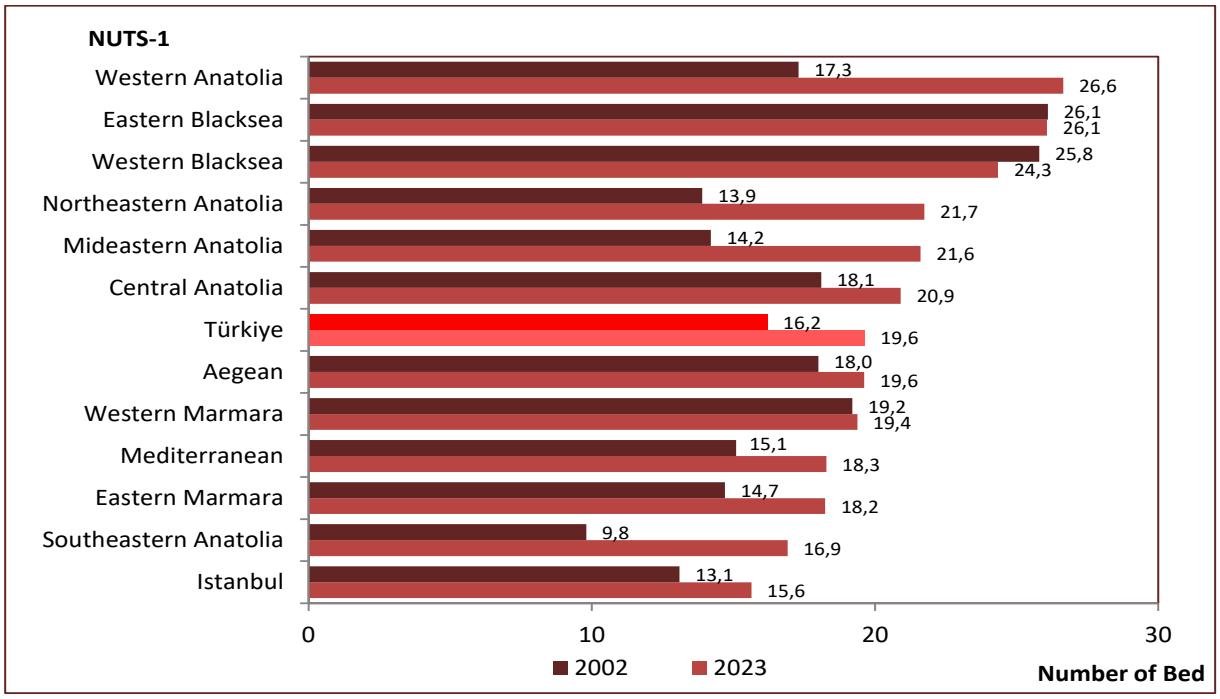
Source: General Directorate of Health Services

Figure 7.3. Number of Hospital Beds per 10.000 Population by NUTS-1, All Sectors, 2002, 2023



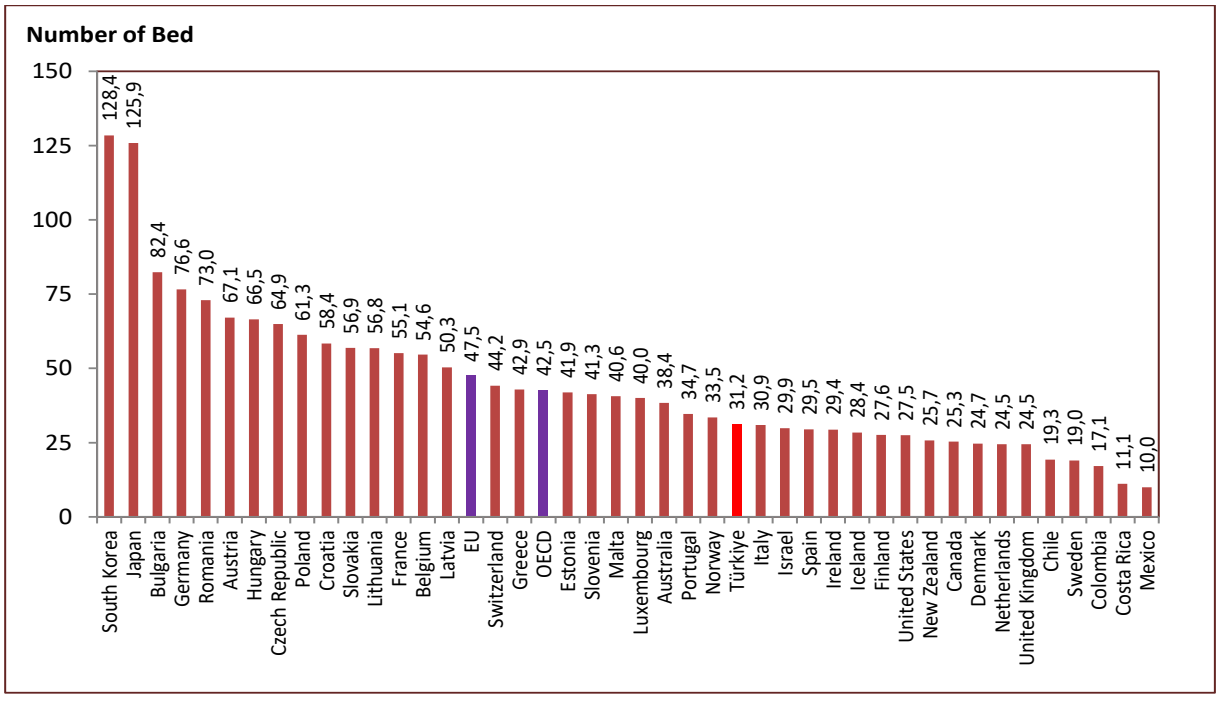
Source: General Directorate of Health Services

Figure 7.4. Number of Hospital Beds per 10.000 Population by NUTS-1, Ministry of Health, 2002, 2023



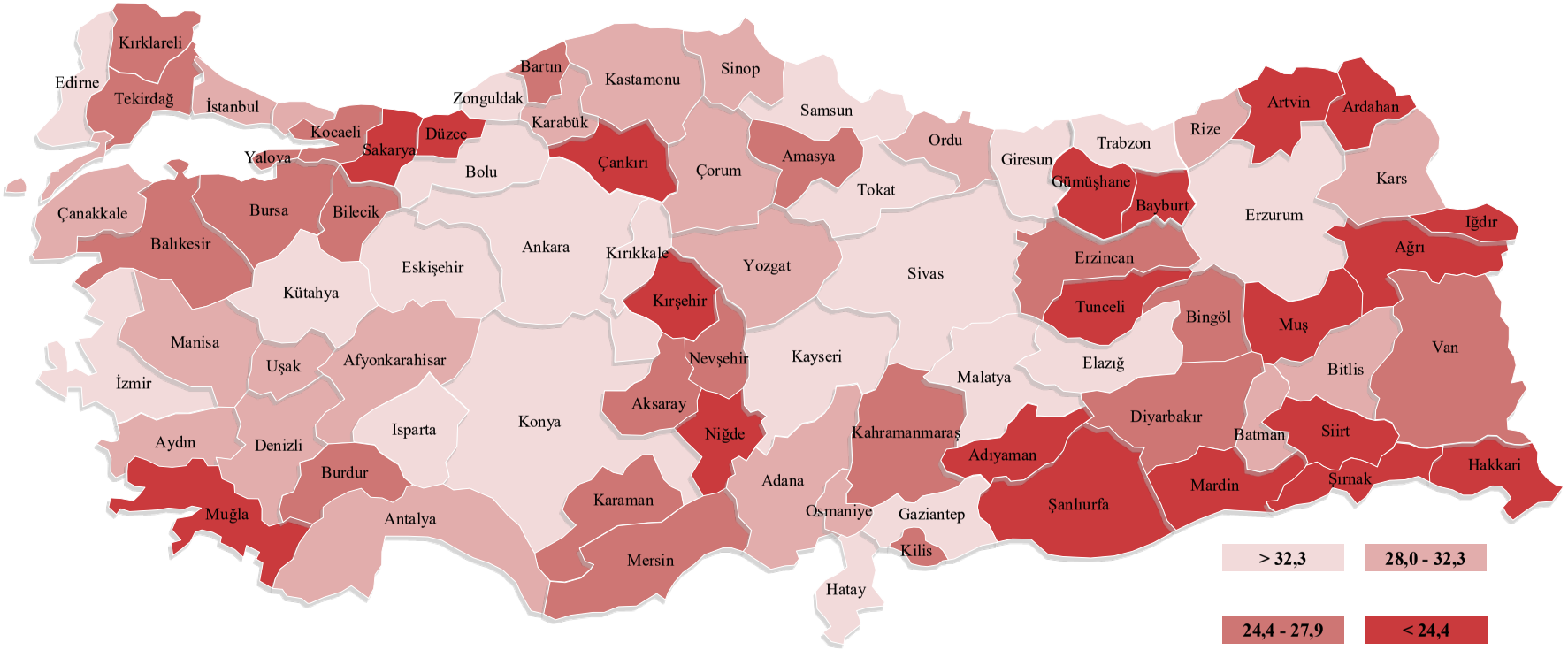
Source: General Directorate of Health Services

Figure 7.5. International Comparison of Number of Hospital Beds per 10.000 Population, 2022



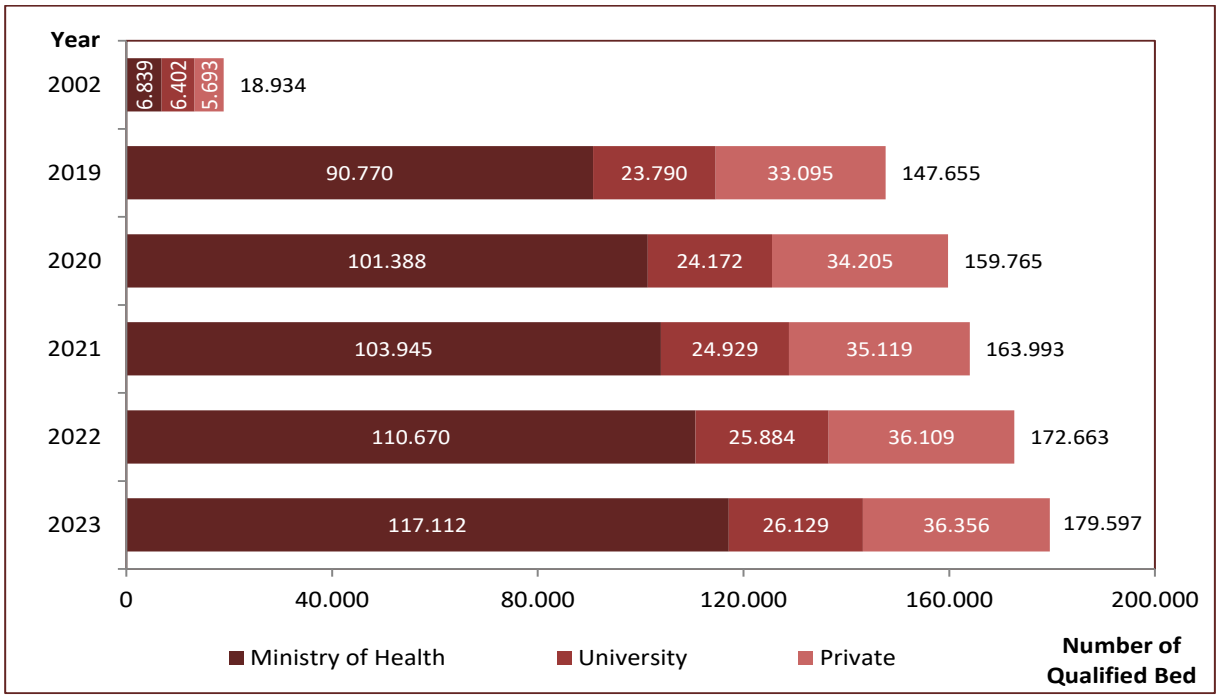
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Map 7.1. Number of Hospital Beds per 10.000 Population by Provinces, All Sectors, 2023



Source: General Directorate of Health Services

Figure 7.6. Number of Qualified Beds by Years and Sectors



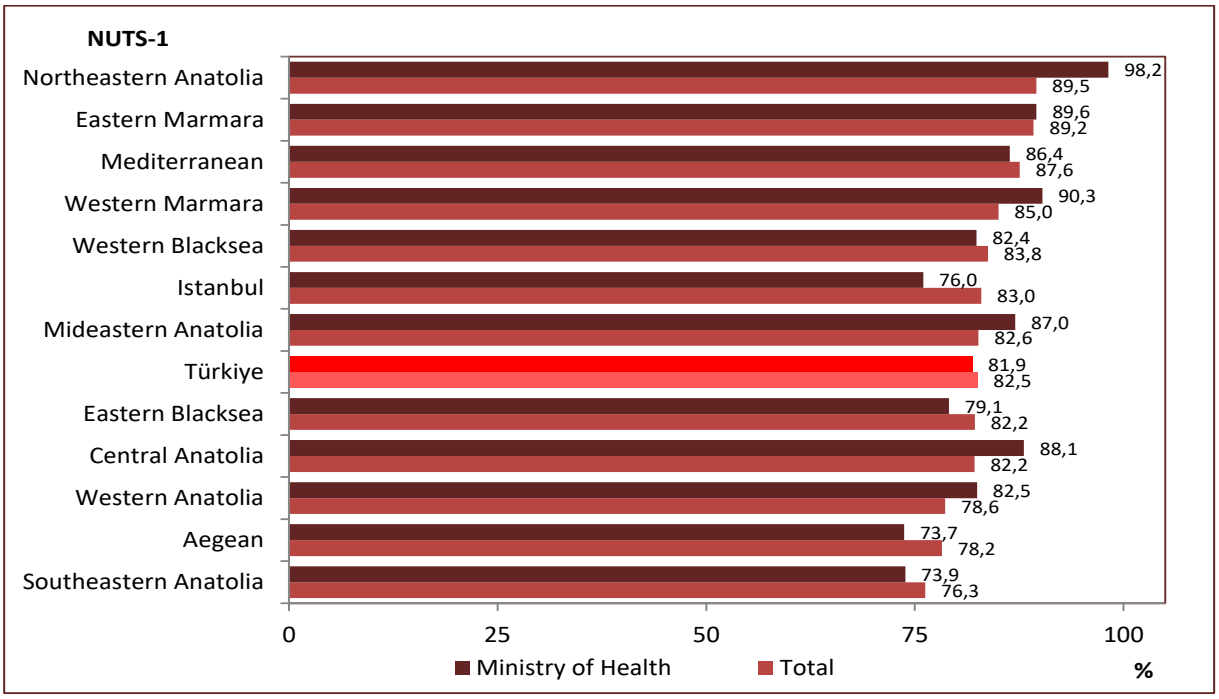
Source: General Directorate of Health Services

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

	Ministry of Health	University	Private	Total
2002	6,4	24,6	19,1	11,7
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
2022	79,6	70,2	96,5	80,9
2023	81,9	70,8	96,3	82,5

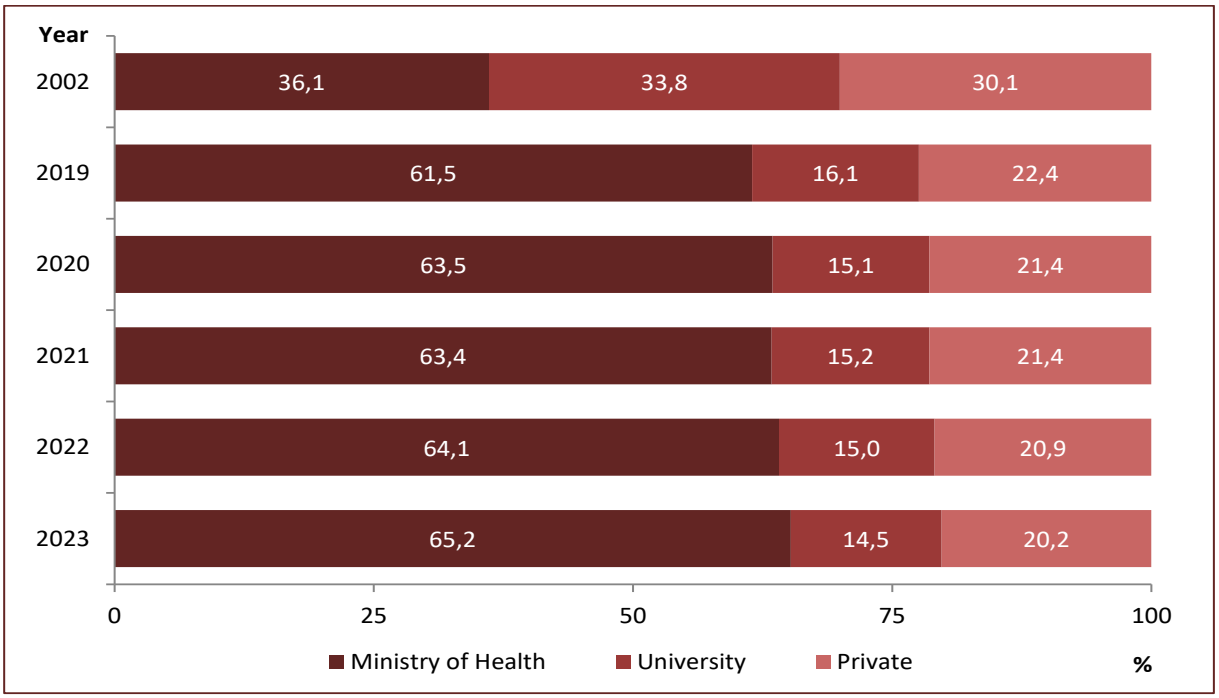
Source: General Directorate of Health Services
Note: Intensive care unit beds are not included.

Figure 7.7. Proportion of Qualified Beds Among Total Beds, (%), All Sectors, Ministry of Health, 2023



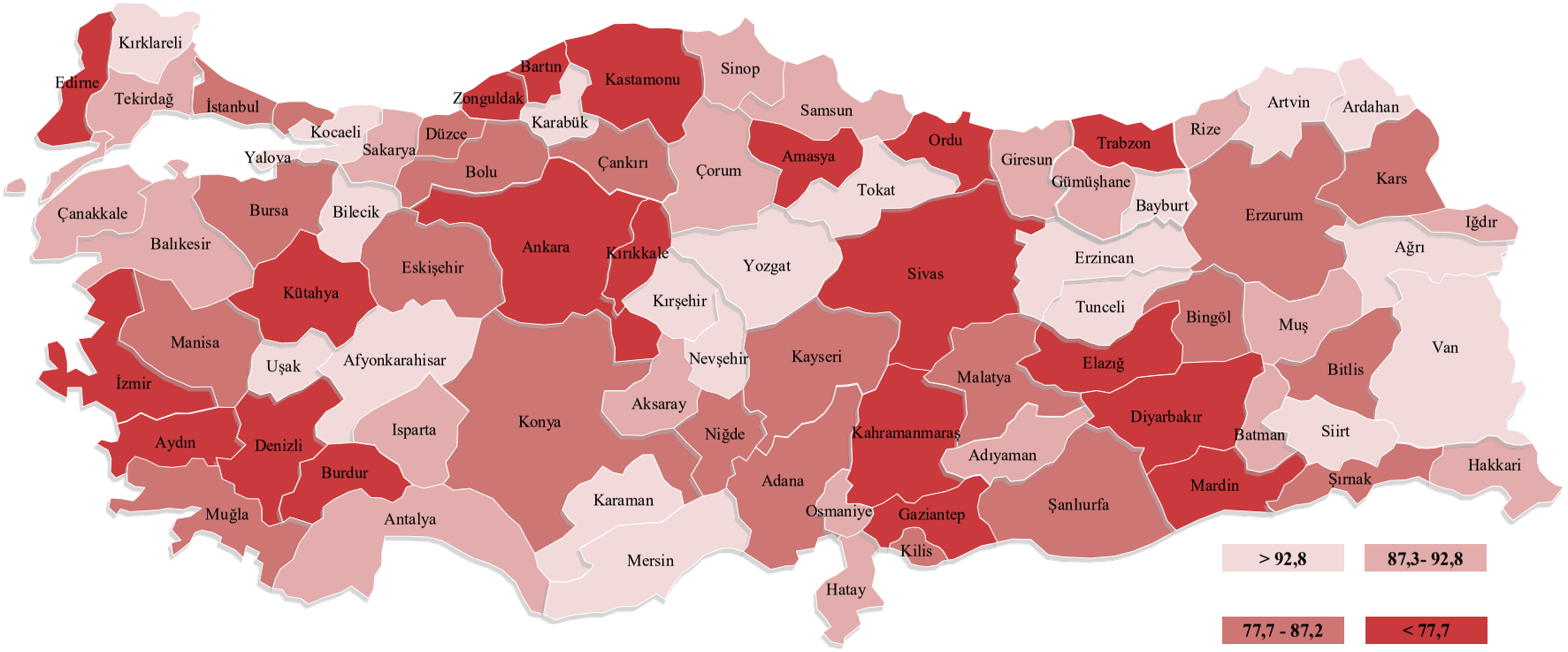
Source: General Directorate of Health Services
Note: Intensive care unit beds are not included.

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



Source: General Directorate of Health Services

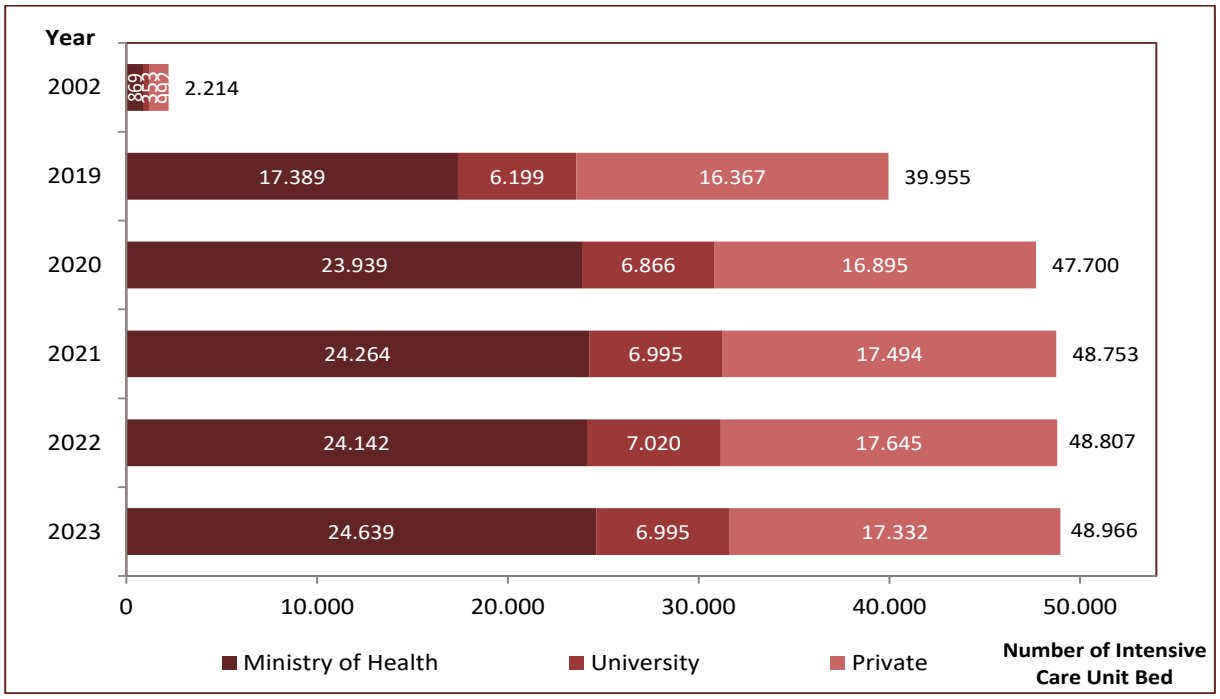
Map 7.2. Proportion of Qualified Beds Among Total Beds by Provinces, All Sectors, (%), 2023



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



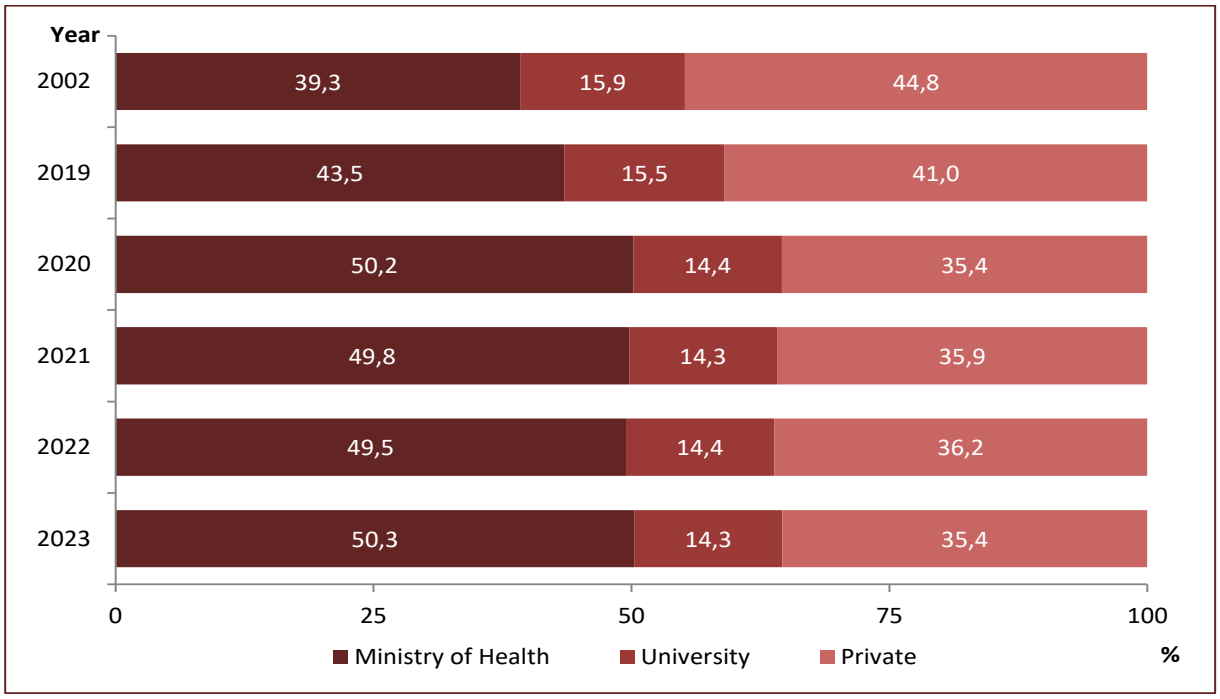
Source: General Directorate of Health Services

Table 7.3. Number and Distribution (%) of Intensive Care Unit Beds by Types and Sectors, 2023

	Ministry of Health		University		Private		Total	
	Number	%	Number	%	Number	%	Number	%
Adult	18.116	73,5	4.718	67,4	9.953	57,4	32.787	67,0
Child	1.616	6,6	671	9,6	235	1,4	2.522	5,2
Neonatal	4.907	19,9	1.606	23,0	7.144	41,2	13.657	27,9
Total	24.639	100	6.995	100	17.332	100	48.966	100

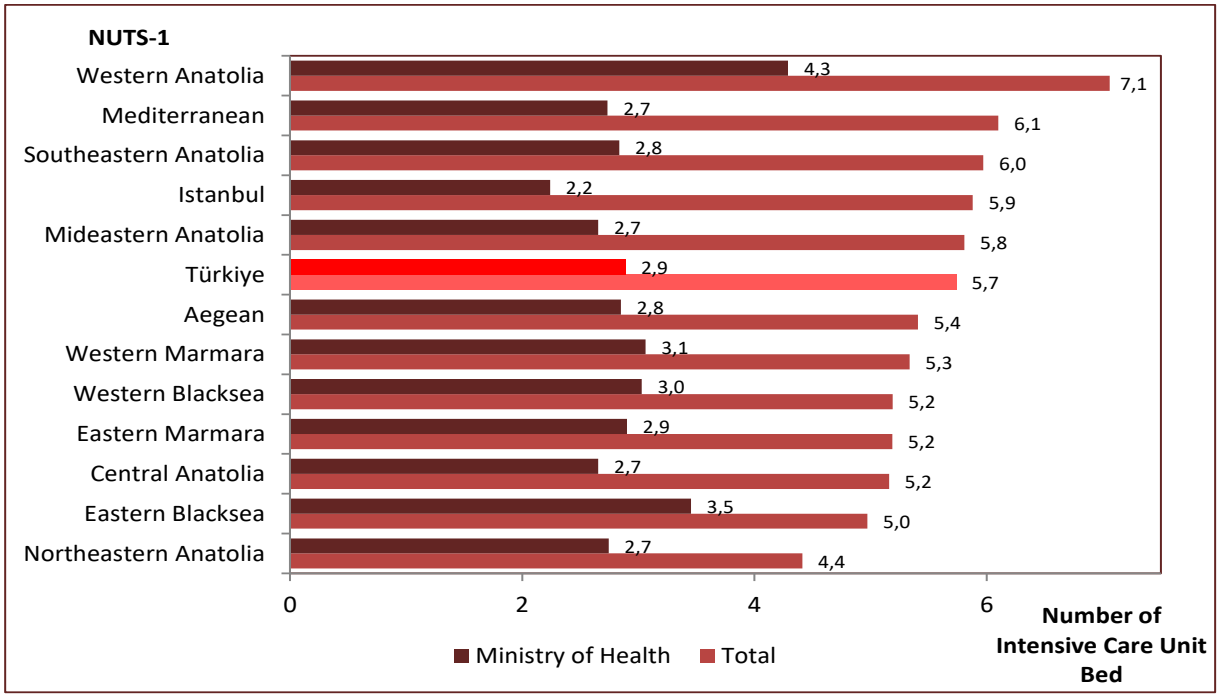
Source: General Directorate of Health Services

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



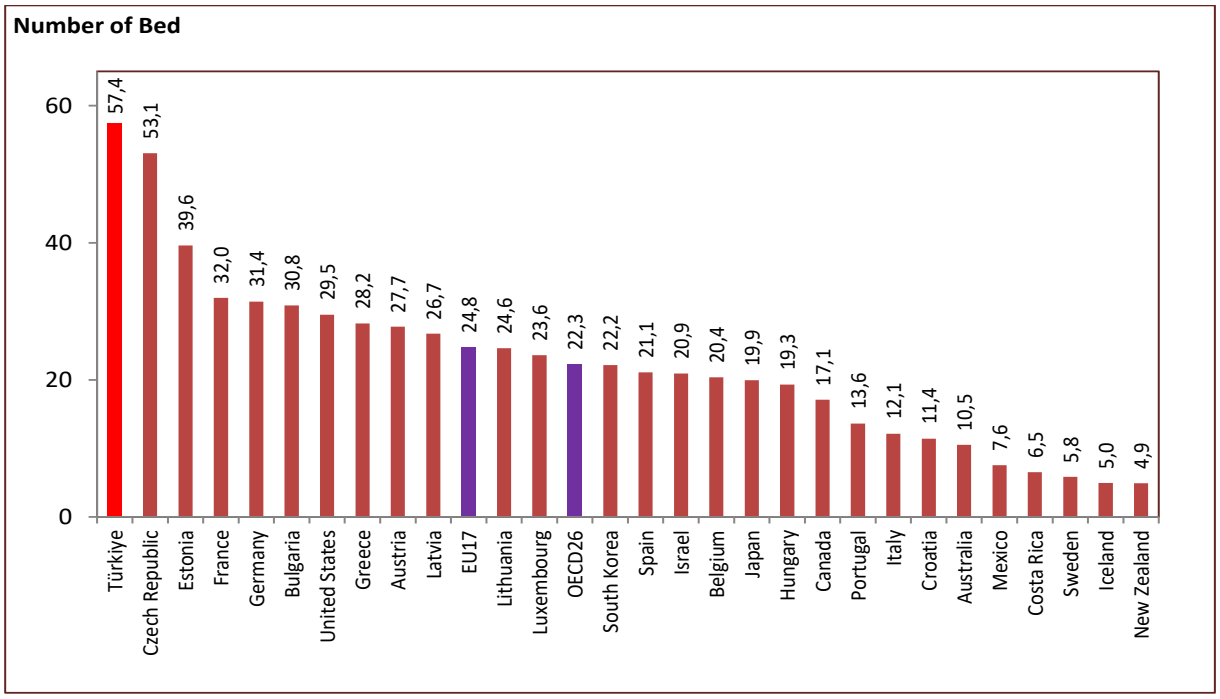
Source: General Directorate of Health Services

Figure 7.11. Number of Intensive Care Unit Beds per 10.000 Population by NUTS-1, All Sectors, Ministry of Health, 2023



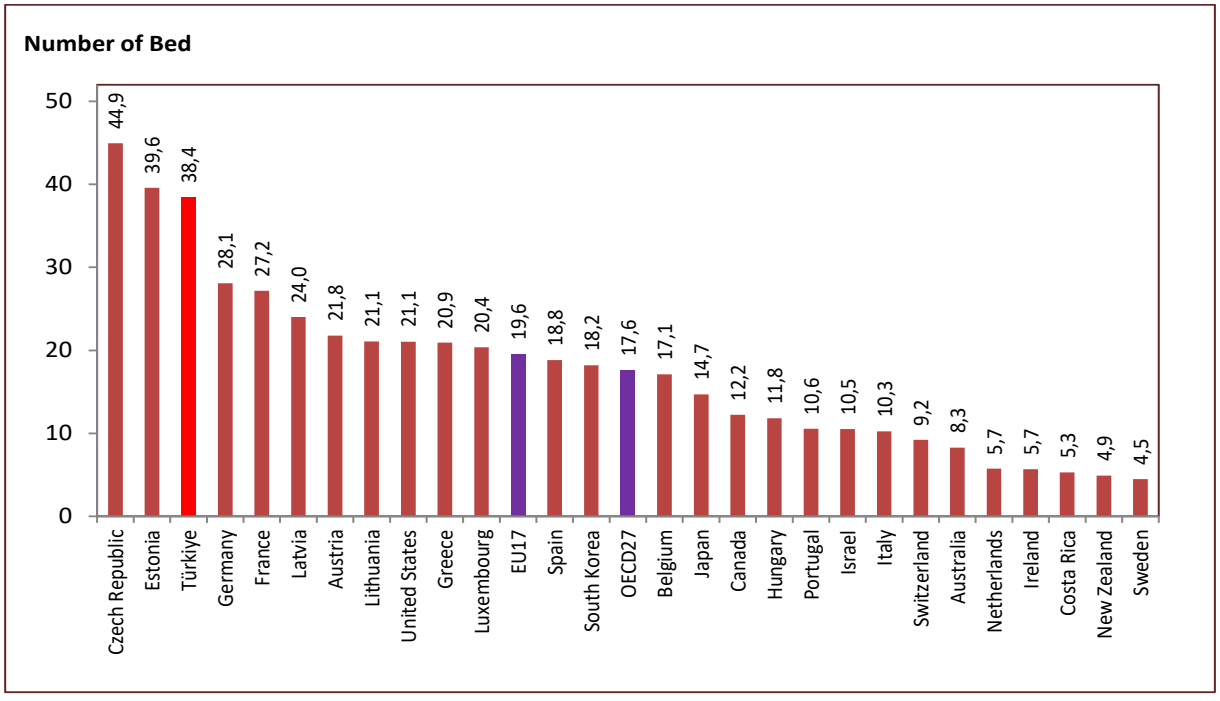
Source: General Directorate of Health Services

Figure 7.12. International Comparison of Number of Intensive Care Unit Beds per 100.000 Population, 2022



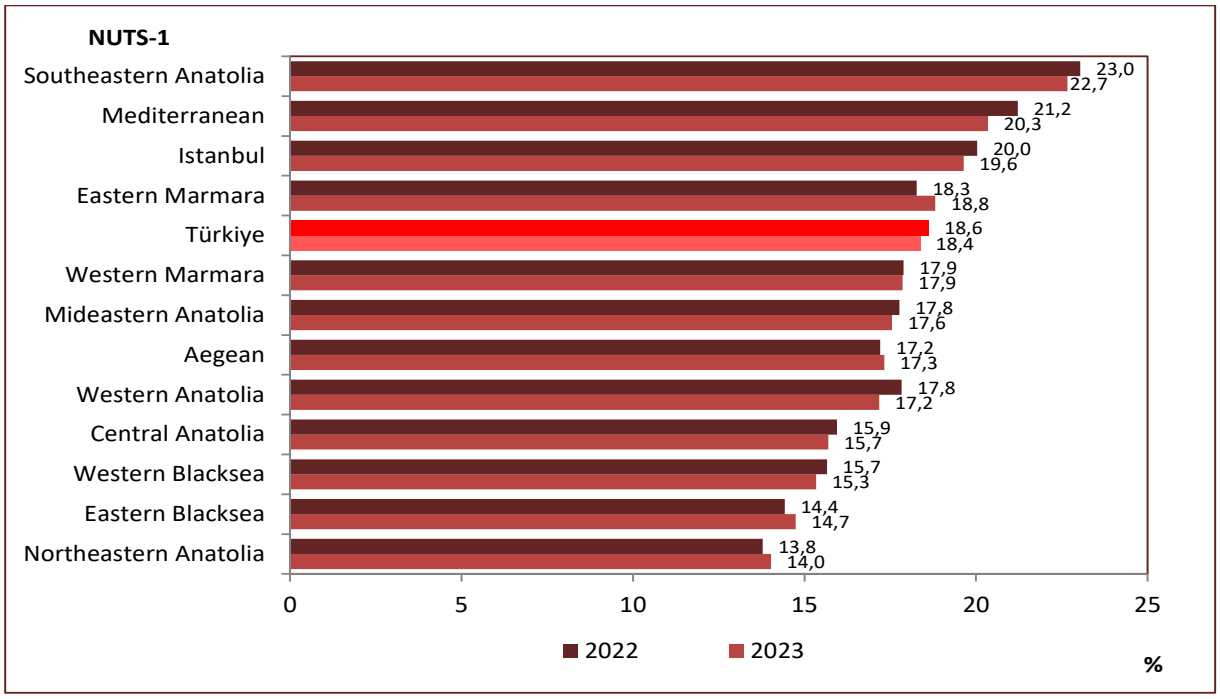
Source: General Directorate of Health Services, OECD Health Data 2024
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Figure 7.13. International Comparison of Number of Adult Intensive Care Unit Beds per 100.000 Population, 2022



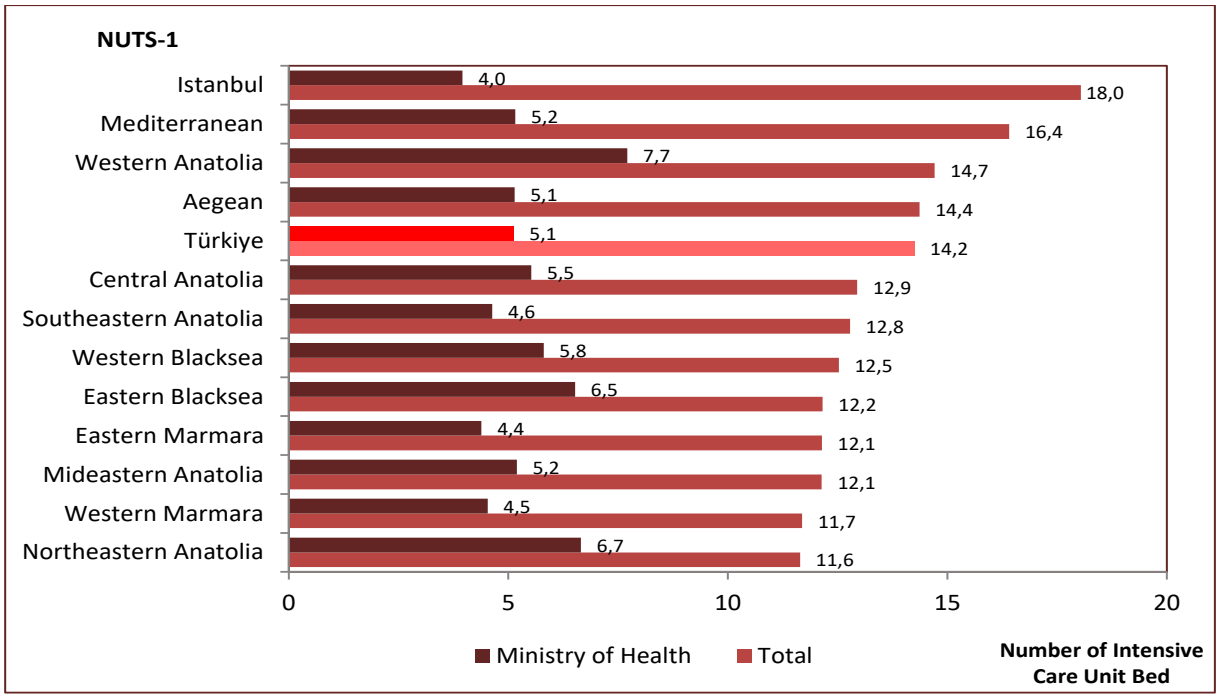
Source: General Directorate of Health Services, OECD Health Data 2024
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Figure 7.14. Proportion of Intensive Care Unit Beds to All Beds by NUTS-1, (%), All Sectors, 2022, 2023



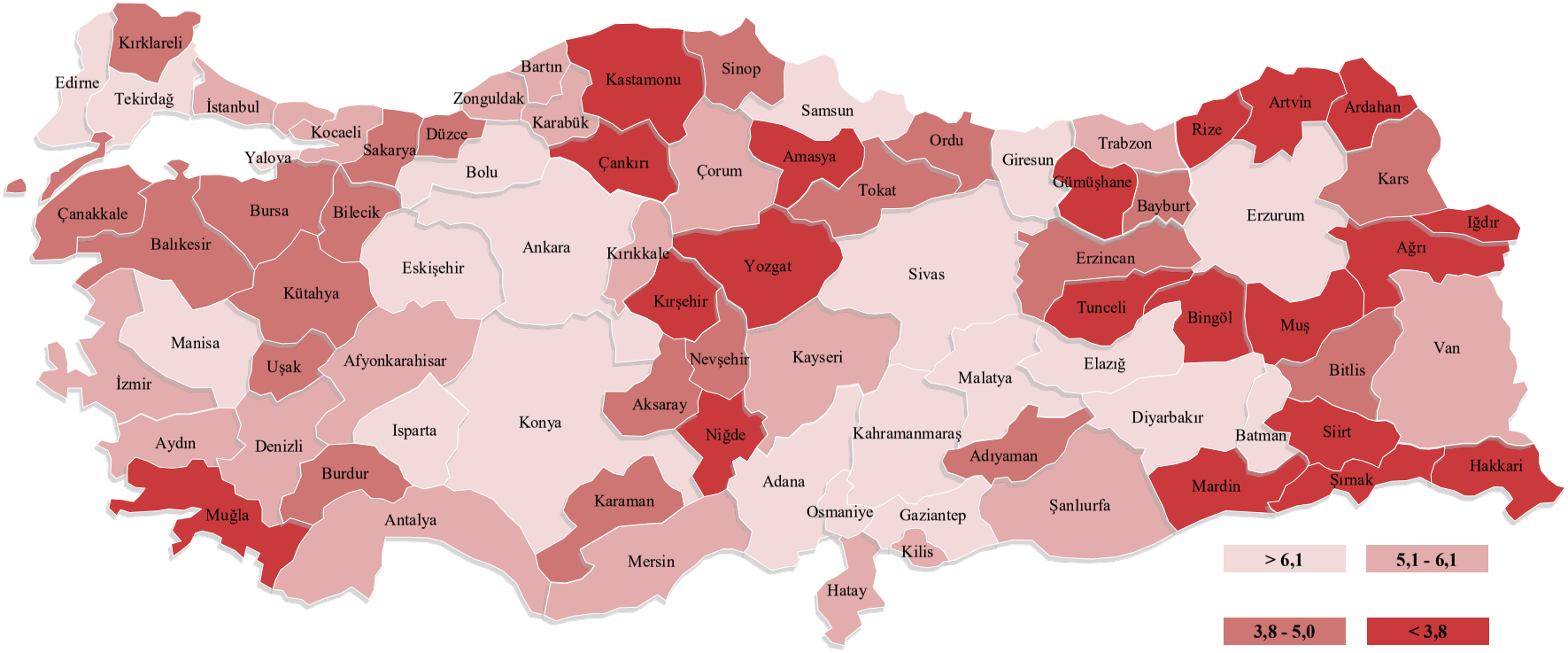
Source: General Directorate of Health Services

Figure 7.15. Number of Neonatal Intensive Care Unit Beds per 1.000 Live Births by NUTS-1, All Sectors, Ministry of Health, 2023



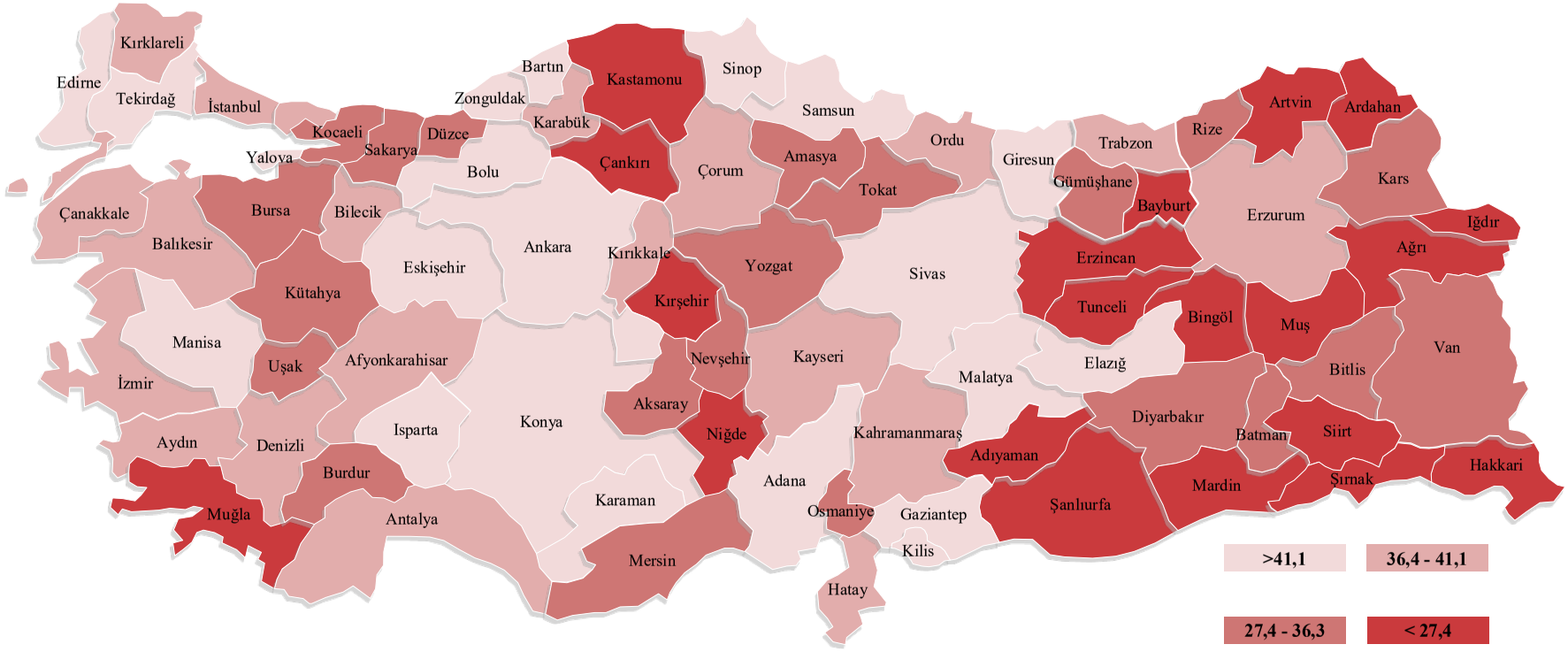
Source: General Directorate of Health Services, TURKSTAT

Map 7.3. Number of Intensive Care Unit Beds per 10.000 Population by Provinces, All Sectors, 2023



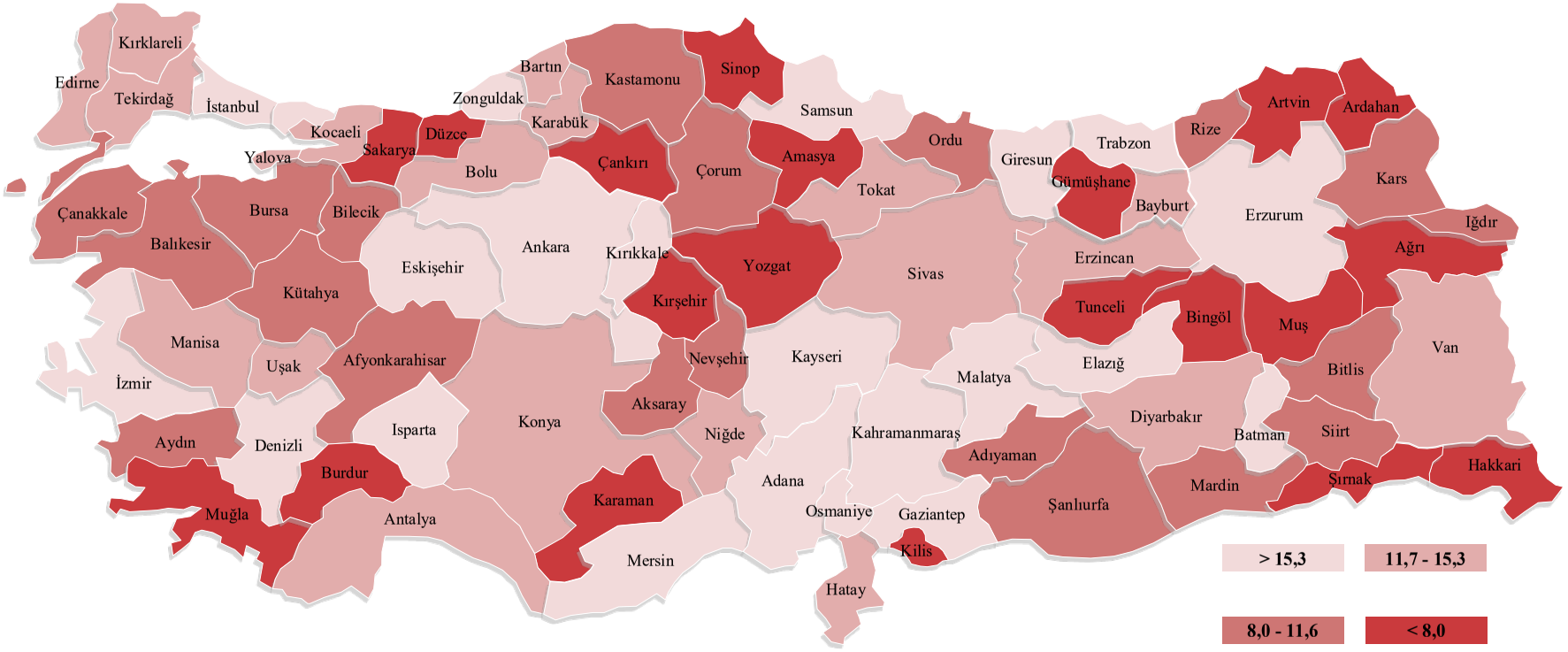
Source: General Directorate of Health Services

Map 7.4. Number of Adult Intensive Care Unit Beds per 10.000 Population by Provinces, All Sectors, 2023



Source: General Directorate of Health Services

Map 7.5. Number of Neonatal Intensive Care Unit Beds per 1.000 Live Births by Provinces, All Sectors, 2023



Source: General Directorate of Health Services, TURKSTAT

Table 7.4. Infrastructure of Operating Services in Hospitals by Sectors, 2023

	Ministry of Health	University	Private	Total
Surgery	959	161	839	1.959
Operation Theatre	4.102	1.074	2.355	7.531
Operation Table	4.176	1.117	2.370	7.663

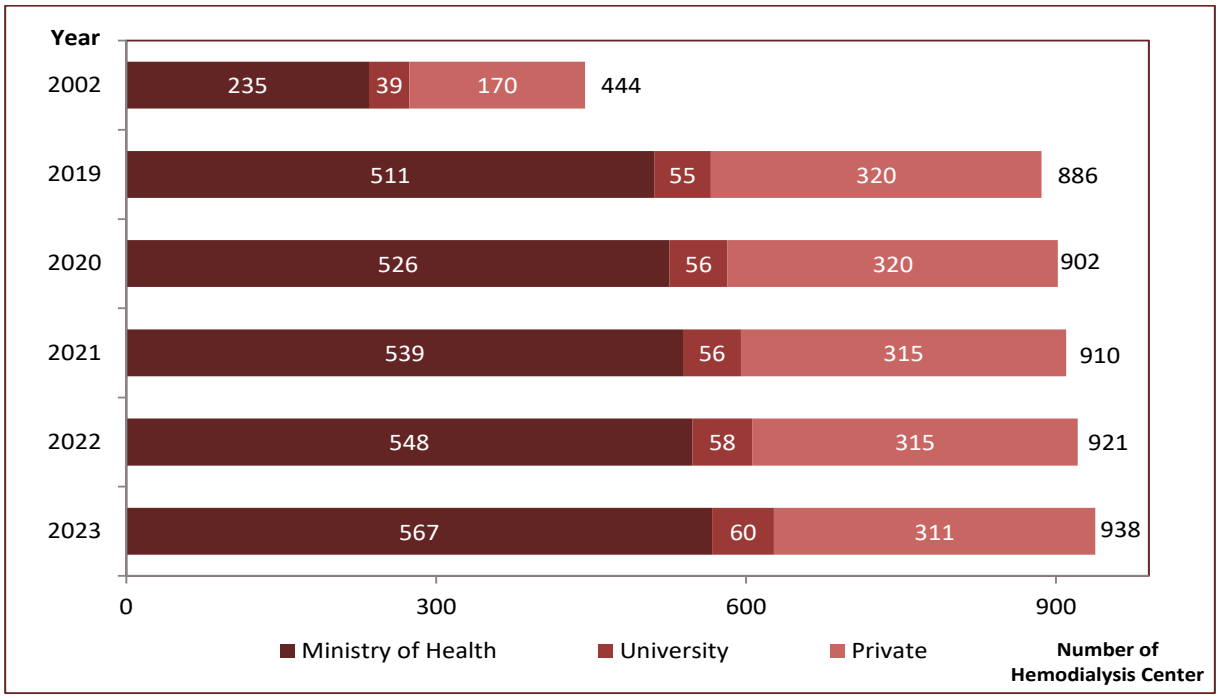
Source: General Directorate of Health Services

Table 7.5. Indicators Regarding to Health Care Facilities Actively Providing Health Care Services on 31.12.2023 by Sectors

Indicators	Ministry of Health	University	Private	Total
Number of Hospitals	936	68	552	1.556
Number of Hospital Beds	171.949	44.956	54.040	270.945
Number of Hospital Beds per 10.000 Population	20,1	5,3	6,3	31,7
Number of Qualified Beds	118.193	26.136	36.237	180.566
Proportion of Qualified Beds Among Total Beds, (%)*	80,2	68,8	97,6	81,2
Number of Adult Intensive Care Unit Beds	18.116	4.718	9.733	32.567
Number of Child Intensive Care Unit Beds	1.616	671	227	2.514
Number of Neonatal Intensive Care Unit Beds	4.907	1.606	6.969	13.482
Total Number of Intensive Care Unit Beds	24.639	6.995	16.929	48.563
Proportion of Intensive Care Unit Beds to All Beds, (%)	14,3	15,6	31,3	17,9
Total Number of Intensive Care Unit Beds per 10.000 Population	2,9	0,8	2,0	5,7
Surgery	959	161	814	1.934
Operation Theatre	4.834	1.230	2.383	8.447
Operation Table	4.847	1.216	2.381	8.444
Private Outpatient Clinic	-	-	283	283
Speciality Medical Center	-	-	562	562

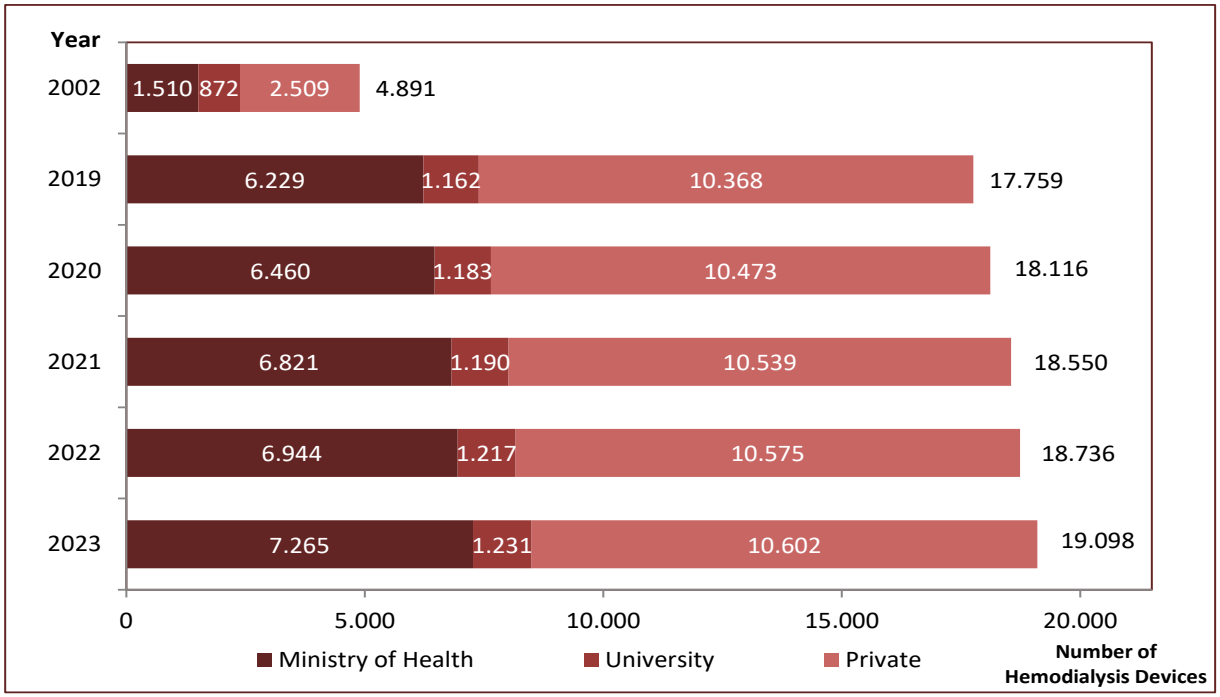
Source: General Directorate of Health Services
**Intensive care unit beds are not included.*

Figure 7.16. Number of Hemodialysis Centers by Years and Sectors



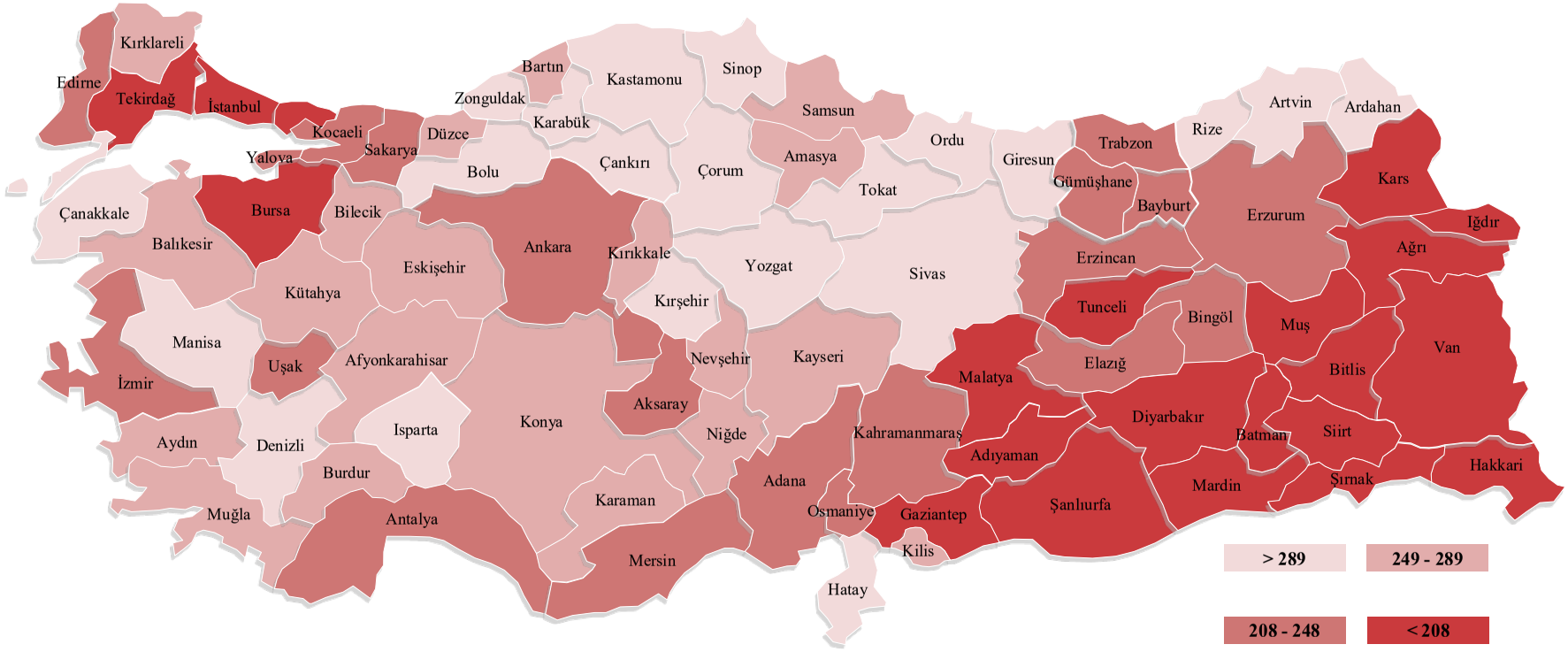
Source: General Directorate of Health Services

Figure 7.17. Number of Hemodialysis Devices by Years and Sectors



Source: General Directorate of Health Services

Map 7.6. Number of Hemodialysis Devices per 1.000.000 Population by Provinces, All Sectors, 2023



Source: General Directorate of Health Services

Table 7.6. Number of Hemodialysis Devices per 1.000.000 Population by NUTS-1 and Sectors, 2023

NUTS-1	Ministry of Health	University	Private	Total
Western Blacksea	163,0	17,1	124,7	304,8
Central Anatolia	113,1	19,4	152,6	285,1
Eastern Blacksea	182,9	4,8	93,7	281,3
Aegean	93,6	12,1	168,1	273,9
Mediterranean	86,3	20,8	132,2	239,2
Western Marmara	106,4	11,0	120,5	237,9
Western Anatolia	64,5	33,0	137,0	234,5
Eastern Marmara	85,1	11,2	132,2	228,5
Türkiye	**85,1**	**14,4**	**124,2**	**223,7**
Northeastern Anatolia	158,4	11,5	21,6	191,6
Istanbul	28,2	6,5	153,3	188,0
Mideastern Anatolia	97,3	20,5	47,5	165,3
Southeastern Anatolia	76,2	8,1	49,6	133,9

Source: General Directorate of Health Services

Table 7.7. Number of Devices in Hospitals by Years

	2002	2019	2020	2021	2022	2023
MRI	58	902	939	960	973	1.001
CT	323	1.213	1.248	1.271	1.331	1.359
Ultrasound	1.005	6.098	6.080	6.276	6.255	5.750
Doppler Ultrasound	681	6.383	6.538	6.828	7.597	8.053
ECHO	259	2.714	2.823	2.850	3.035	3.127
Mammography	647*	961	982	964	973	959

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

Table 7.8. Number of Devices in Hospitals by Sectors, 2023

	Ministry of Health	University	Private	Total
MRI	405	118	478	1.001
CT	664	150	545	1.359
Ultrasound	2.345	1.128	2.277	5.750
Doppler Ultrasound	5.365	718	1.970	8.053
ECHO	1.917	351	859	3.127
Mammography	418	79	462	959
Gamma Camera	146	76	48	270
PET	59	50	60	169
Radiotherapy	93	92	84	269

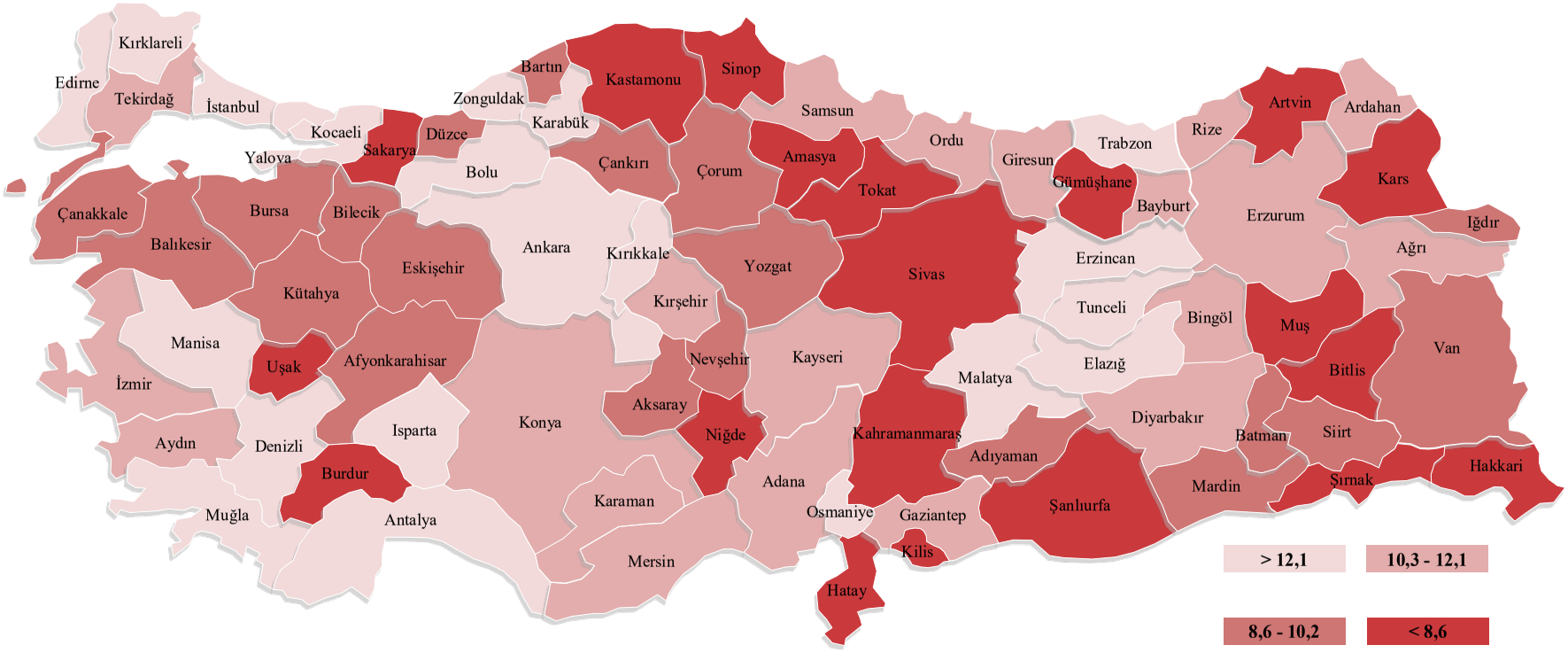
Source: General Directorate of Health Services

Table 7.9. Number of MRI Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2023

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	4,7	1,5	8,1	14,3
Western Anatolia	6,0	2,6	5,0	13,6
Aegean	4,8	1,1	6,1	12,0
Türkiye	**4,7**	**1,4**	**5,6**	**11,7**
Eastern Blacksea	6,6	0,7	4,4	11,7
Mediterranean	4,5	1,0	6,1	11,6
Northeastern Anatolia	6,0	1,8	3,2	11,1
Western Marmara	4,2	1,3	5,5	11,0
Eastern Marmara	4,4	1,0	5,1	10,6
Mideastern Anatolia	4,6	2,1	3,8	10,5
Central Anatolia	3,8	1,9	4,3	10,0
Western Blacksea	5,1	1,3	3,4	9,7
Southeastern Anatolia	4,0	0,7	4,6	9,4

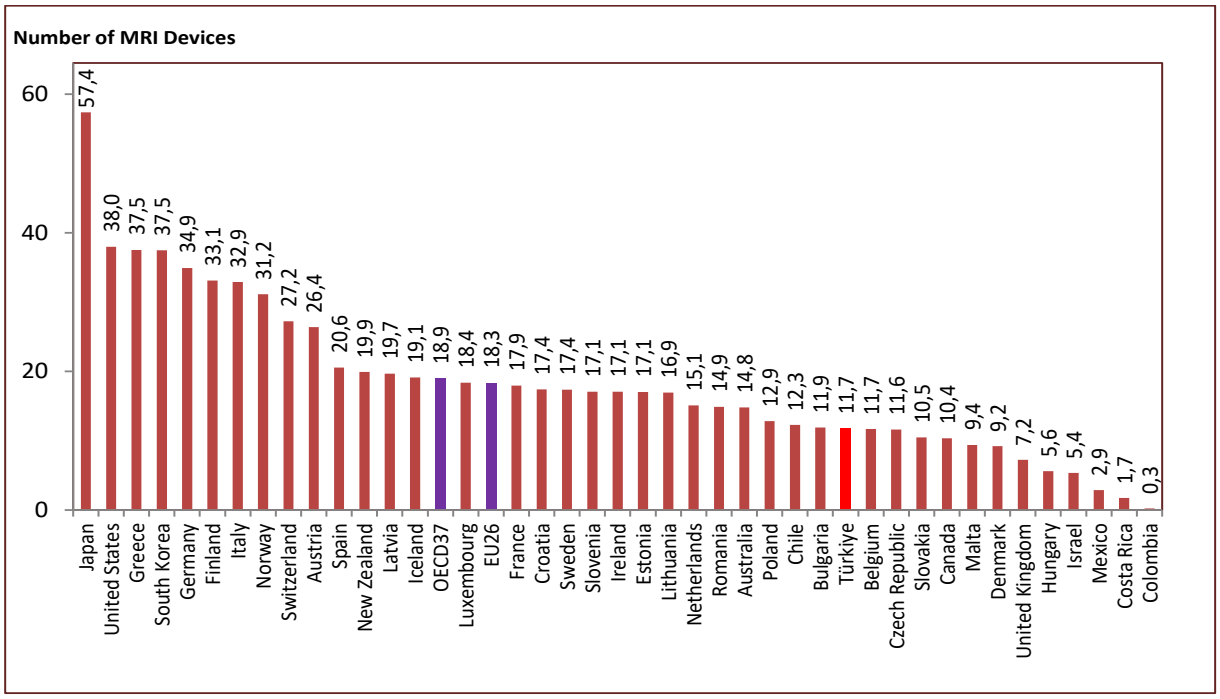
Source: General Directorate of Health Services

Map 7.7. Number of MRI Devices in Hospitals per 1.000.000 Population by Provinces, All Sectors, 2023



Source: General Directorate of Health Services

Figure 7.18. International Comparison of Number of MRI Devices per 1.000.000 Population, 2022



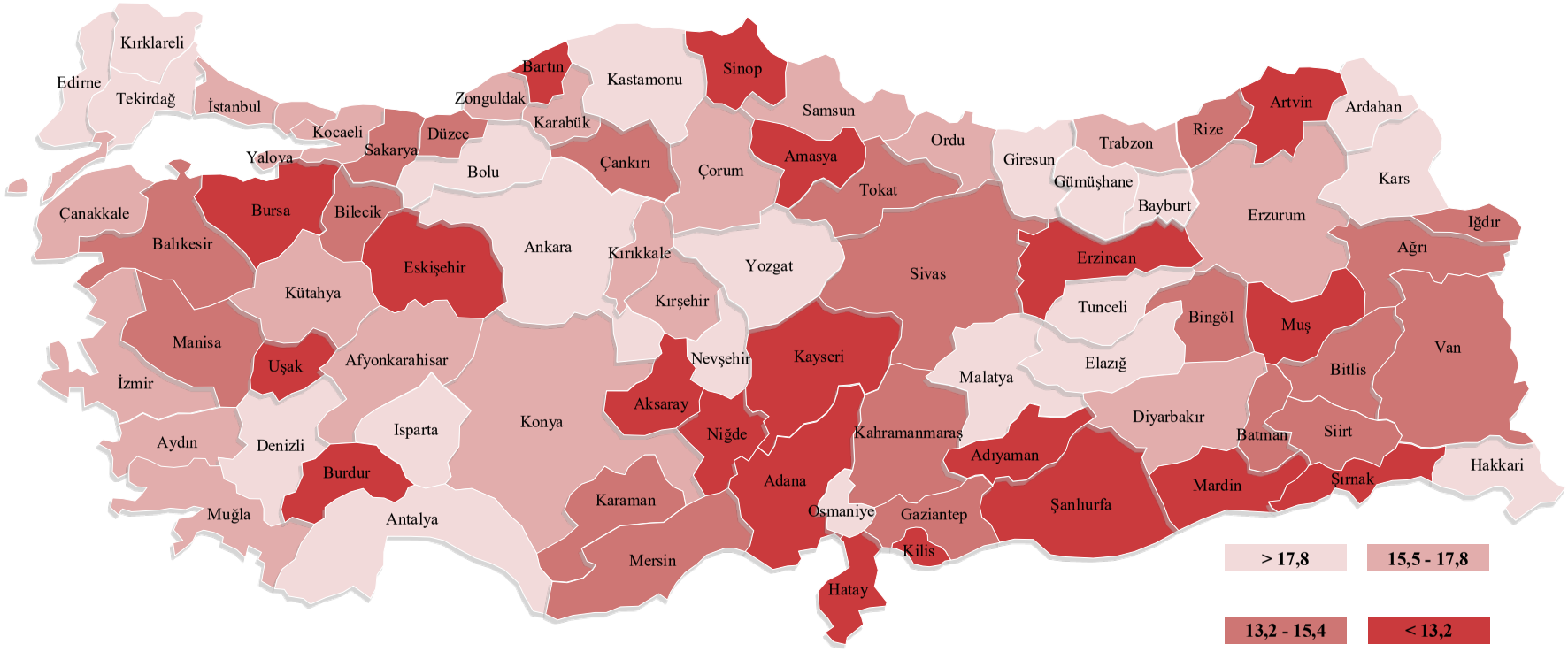
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Table 7.10. Number of CT Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2023

NUTS-1	Ministry of Health	University	Private	Total
Western Anatolia	9,1	3,2	6,0	18,2
Istanbul	5,6	1,7	10,2	17,4
Western Marmara	9,7	1,8	5,8	17,3
Northeastern Anatolia	11,1	2,3	3,2	16,6
Eastern Blacksea	11,3	0,7	4,4	16,5
Mideastern Anatolia	10,0	1,5	4,6	16,2
Aegean	8,1	1,7	6,2	16,1
Mediterranean	6,8	2,0	7,2	16,0
Türkiye	**7,8**	**1,8**	**6,4**	**15,9**
Western Blacksea	9,5	1,9	3,8	15,2
Eastern Marmara	7,7	1,2	5,5	14,3
Central Anatolia	7,7	2,2	4,3	14,1
Southeastern Anatolia	6,8	0,9	5,1	12,8

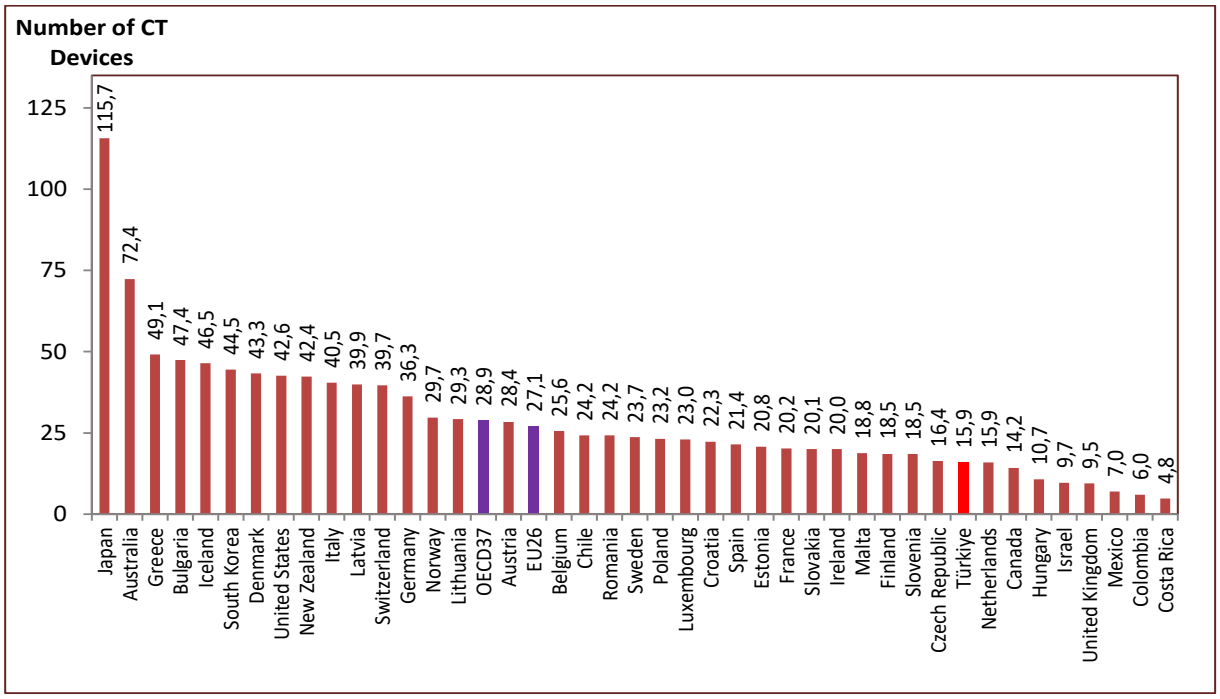
Source: General Directorate of Health Services

Map 7.8. Number of CT Devices in Hospitals per 1.000.000 Population by Provinces, All Sectors, 2023



Source: General Directorate of Health Services

Figure 7.19. International Comparison of Number of CT Devices per 1.000.000 Population, 2022



Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Table 7.11. Number of Ultrasound Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2023

NUTS-1	Ministry of Health	University	Private	Total
Northeastern Anatolia	56,2	25,3	9,2	90,7
Western Anatolia	33,4	19,8	25,4	78,6
Central Anatolia	44,7	10,3	23,2	78,2
Aegean	26,6	21,7	25,4	73,7
Western Blacksea	38,9	11,0	19,4	69,3
Eastern Blacksea	31,5	14,3	22,3	68,1
Türkiye	**27,5**	**13,2**	**26,7**	**67,4**
Mediterranean	24,4	11,5	31,1	67,0
Istanbul	20,0	12,5	34,0	66,6
Mideastern Anatolia	41,6	8,2	13,9	63,6
Southeastern Anatolia	20,7	10,2	28,1	59,0
Western Marmara	23,9	12,6	22,3	58,8
Eastern Marmara	19,7	4,4	28,3	52,3

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, 2023

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	69,4	10,5	50,6	130,6
Western Anatolia	82,9	16,1	15,5	114,5
Central Anatolia	56,2	18,2	25,6	100,0
Türkiye	**62,8**	**8,4**	**23,1**	**94,3**
Aegean	62,2	10,0	20,1	92,3
Eastern Marmara	63,4	4,7	21,7	89,8
Eastern Blacksea	74,3	0,7	12,1	87,1
Northeastern Anatolia	65,4	12,9	7,8	86,1
Western Blacksea	60,5	10,8	12,7	83,9
Western Marmara	60,4	8,9	12,9	82,2
Mediterranean	55,3	4,6	15,3	75,2
Southeastern Anatolia	52,8	1,3	16,7	70,8
Mideastern Anatolia	42,1	4,1	13,3	59,5

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, 2023

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	24,3	4,7	18,5	47,4
Western Anatolia	22,2	8,8	8,7	39,7
Central Anatolia	25,4	4,3	8,6	38,3
Aegean	23,1	3,8	9,9	36,8
Türkiye	**22,5**	**4,1**	**10,1**	**36,6**
Eastern Marmara	21,6	2,3	10,8	34,8
Eastern Blacksea	27,8	0,7	6,2	34,8
Western Blacksea	24,1	3,8	5,9	33,8
Northeastern Anatolia	25,3	6,9	1,4	33,6
Western Marmara	22,3	5,0	6,0	33,3
Mediterranean	19,4	3,6	9,3	32,3
Mideastern Anatolia	20,5	2,8	8,2	31,6
Southeastern Anatolia	19,7	2,1	6,0	27,7

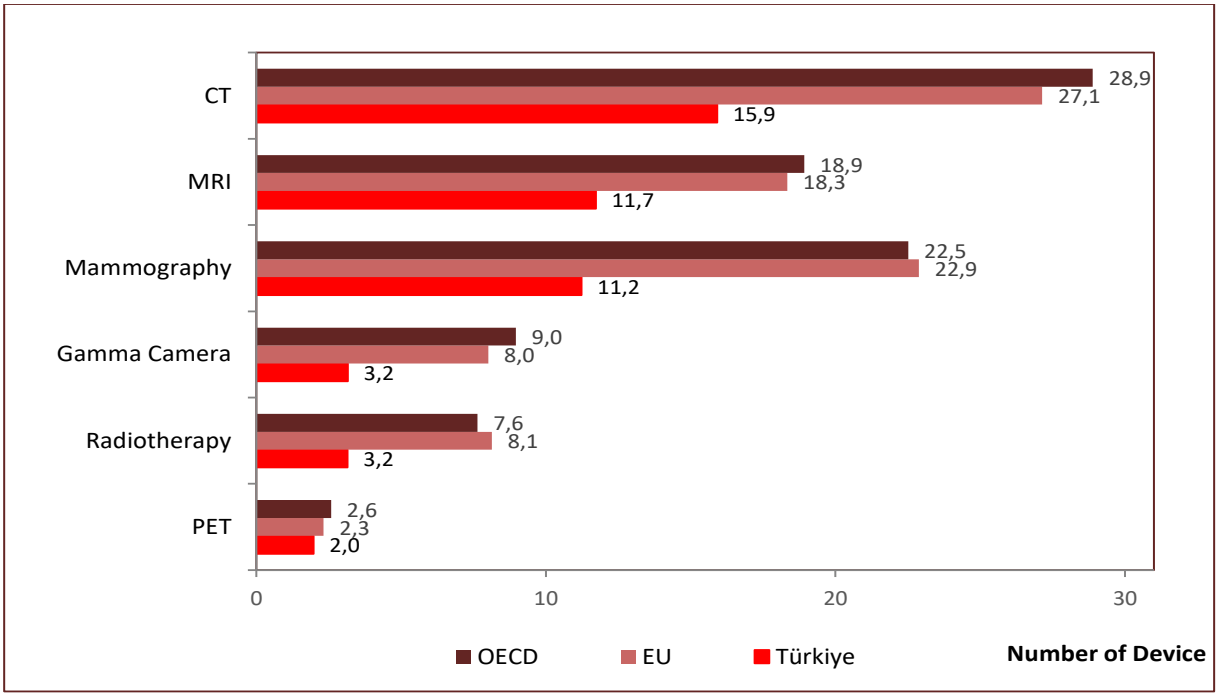
Source: General Directorate of Health Services

Table 7.14. Number of Mammography Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2023

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

Source: General Directorate of Health Services

Figure 7.20. International Comparison of Number of Devices per 1.000.000 Population, 2022



Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Table 7.15. Number of Specialty Medical Center and Private Outpatient Clinic by NUTS-1, 2023

NUTS-1	Specialty Medical Center	Private Outpatient Clinic
Istanbul	225	144
Western Marmara	11	2
Aegean	98	42
Eastern Marmara	52	8
Western Anatolia	74	26
Mediterranean	53	24
Central Anatolia	8	2
Western Blacksea	14	2
Eastern Blacksea	7	3
Northeastern Anatolia	2	0
Mideastern Anatolia	7	0
Southeastern Anatolia	24	3
Türkiye	575	256

Source: General Directorate of Health Services

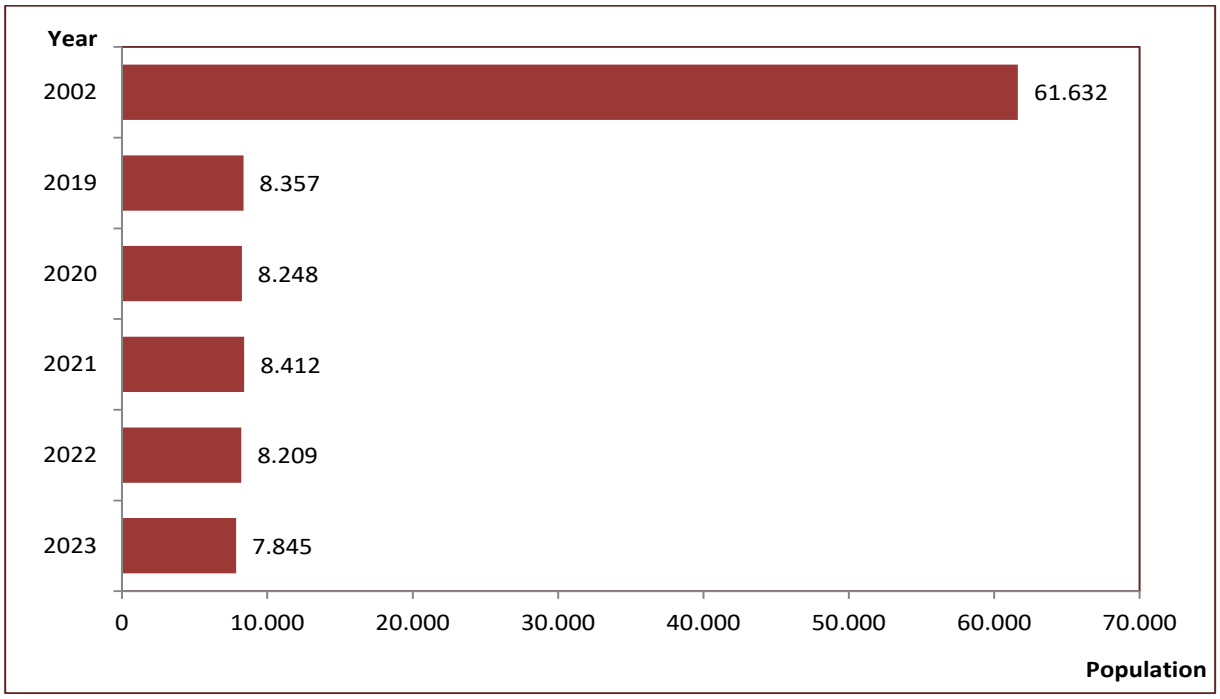
Table 7.16. Number of the Institution Providing Oral and Dental Health Care Services by Sectors, 2023

	Ministry of Health		University		Private		Total	
	Institution	Unit	Institution	Unit	Institution	Unit	Institution	Unit
Oral and Dental Health Center	133	4.566	-	-	143	1.468	276	6.034
Dental Hospital	36	2.546	-	-	3	82	39	2.628
Dental Training Hospital	5	434	73	7.499	-	-	78	7.933
Dental Policlinic (Hospital)	832	3.337	11	122	202	497	1.045	3.956
Dental Policlinic	-	-	-	-	4.426	18.802	4.426	18.802
Total	1.006	10.883	84	7.621	4.774	20.849	5.864	39.353

Source: General Directorate of Health Services

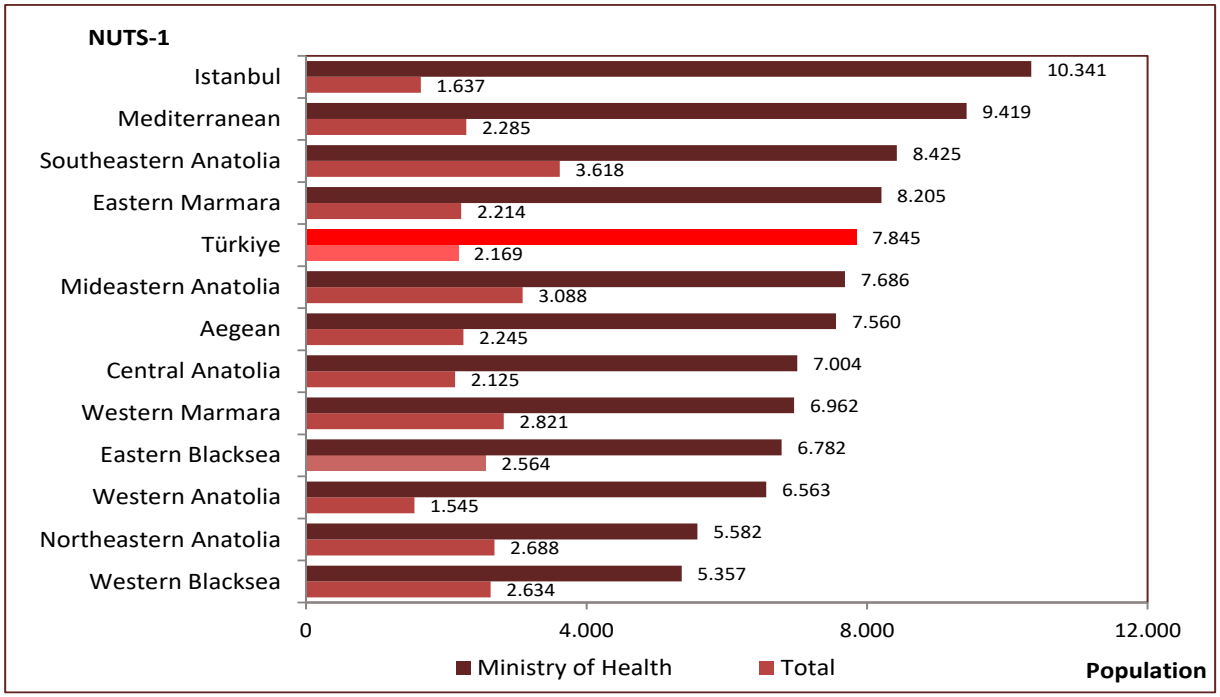
Note: Data related to dental clinic and dental prosthesis center belonging to oral and dental health center and hospital exist in Dental Policlinic (Hospital).

Figure 7.21. Population per Dental Unit by Years, Ministry of Health



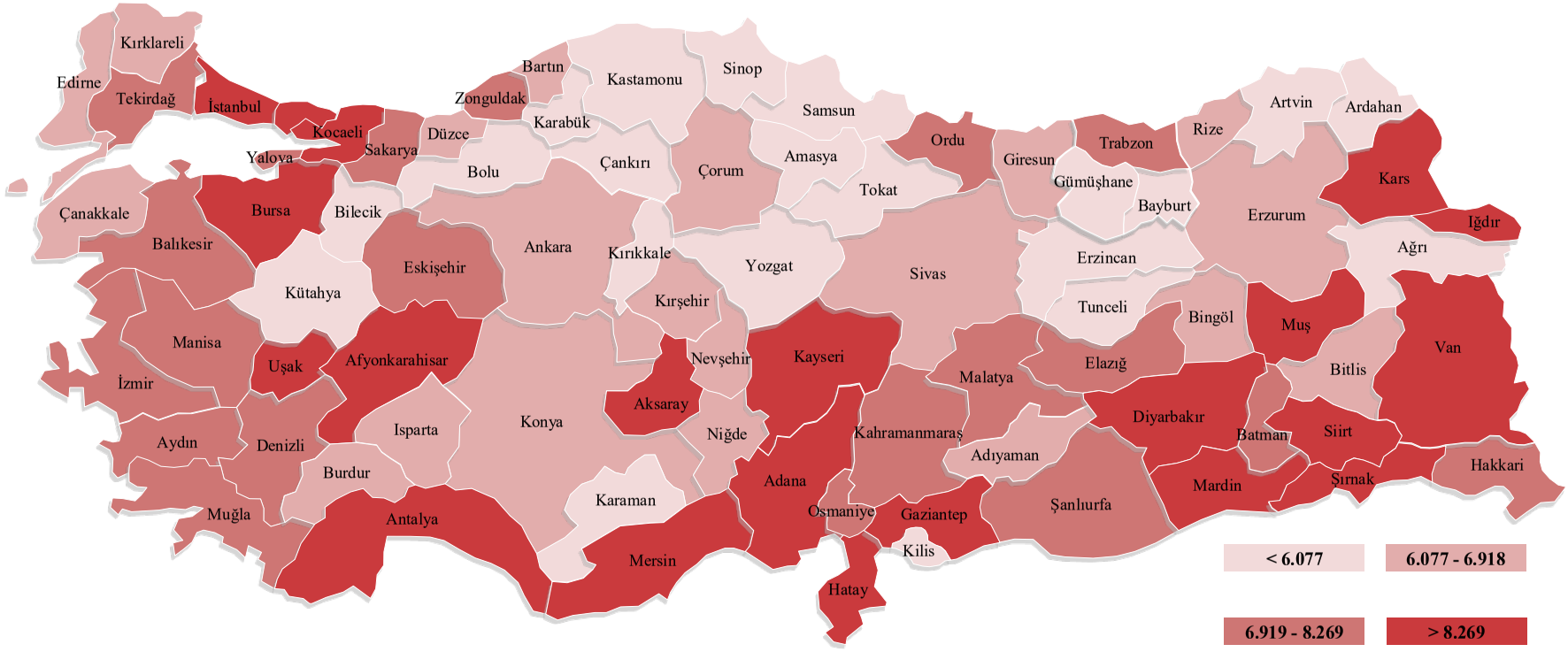
Source: General Directorate of Health Services

Figure 7.22. Population per Dental Unit by NUTS-1, All Sectors, Ministry of Health, 2023



Source: General Directorate of Health Services

Map 7.9. Population per Dental Unit by Provinces, Ministry of Health, 2023



Source: General Directorate of Health Services

Table 7.17. Indicators Regarding to Institution Actively Provide Oral and Dental Health Care Services on 31.12.2023 by Sectors

	Ministry of Health		University		Private		Total	
	Institution	Unit	Institution	Unit	Institution	Unit	Institution	Unit
Oral and Dental Health Center	133	4.566	-	-	140	1440	273	6.006
Dental Hospital	36	2.546	-	-	3	82	39	2.628
Dental Training Hospital	5	434	76	7.627	-	-	81	8.061
Dental Policlinic (Hospital)	810	3.310	11	122	202	497	1.023	3.929
Dental Policlinic	-	-	-	-	4.472	18.527	4.472	18.527
Total	984	10.856	87	7.749	4.817	20.546	5.888	39.151

Source: General Directorate of Health Services

Note: Data related to dental clinic and dental prosthesis center belonging to oral and dental health center and hospital exist in Dental Policlinic (Hospital).

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

	2002	2019	2020	2021	2022	2023
Health Center	5.055	-	-	-	-	-
Family Medicine Unit	-	26.476	26.594	26.928	27.762	28.054
Family Health Center	-	7.997	8.015	8.057	8.172	8.163
Community Health Center	-	778	779	778	774	973*
Health House	2.899	5.078	5.027	4.983	4.958	4.909
Child, Adolescent, Women and Reproductive Health Unit (CEKUS)	298	167	166	96	94	93**
Tuberculosis Control Dispensary	277	174	173	173	173	173
Cancer Early Diagnosis, Screening and Training Centers (KETEM)	84	178	175	336	364	381***
Number of Public Health Laboratories	-	83	84	84	84	84

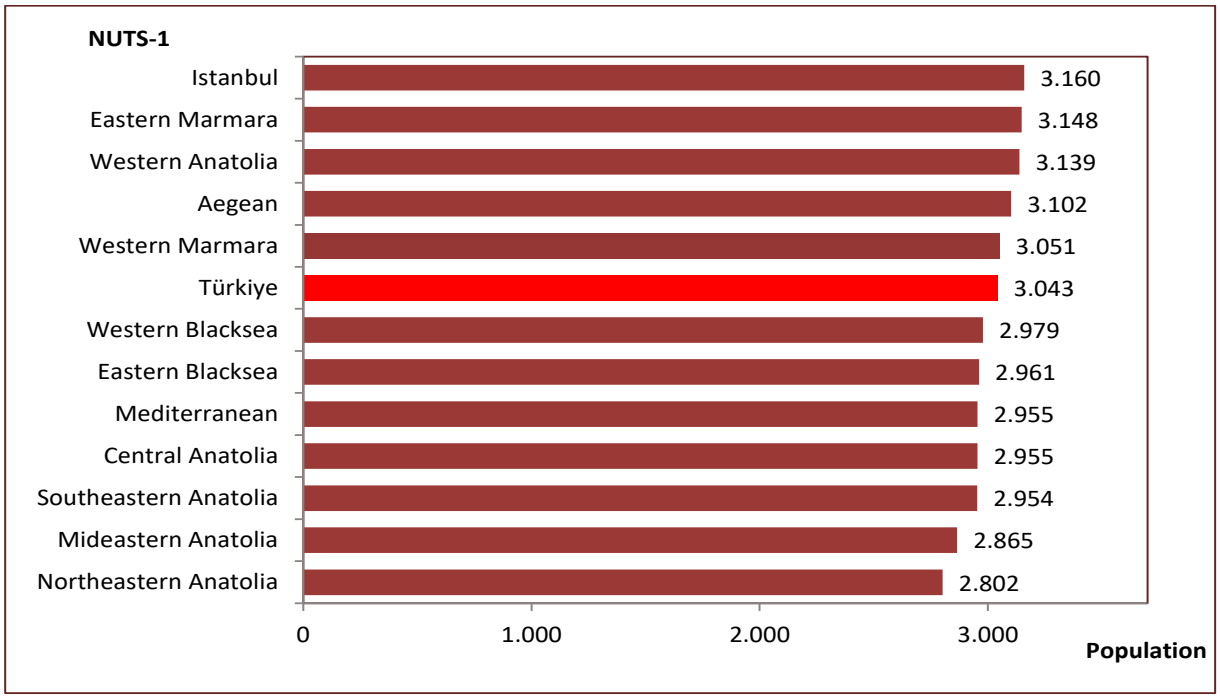
Source: General Directorate of Public Health, General Directorate of Health Services

** In districts with a population of 30.000 or more, 433 District Health Directorates, which provide the same services, included the number of Community Health Centers.*

*** In addition to the 93 independent CEKUS Units registered in the CKYS in 2023, there are 376 CEKUS Units serving within Healthy Life Centers (HLC).*

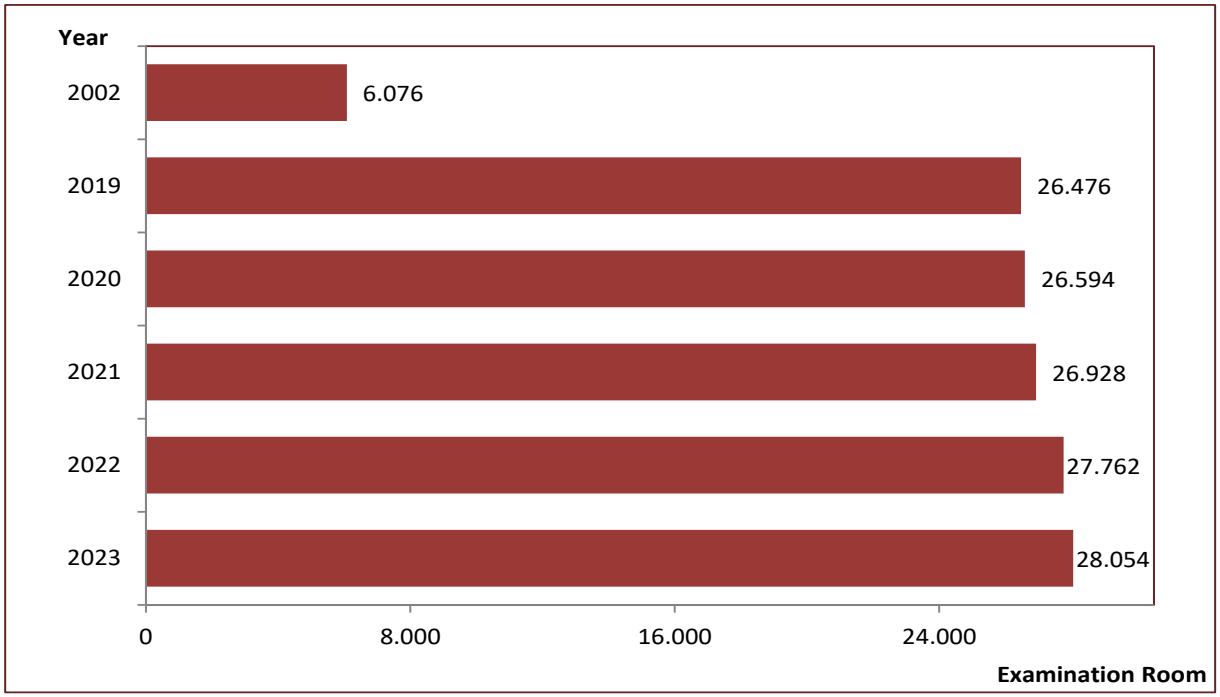
****The number of KETEMs includes 88 independent KETEMs registered in the CKYS, 46 mobile vehicles and KETEMs operating in 247 HLC.*

Figure 7.23. Population per Family Medicine Unit by NUTS-1, 2023



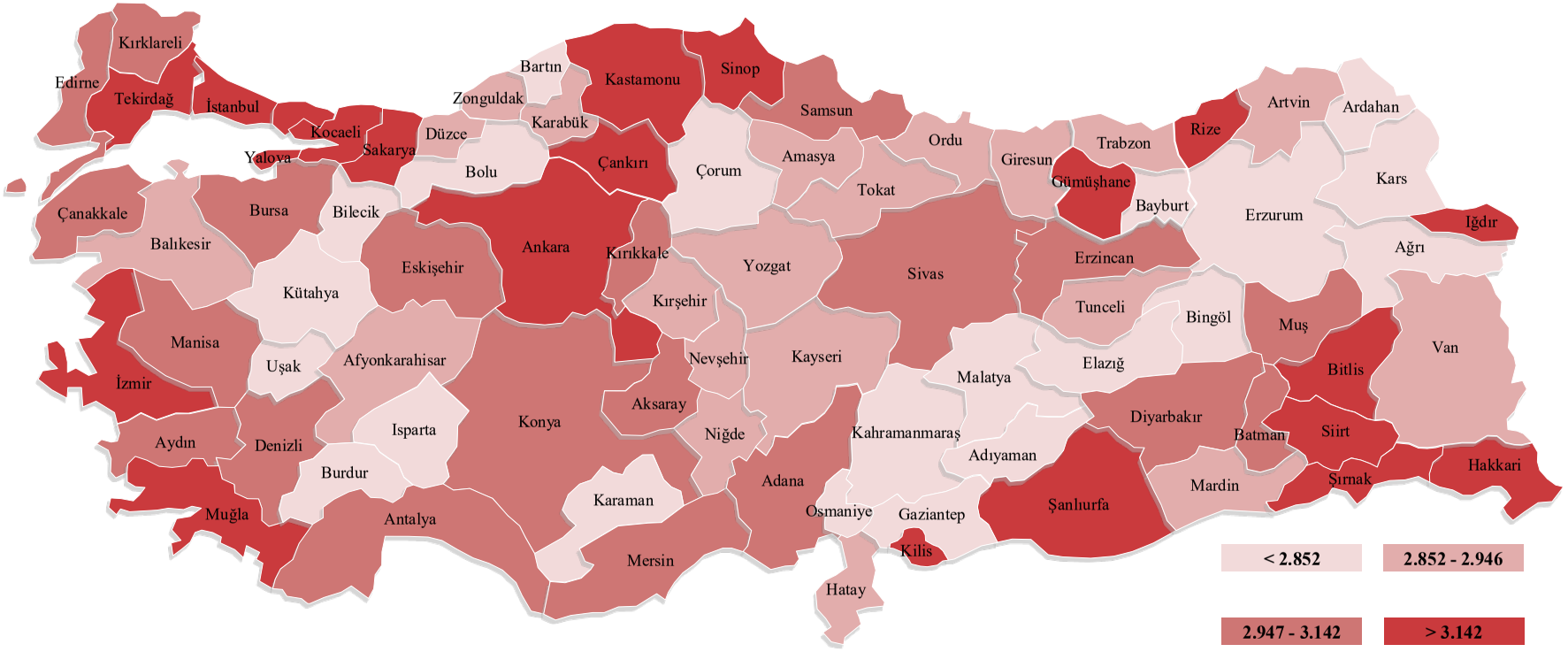
Source: General Directorate of Public Health, General Directorate of Health Services

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



Source: General Directorate of Public Health

Map 7.10. Population per Family Medicine Unit by Provinces, 2023



Source: General Directorate of Public Health

Table 7.19. Some Health Indicators by Provinces, 2023

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	7.075	31,2	4.502	1.573	81,8	6,9	762	2.979
Adıyaman	12	1.146	18,9	839	237	92,3	3,9	218	2.775
Afyonkarahisar	22	2.380	31,7	1.880	386	94,3	5,1	255	2.946
Ağrı	10	933	18,2	784	130	97,6	2,5	183	2.794
Amasya	7	875	25,8	545	127	72,9	3,7	118	2.877
Ankara	85	25.020	43,1	15.922	4.206	76,5	7,2	1.827	3.177
Antalya	46	7.545	28,0	5.455	1.444	89,4	5,4	889	3.033
Artvin	8	361	20,9	310	42	97,2	2,4	59	2.921
Aydın	25	3.595	30,9	2.081	616	69,9	5,3	377	3.081
Balıkesir	25	3.385	26,6	2.454	574	87,3	4,5	435	2.928
Bilecik	8	610	26,7	481	104	95,1	4,6	80	2.851
Bingöl	7	696	24,4	500	69	79,7	2,4	102	2.801
Bitlis	8	1.065	29,6	757	168	84,4	4,7	112	3.212
Bolu	11	1.380	42,5	1.004	216	86,3	6,7	115	2.824
Burdur	8	770	27,8	496	108	74,9	3,9	98	2.831
Bursa	44	8.490	26,4	5.912	1.616	86,0	5,0	1.023	3.142
Çanakkale	14	1.799	31,5	1.399	280	92,1	4,9	183	3.117
Çankırı	9	475	23,1	367	45	85,3	2,2	63	3.262
Çorum	16	1.704	32,3	1.315	268	91,6	5,1	189	2.796
Denizli	24	3.256	30,7	1.849	573	68,9	5,4	341	3.106
Diyarbakır	28	4.961	27,3	2.315	1.153	60,8	6,3	591	3.076
Edirne	12	1.946	46,3	1.045	262	62,1	6,2	138	3.043
Elazığ	13	3.153	52,2	1.871	540	71,6	8,9	212	2.851
Erzincan	10	665	27,3	554	92	96,7	3,8	82	2.968
Erzurum	20	3.694	49,3	2.739	506	85,9	6,7	276	2.717
Eskişehir	15	3.625	39,6	2.594	623	86,4	6,8	293	3.124
Gaziantep	34	8.905	41,1	5.188	1.978	74,9	9,1	820	2.639
Giresun	18	1.800	39,0	1.380	302	92,1	6,5	158	2.922
Gümüşhane	6	325	21,9	258	47	92,8	3,2	47	3.160
Hakkari	5	494	17,2	364	80	87,9	2,8	89	3.232
Hatay	24	5.026	32,5	3.631	909	88,2	5,9	528	2.925
Isparta	15	2.123	47,2	1.500	468	90,6	10,4	163	2.759
Mersin	27	5.198	26,8	4.094	1.025	98,1	5,3	628	3.087
İstanbul	231	46.872	29,9	31.250	9.205	83,0	5,9	4.955	3.160
İzmir	64	14.547	32,5	8.884	2.637	74,6	5,9	1.393	3.216
Kars	8	798	28,7	597	112	87,0	4,0	99	2.811
Kastamonu	21	1.184	30,4	795	114	74,3	2,9	123	3.163
Kayseri	27	4.838	33,5	3.205	875	80,9	6,1	493	2.932
Kırklareli	10	1.016	26,9	817	188	98,7	5,0	127	2.970
Kırşehir	6	600	24,3	515	82	99,4	3,3	84	2.943
Kocaeli	30	5.446	25,9	4.127	1.091	94,8	5,2	651	3.230

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, 2023 - 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	48	8.787	37,9	6.000	1.585	83,3	6,8	748	3.102
Kütahya	14	1.981	34,4	1.313	243	75,5	4,2	205	2.808
Malatya	20	3.505	47,2	2.261	656	79,4	8,8	289	2.570
Manisa	29	4.737	32,1	3.267	943	86,1	6,4	486	3.036
Kahramanmaraş	17	3.034	27,2	1.769	733	76,9	6,6	406	2.750
Mardin	12	1.746	19,6	1.017	323	71,5	3,6	308	2.886
Muğla	24	2.537	23,8	1.857	361	85,3	3,4	333	3.203
Muş	7	755	18,9	582	104	89,4	2,6	130	3.076
Nevşehir	10	857	27,1	711	142	99,4	4,5	109	2.899
Niğde	8	918	24,3	607	137	77,7	3,6	129	2.923
Ordu	18	2.304	29,7	1.424	373	73,7	4,8	264	2.939
Rize	11	1.121	32,0	880	131	88,9	3,7	106	3.307
Sakarya	19	2.447	22,3	1.859	440	92,6	4,0	332	3.308
Samsun	25	5.293	38,4	3.857	891	87,6	6,5	454	3.034
Siirt	8	783	22,5	642	124	97,4	3,6	108	3.217
Sinop	7	660	28,7	504	116	92,6	5,0	70	3.282
Sivas	20	2.930	45,0	1.928	418	76,8	6,4	213	3.054
Tekirdağ	20	3.232	27,7	2.233	728	89,2	6,2	365	3.197
Tokat	15	2.242	36,9	1.826	299	94,0	4,9	206	2.946
Trabzon	22	3.309	40,1	2.208	464	77,6	5,6	289	2.852
Tunceli	6	150	16,8	127	23	100,0	2,6	31	2.881
Şanlıurfa	20	4.264	19,3	2.576	1.179	83,5	5,3	699	3.167
Uşak	7	1.142	30,3	976	161	99,5	4,3	139	2.712
Van	15	3.074	27,3	2.321	623	94,7	5,5	395	2.855
Yozgat	15	1.230	29,2	1.018	153	94,5	3,6	145	2.901
Zonguldak	12	2.313	39,1	1.366	344	69,4	5,8	201	2.943
Aksaray	11	1.116	25,5	844	193	91,4	4,4	146	3.003
Bayburt	3	205	23,8	162	33	94,2	3,8	33	2.607
Karaman	6	654	24,8	523	130	99,8	4,9	97	2.721
Kırıkkale	7	1.254	43,9	690	157	62,9	5,5	96	2.977
Batman	12	1.815	28,0	1.232	435	89,3	6,7	215	3.010
Şırnak	7	740	13,0	537	109	85,1	1,9	178	3.206
Bartın	4	507	24,5	198	120	51,2	5,8	76	2.727
Ardahan	4	210	22,6	184	26	100,0	2,8	36	2.578
Iğdır	4	325	15,5	238	59	89,5	2,8	66	3.178
Yalova	7	791	26,0	589	202	100,0	6,6	95	3.208
Karabük	6	751	29,4	576	131	92,9	5,1	88	2.900
Kilis	2	430	27,7	274	80	78,3	5,2	49	3.167
Osmaniye	10	1.753	31,4	1.241	358	89,0	6,4	198	2.816
Düzce	9	916	22,3	605	168	80,9	4,1	142	2.886
Türkiye	1.566	266.594	31,2	179.597	48.966	82,5	5,7	28.054	3.043

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 31.12.2023 (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 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.

☑ As of 01.02.2023, E2 - E3 Integrated District State Hospitals, which previously provided primary healthcare services under the General Directorate of Public Health, have been transferred to the General Directorate of Public Hospitals and began providing secondary healthcare services as District State Hospitals. Consequently, data revisions have been made retrospectively.

☑ 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 the Ministry of National Defense (MoND), municipalities and other public institutions.

☑ The data of 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 2019-2023.



CHAPTER 8

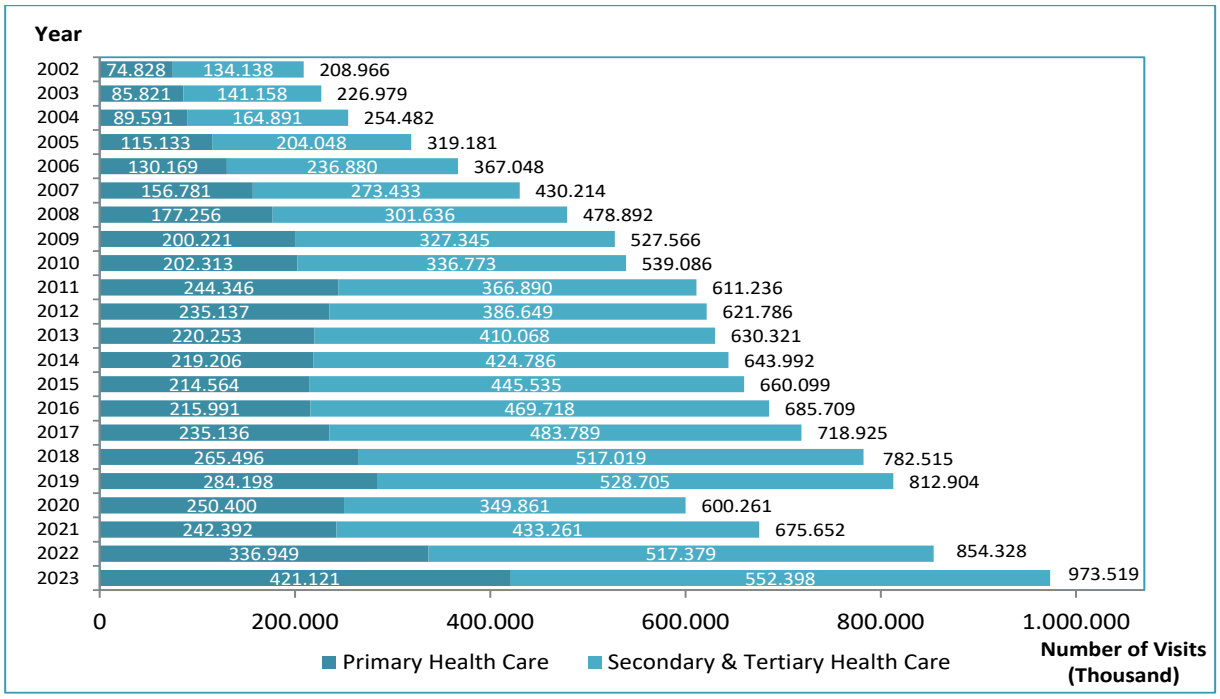
Utilization of Health Care Services

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

	2002	2019	2020	2021	2022	2023
Health Center	69.103.517	-	-	-	-	-
Family Medicine	-	278.043.149	247.273.830	239.053.780	332.907.540	416.806.846
Tuberculosis Control Dispensary	2.012.458	1.256.364	769.343	788.679	792.725	801.314
CEKUS Unit*	2.980.481	309.984	153.890	123.859	206.640	219.162
Other Examinations Made by CHCs*	-	3.959.746	1.767.606	1.826.891	2.267.019	2.511.557
Private Outpatient Clinics	731.132	629.221	435.764	598.356	774.934	782.357
Primary Health Care Facilities Total	**74.827.588**	**284.198.464**	**250.400.433**	**242.391.565**	**336.948.858**	**421.121.236**
Specialty Medical Centers	9.824.802	18.298.592	14.527.627	15.672.466	17.248.270	14.872.035
Hospitals	**124.313.659**	**510.406.566**	**335.333.071**	**417.588.159**	**500.131.196**	**537.525.816**
Ministry of Health	109.793.128	391.526.250	242.701.322	308.173.929	379.606.795	424.550.715
University	8.823.361	46.211.148	31.725.506	40.102.992	45.746.680	45.534.172
Private	5.697.170	72.669.168	60.906.243	69.311.238	74.777.721	67.440.929
Secondary and Tertiary Health Care Total	**134.138.461**	**528.705.158**	**349.860.698**	**433.260.625**	**517.379.466**	**552.397.851**
Total	208.966.049	812.903.622	600.261.131	675.652.190	854.328.324	973.519.087

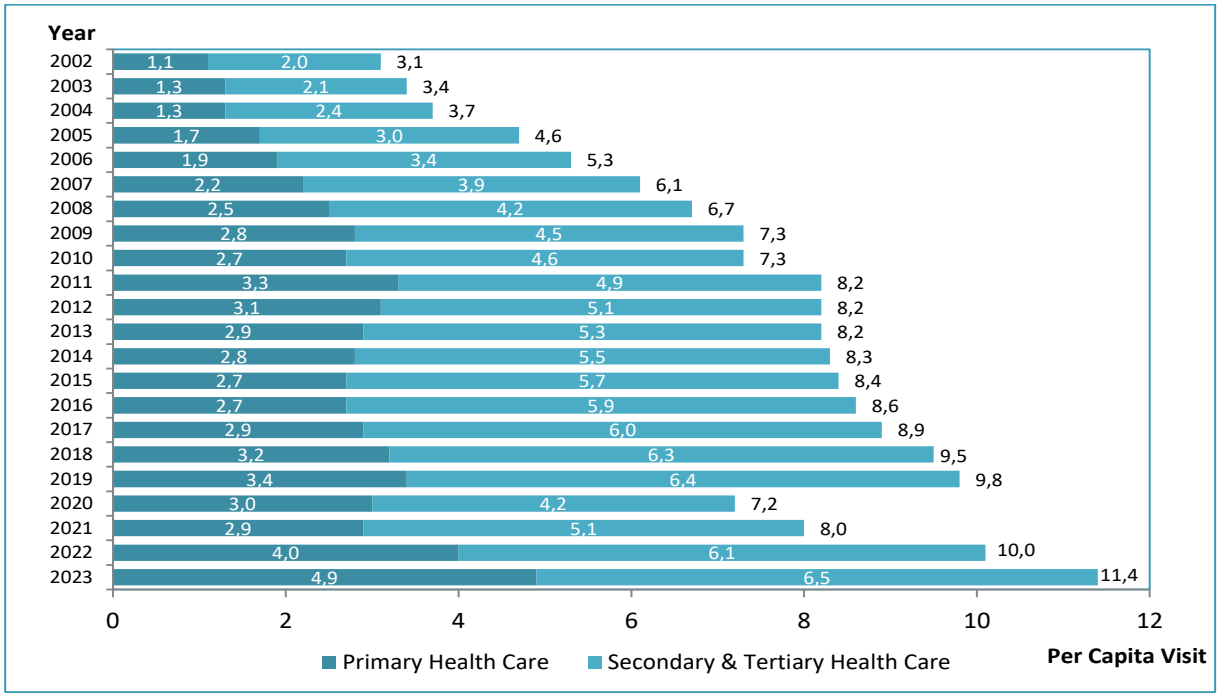
Source: General Directorate of Public Health, General Directorate of Health Services
** Consultancy service visits were not included in the number of visits to the physician.*
Note: The number of visits to a dentist is not included.

Figure 8.1. Total Number of Visits to a Physician in Health Care Facilities by Years, All Sectors, (in Thousand)



Source: General Directorate of Public Health, General Directorate of Health Services
Note: As of 01.02.2023, E2 - E3 Integrated District State Hospitals, which previously provided primary healthcare services under the General Directorate of Public Health, have been transferred to the General Directorate of Public Hospitals and began providing secondary healthcare services as District State Hospitals. Consequently, data revisions have been made retrospectively.

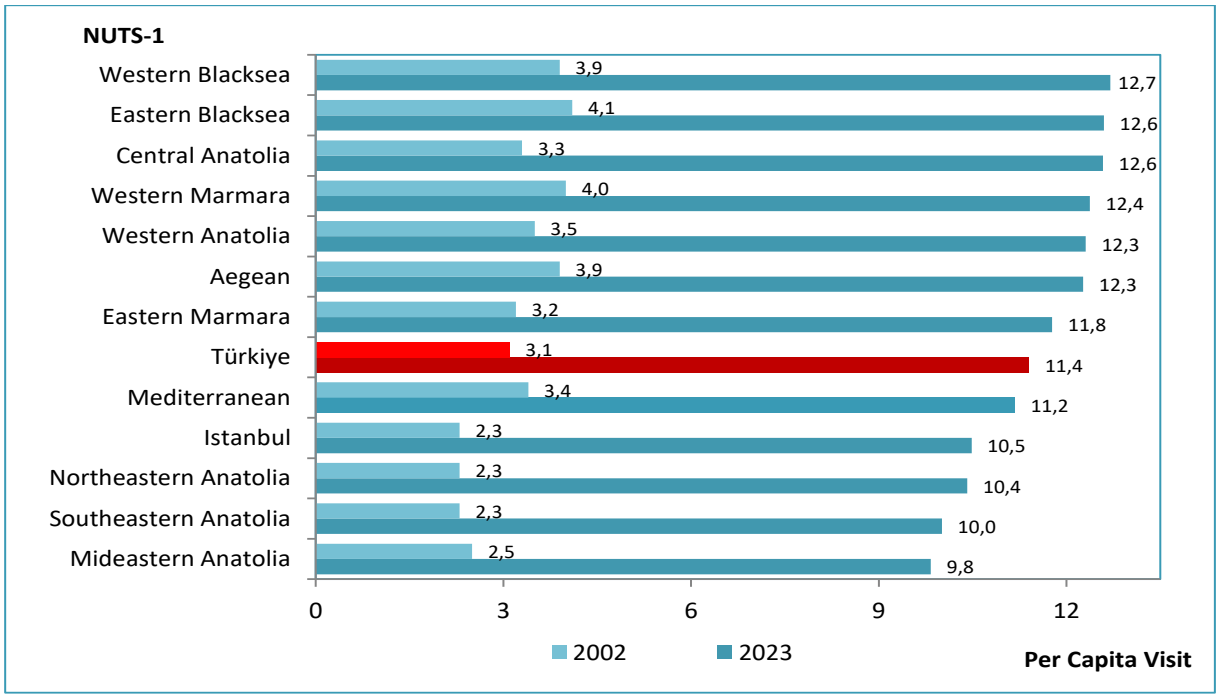
Figure 8.2. Total Number of per Capita Visits to a Physician in Health Care Facilities by Years, All Sectors



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

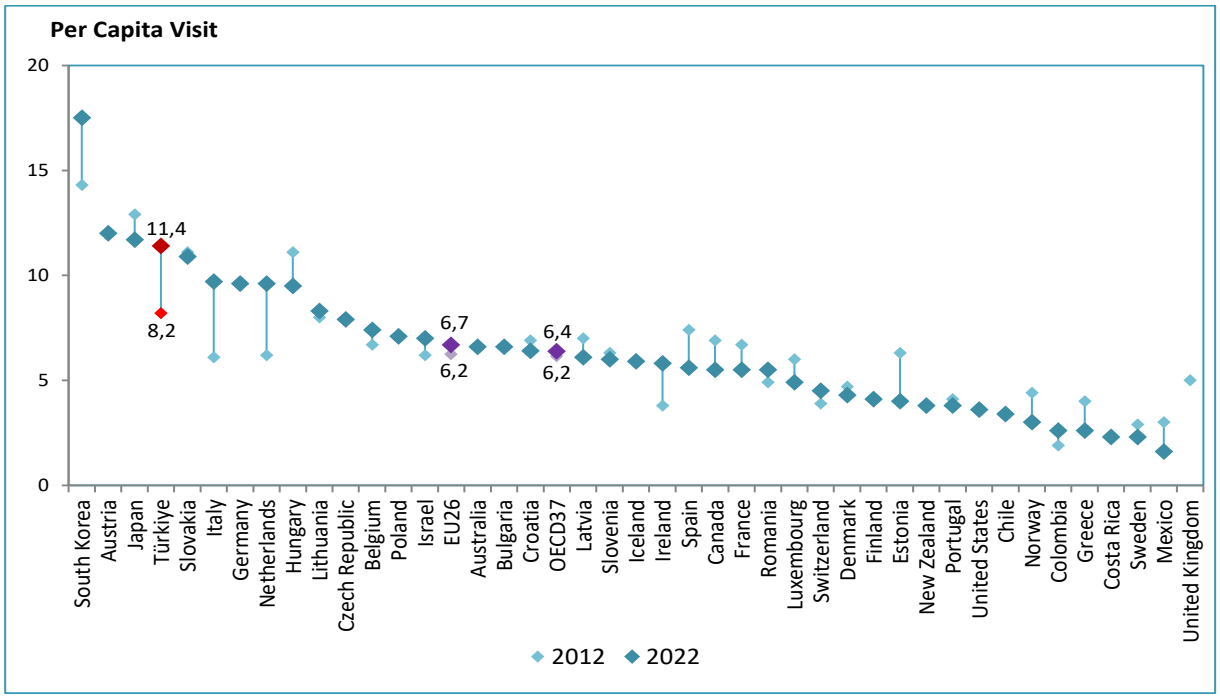
Note: As of 01.02.2023, E2- E3 Integrated District State Hospitals, which previously provided primary healthcare services under the General Directorate of Public Health, have been transferred to the General Directorate of Public Hospitals and began providing secondary healthcare services as District State Hospitals. Consequently, data revisions have been made retrospectively.

Figure 8.3. Per Capita Visits to a Physician in Health Care Facilities by NUTS-1, All Sectors, 2002, 2023



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

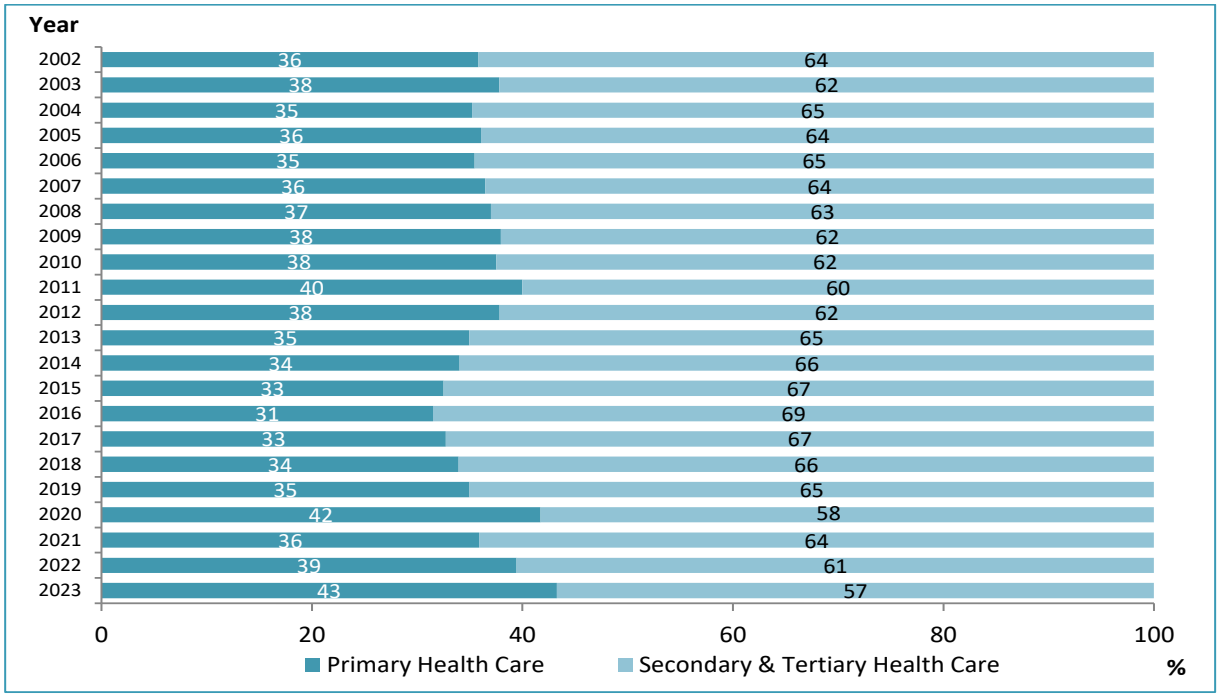
Figure 8.4. International Comparison of per Capita Visits to a Physician, 2012, 2022



Source: General Directorate of Public Health, General Directorate of Health Services, OECD Health Data 2024

Note: Türkiye's data belongs to the year 2012 and 2023. Countries' data belong to the year 2012, 2022 or nearest.

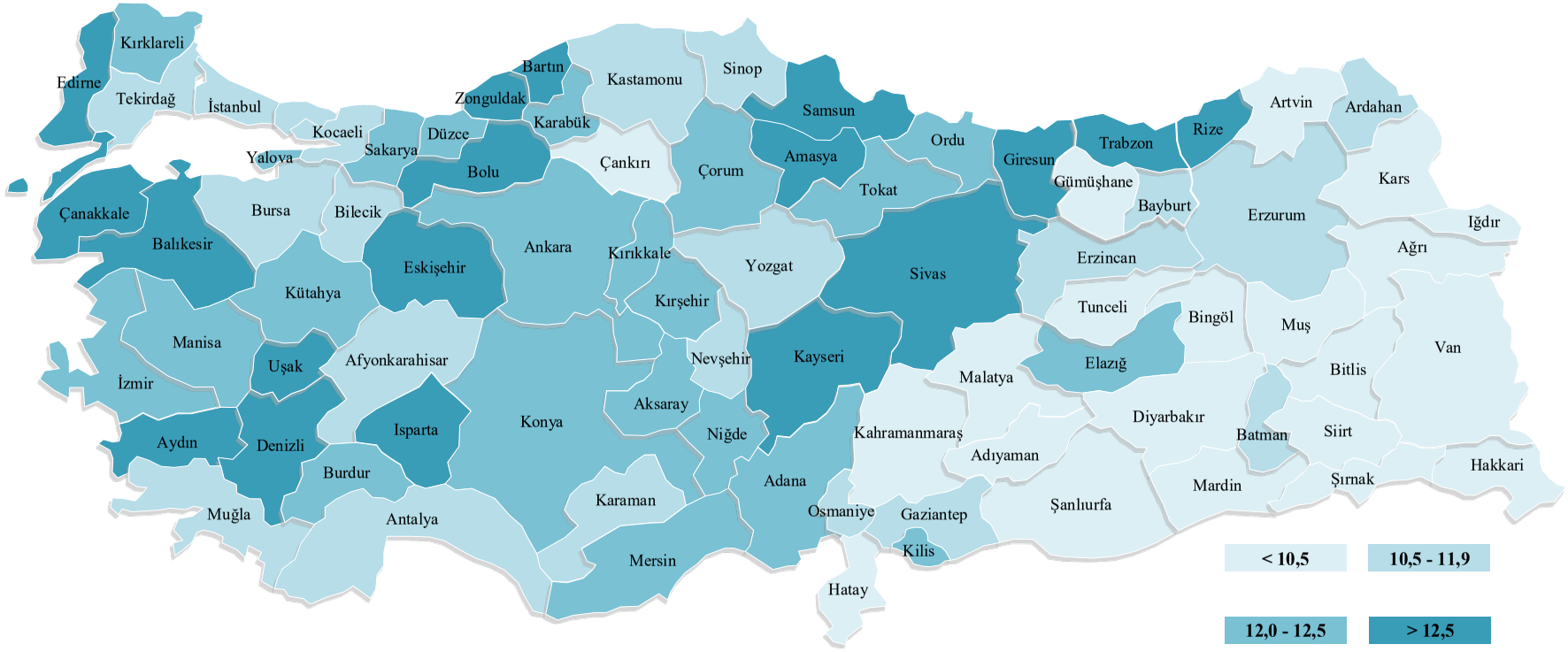
Figure 8.5. Ratio of Total Number of Visits to a Physician in Health Care Facilities by Years, (%), All Sectors



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

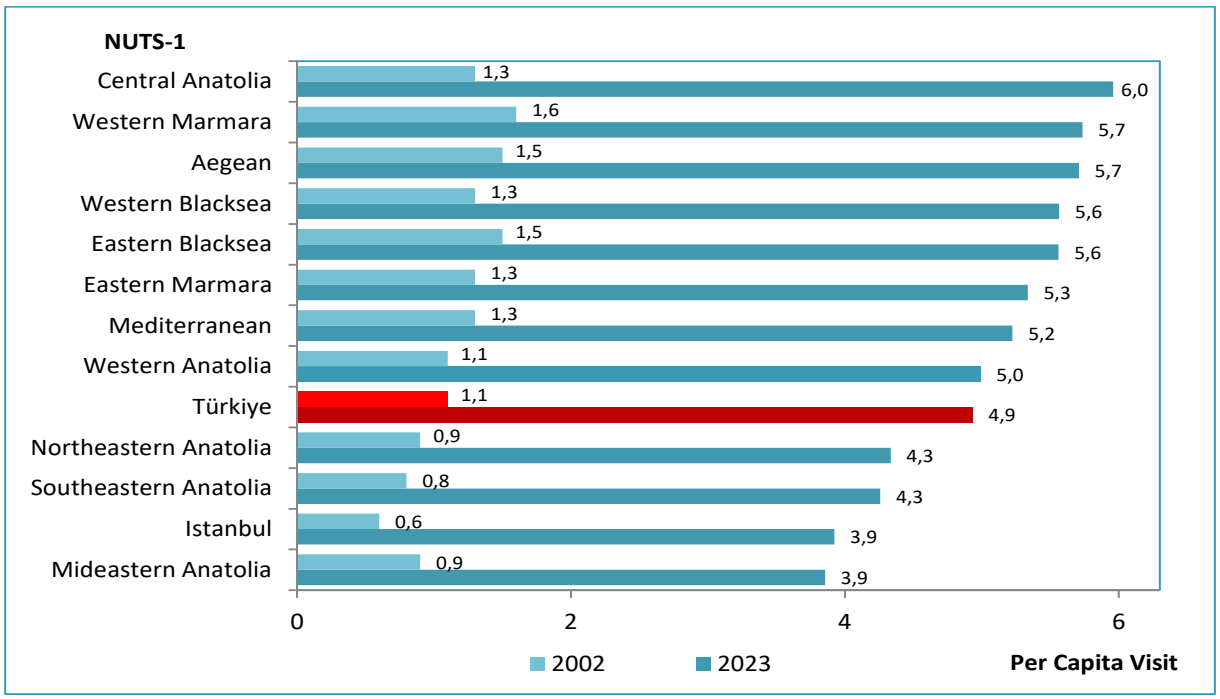
Note: As of 01.02.2023, E2 - E3 Integrated District State Hospitals, which previously provided primary healthcare services under the General Directorate of Public Health, have been transferred to the General Directorate of Public Hospitals and began providing secondary healthcare services as District State Hospitals. Consequently, data revisions have been made retrospectively.

Map 8.1. Per Capita Visits to a Physician by Provinces, All Sectors, 2023



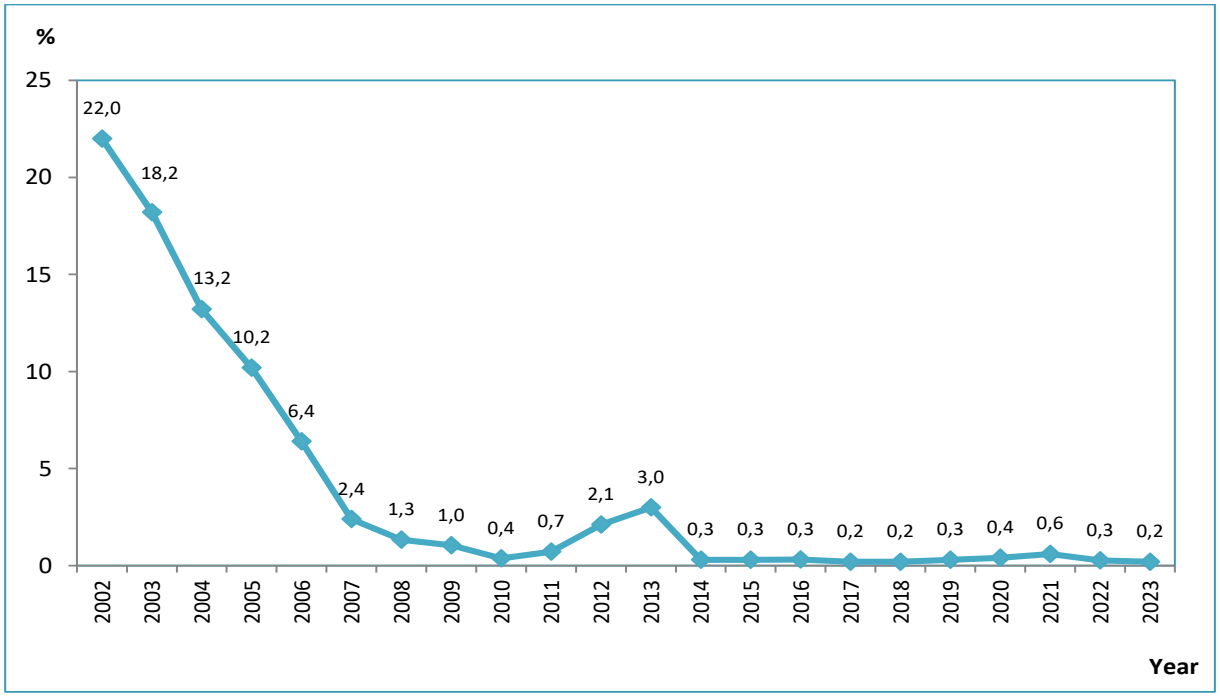
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.6. Per Capita Visits to a Physician at Primary Health Care Facilities by NUTS-1, All Sectors, 2002, 2023



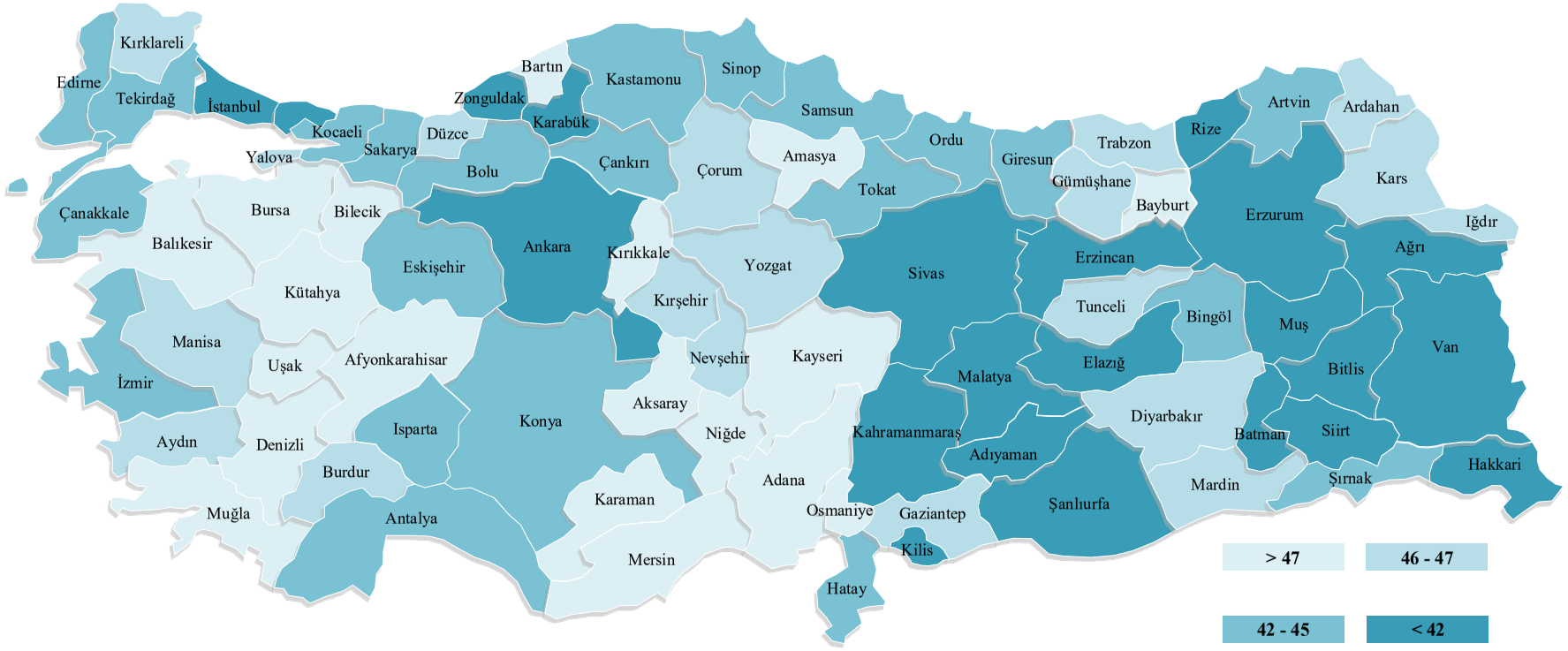
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.7. Referrals from the Family Medicine Unit by Years, (%), Ministry of Health



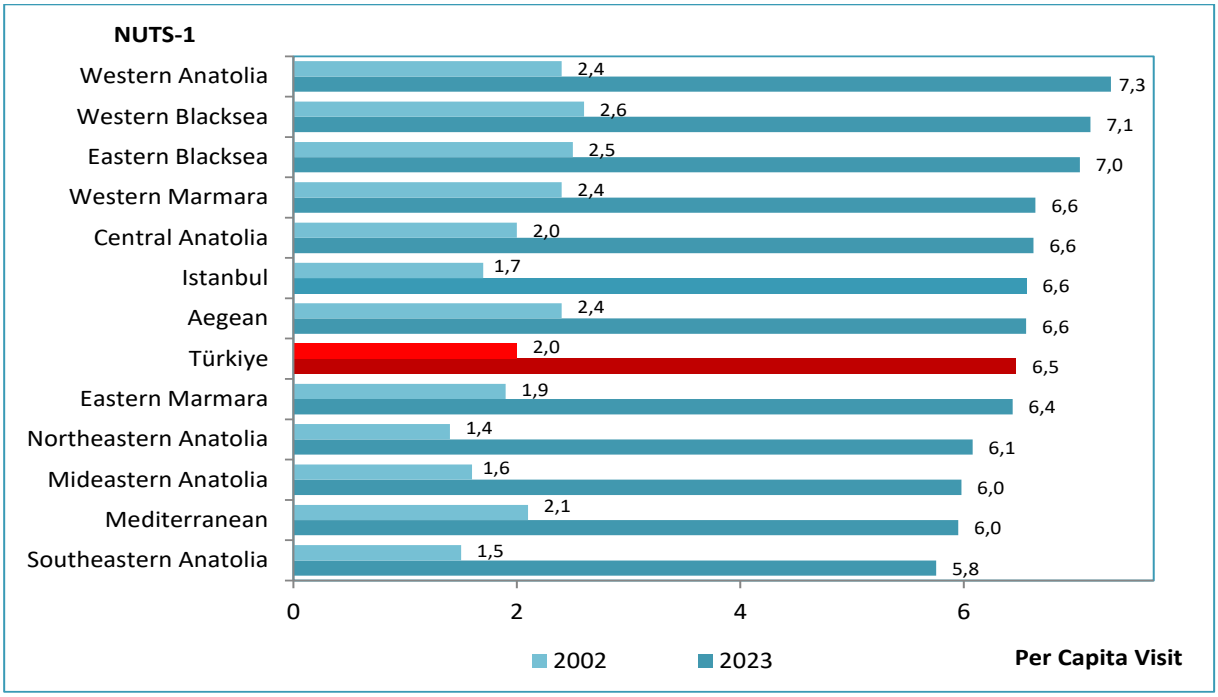
Source: General Directorate of Public Health

Map 8.2. Proportion of Visits to a Physician at Primary Health Care Facilities to All Sectors by Provinces, (%), 2023



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

Figure 8.8. Per Capita Visits to a Physician at Secondary and Tertiary Health Care Facilities by NUTS-1, All Sectors, 2002, 2023



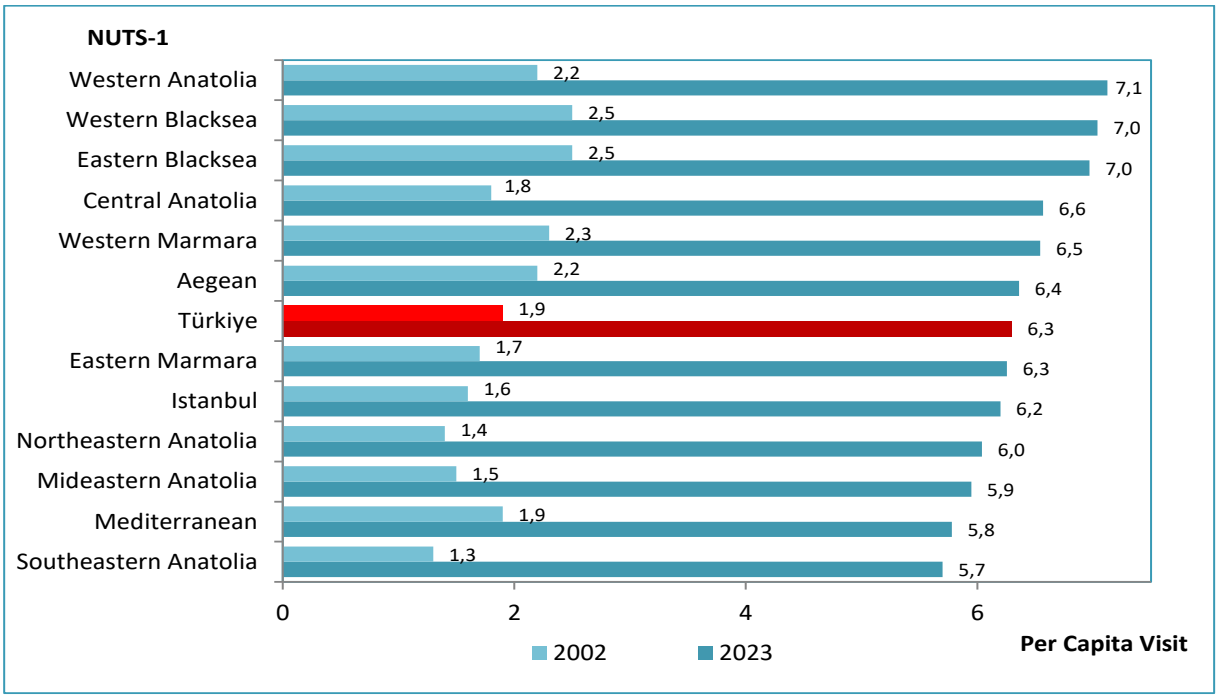
Source: General Directorate of Health Services

Table 8.2. Per Capita Hospital Visits by Years and Sectors

	2002	2019	2020	2021	2022	2023
Ministry of Health	1,7	4,7	2,9	3,6	4,5	5,0
University	0,1	0,6	0,4	0,5	0,5	0,5
Private	0,1	0,9	0,7	0,8	0,9	0,8
Total	1,9	6,1	4,0	4,9	5,9	6,3

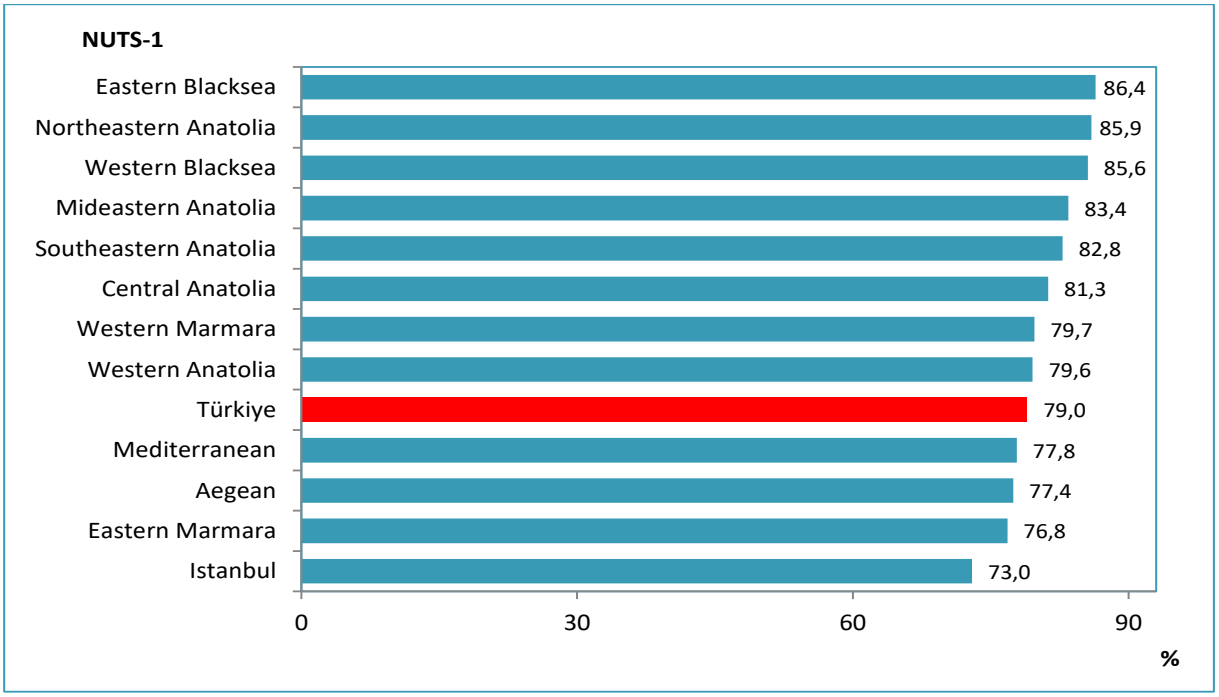
Source: General Directorate of Health Services

Figure 8.9. Per Capita Visits to Hospitals by NUTS-1, All Sectors, 2002, 2023



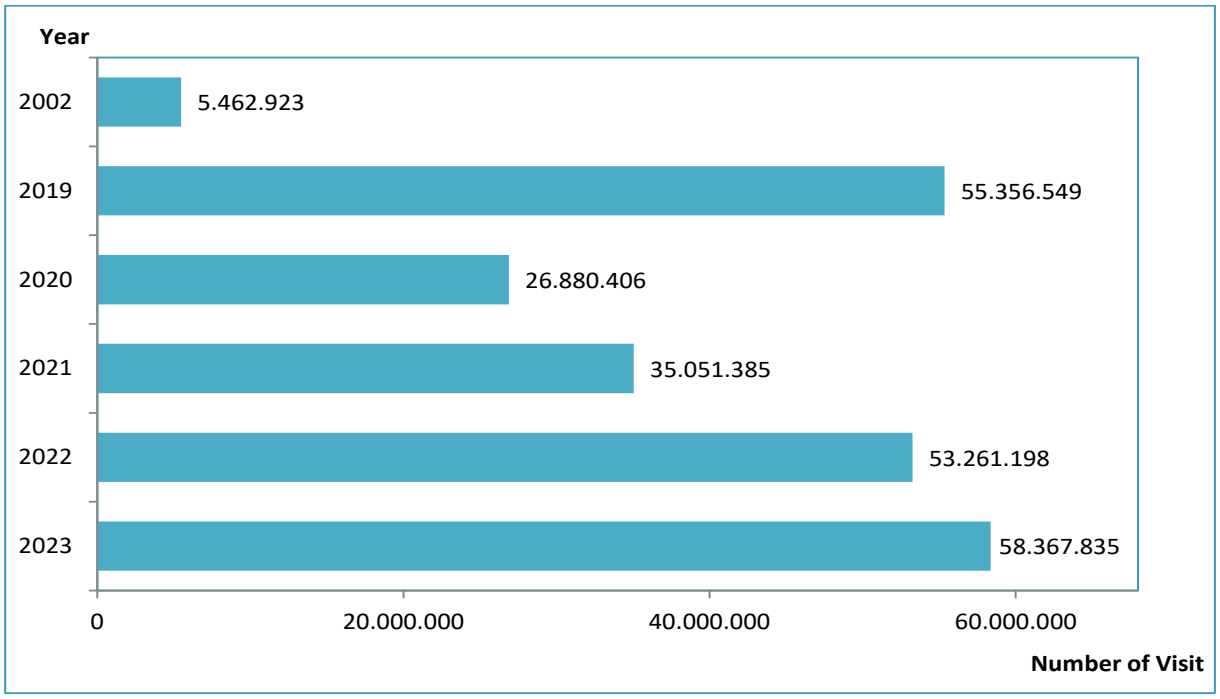
Source: General Directorate of Health Services

Figure 8.10. Proportion of Visits to Ministry of Health Hospitals to All Sectors by NUTS-1, (%), 2023



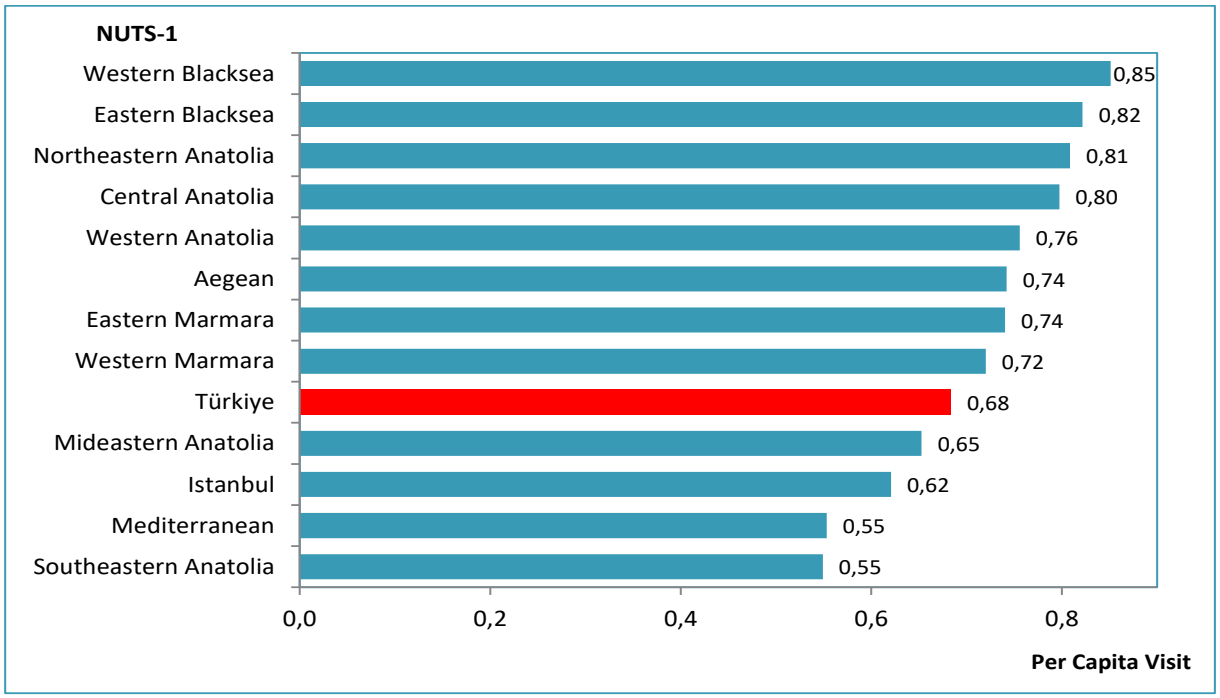
Source: General Directorate of Health Services

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



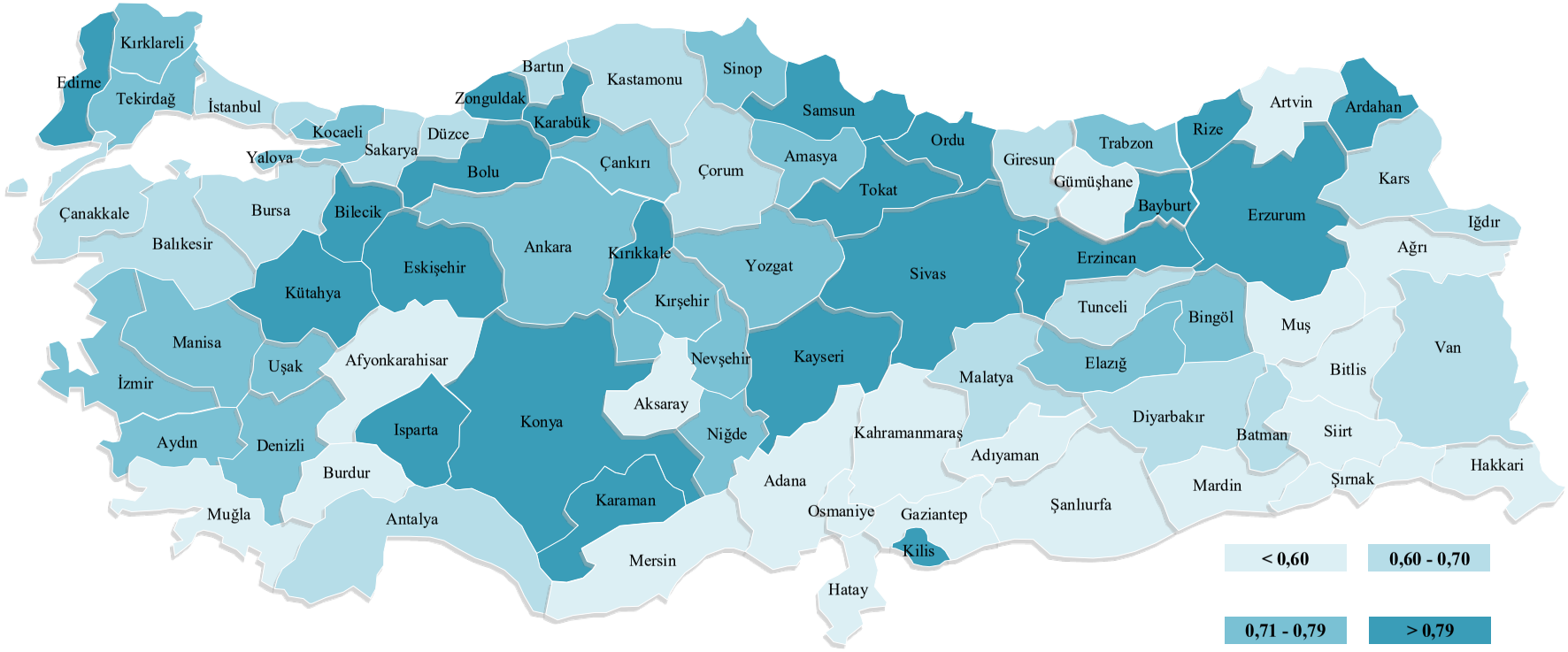
Source: General Directorate of Health Services
Note: In 2002, only the values of the Ministry of Health were published.

Figure 8.12. Per Capita Visits to a Dentist by NUTS-1, All Sectors, 2023



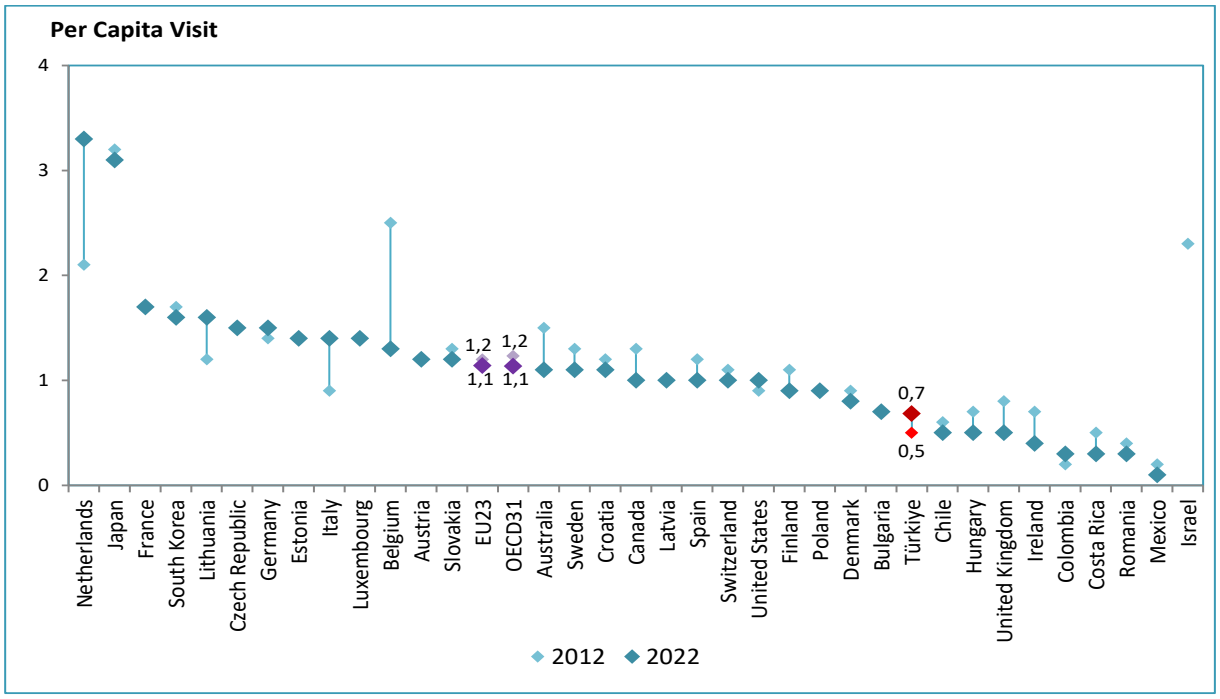
Source: General Directorate of Health Services

Map 8.3. Per Capita Visits to a Dentist by Provinces, All Sectors, 2023



Source: General Directorate of Health Services

Figure 8.13. International Comparison of per Capita Visits to a Dentist, 2012, 2022



Source: General Directorate of Public Health, General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database

Note: Türkiye's data belongs to the year 2012 and 2023. Countries' data belong to the year 2012, 2022 or nearest.

Table 8.3. Number of Inpatients in Hospitals by Years and Sectors

	2002	2019	2020	2021	2022	2023
Ministry of Health	4.169.779	7.742.707	5.517.337	6.110.494	7.167.463	7.691.800
University	781.990	2.072.720	1.546.362	1.859.399	2.044.982	1.989.553
Private	556.494	3.990.922	3.556.818	3.815.599	4.068.175	3.710.081
Total	5.508.263	13.806.349	10.620.517	11.785.492	13.280.620	13.391.434

Source: General Directorate of Health Services

Table 8.4. Number of Inpatients in the Ministry of Health Hospitals and Its Proportion to All Sectors by NUTS-1, (%), 2023

NUTS-1	Ministry of Health	Total	Proportion of MoH (%)
Northeastern Anatolia	216.269	317.847	68,0
Eastern Blacksea	356.049	524.766	67,8
Western Blacksea	541.539	828.796	65,3
Mideastern Anatolia	405.171	635.087	63,8
Central Anatolia	439.593	703.474	62,5
Southeastern Anatolia	812.952	1.343.530	60,5
Western Anatolia	867.738	1.467.060	59,1
Türkiye	**7.691.800**	**13.391.434**	**57,4**
Eastern Marmara	744.265	1.304.514	57,1
Aegean	975.500	1.743.239	56,0
Mediterranean	923.530	1.675.865	55,1
Western Marmara	324.709	612.900	53,0
Istanbul	1.084.485	2.234.356	48,5

Source: General Directorate of Health Services

Table 8.5. Number of Surgical Operations by Years and Sectors

	2002	2019	2020	2021	2022	2023
Ministry of Health	1.072.417	2.796.484	1.613.841	2.191.281	2.997.651	3.342.804
University	307.108	948.936	708.994	939.861	1.077.013	1.114.775
Private	218.837	1.478.395	1.399.383	1.572.952	1.698.385	1.534.759
Total	1.598.362	5.223.815	3.722.218	4.704.094	5.773.049	5.992.338

Source: General Directorate of Health Services

Table 8.6. Number and Distribution (%) of Surgical Operations by Surgical Operation Groups and Sectors, 2023

	A		B		C		Total	
	Number	%	Number	%	Number	%	Number	%
Ministry of Health	384.950	45,5	1.261.148	58,5	1.696.706	56,7	3.342.804	55,8
University	259.380	30,7	399.762	18,5	455.633	15,2	1.114.775	18,6
Private	201.490	23,8	495.801	23,0	837.468	28,0	1.534.759	25,6
Total	845.820	100	2.156.711	100	2.989.807	100	5.992.338	100

Source: General Directorate of Health Services

Table 8.7. Number of Surgical Operations per 1.000 Population by NUTS-1 and Sectors, 2023

NUTS-1	Ministry of Health	University	Private	Total
Western Anatolia	52,0	24,1	15,7	91,8
Aegean	40,1	15,3	19,6	74,9
Istanbul	37,3	6,8	28,4	72,5
Eastern Blacksea	49,1	9,9	11,2	70,3
Türkiye	**39,2**	**13,1**	**18,0**	**70,2**
Mediterranean	37,5	15,0	16,9	69,4
Western Blacksea	44,0	12,3	12,8	69,1
Eastern Marmara	37,4	10,1	20,4	67,9
Western Marmara	37,2	13,0	14,7	65,0
Central Anatolia	37,4	14,7	12,2	64,2
Northeastern Anatolia	38,6	19,6	4,8	63,1
Mideastern Anatolia	34,3	18,3	5,8	58,4
Southeastern Anatolia	31,7	8,4	16,3	56,4

Source: General Directorate of Health Services

Table 8.8. Number of Surgical Operations per 1.000 Population by Surgical Operation Groups and NUTS-1, 2023

NUTS-1	A	B	C	Total
Western Anatolia	14,9	31,4	45,5	91,8
Aegean	10,3	29,3	35,3	74,9
Istanbul	10,9	27,5	34,0	72,5
Eastern Blacksea	8,7	26,8	34,7	70,3
Türkiye	**9,9**	**25,3**	**35,0**	**70,2**
Mediterranean	9,9	24,7	34,8	69,4
Western Blacksea	7,6	27,3	34,3	69,1
Eastern Marmara	11,1	23,4	33,3	67,9
Western Marmara	8,4	24,8	31,7	65,0
Central Anatolia	7,8	21,6	34,8	64,2
Northeastern Anatolia	6,5	23,4	33,1	63,1
Mideastern Anatolia	13,6	19,1	25,7	58,4
Southeastern Anatolia	4,5	16,9	34,9	56,4

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, (%), 2023

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

Source: General Directorate of Health Services

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

	2002	2019	2020	2021	2022	2023
Ministry of Health	23.770.910	35.229.409	28.641.582	30.370.013	33.434.089	35.953.868
University	6.713.945	10.935.287	8.839.894	9.971.722	10.715.296	10.412.638
Private	1.730.661	11.336.841	10.686.986	11.400.432	11.459.996	10.228.346
Total	32.215.516	57.501.537	48.168.462	51.742.167	55.609.381	56.594.852

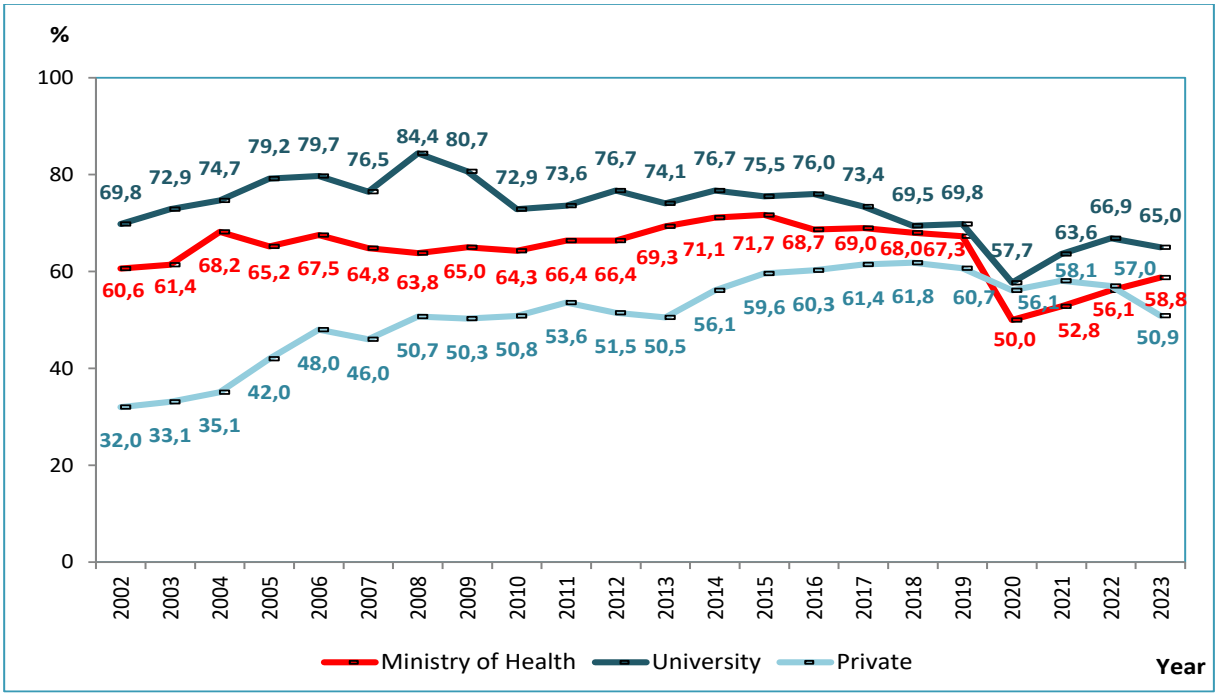
Source: General Directorate of Health Services

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

NUTS-1	2019	2020	2021	2022	2023
Northeastern Anatolia	925.009	794.021	787.829	839.108	878.625
Eastern Blacksea	1.635.099	1.224.149	1.265.054	1.389.189	1.527.187
Western Marmara	1.710.701	1.261.414	1.301.791	1.429.907	1.565.460
Mideastern Anatolia	1.604.379	1.238.498	1.292.507	1.480.142	1.568.127
Central Anatolia	1.713.997	1.387.365	1.523.187	1.718.522	1.949.794
Western Blacksea	2.578.487	1.999.970	2.078.034	2.287.455	2.502.036
Southeastern Anatolia	3.189.167	2.615.307	2.663.314	3.024.807	2.805.335
Eastern Marmara	3.601.247	3.148.507	3.265.924	3.513.955	3.801.146
Mediterranean	4.487.463	3.366.733	3.562.370	3.886.283	3.826.853
Aegean	4.782.204	3.470.915	3.503.569	3.962.471	4.459.937
Western Anatolia	3.836.014	3.366.852	3.635.198	4.058.846	4.902.269
Istanbul	5.165.642	4.767.851	5.491.236	5.843.404	6.167.099
Türkiye	35.229.409	28.641.582	30.370.013	33.434.089	35.953.868

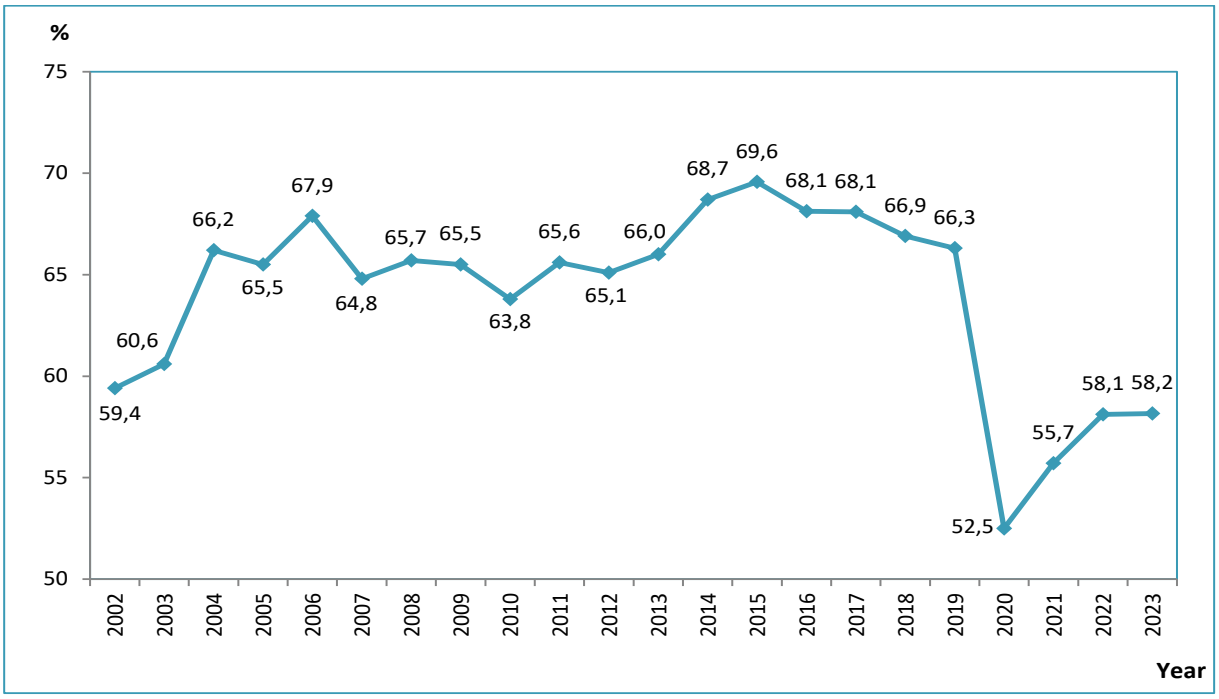
Source: General Directorate of Health Services

Figure 8.14. Bed Occupancy Rate by Years and Sectors, (%)



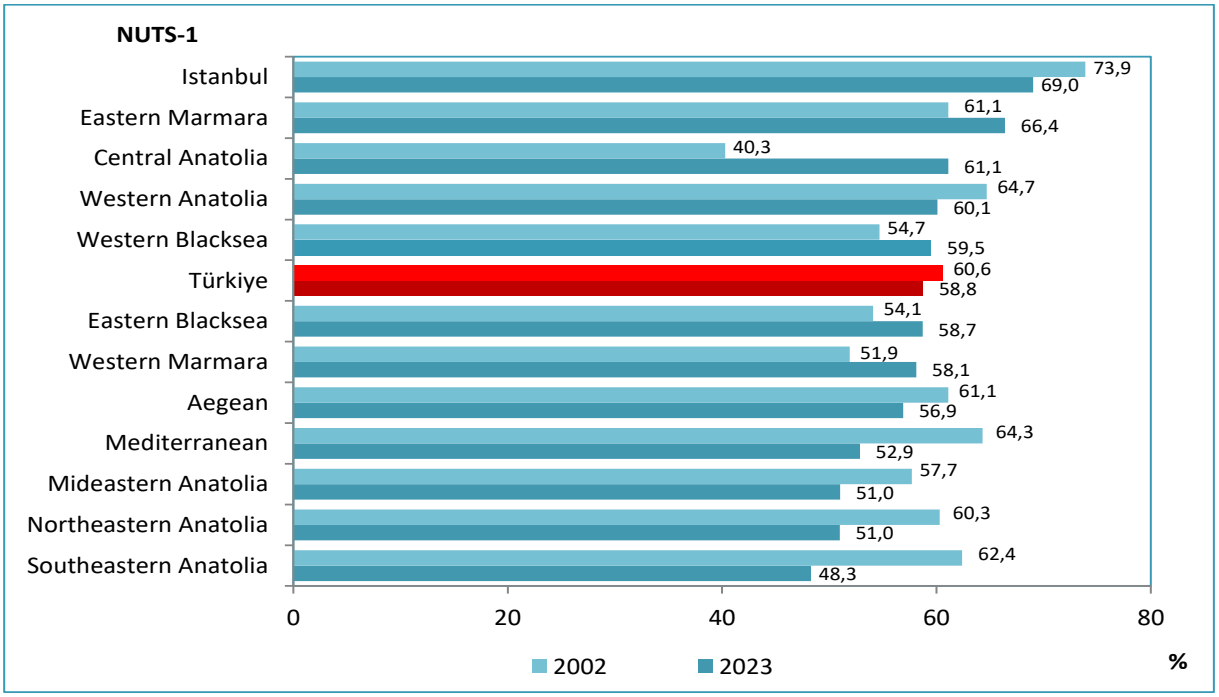
Source: General Directorate of Health Services

Figure 8.15. Bed Occupancy Rate in Hospitals by Years, All Sectors, (%)



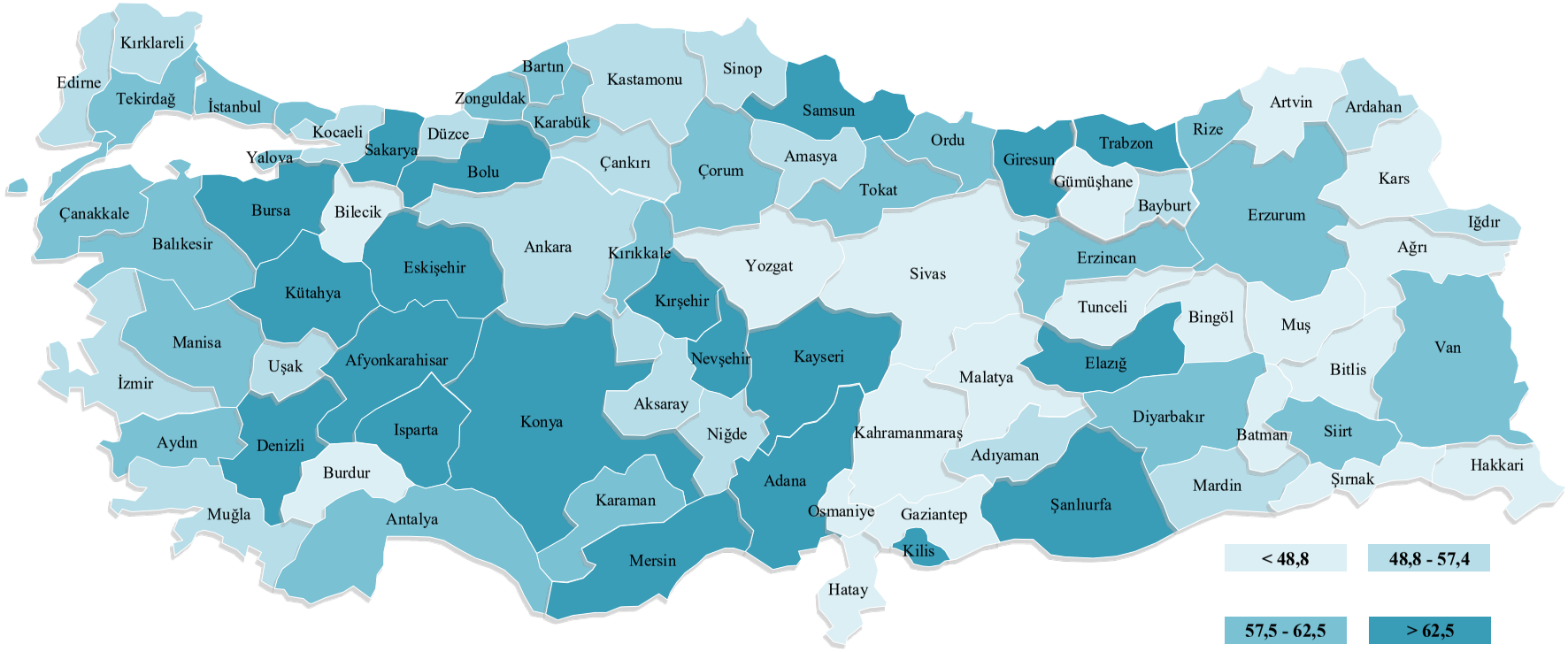
Source: General Directorate of Health Services

Figure 8.16. Bed Occupancy Rate in Hospitals by NUTS-1, Ministry of Health, (%), 2002, 2023



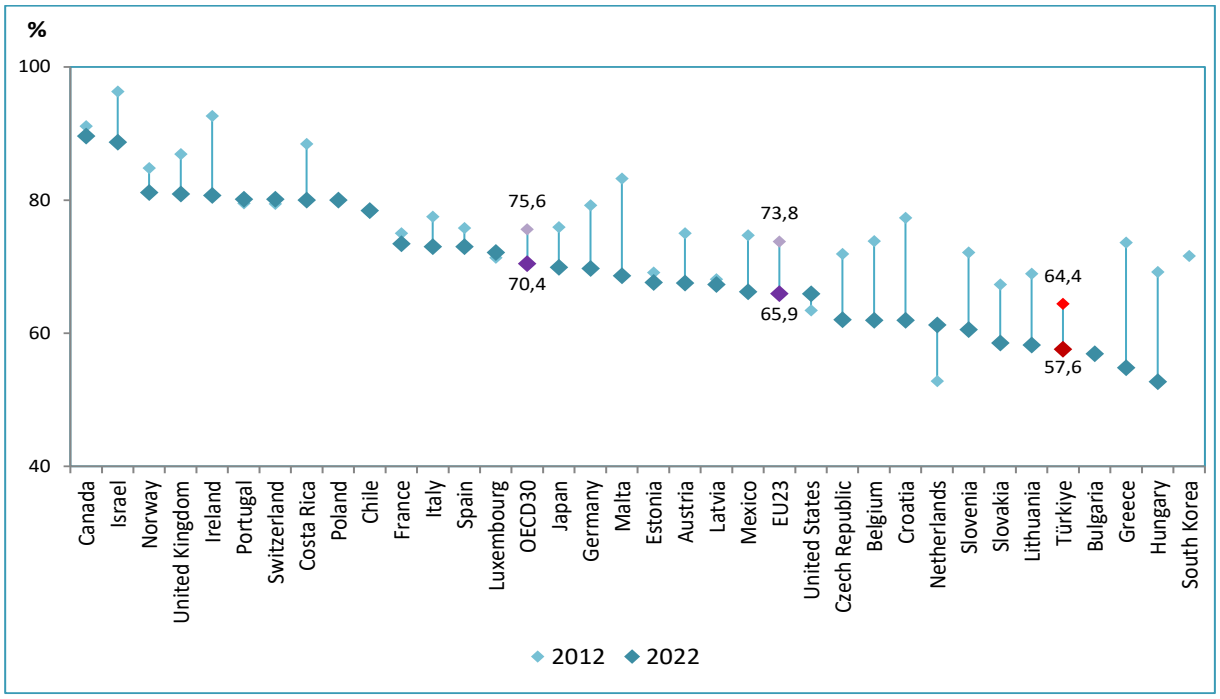
Source: General Directorate of Health Services

Map 8.4. Bed Occupancy Rate in Hospitals by Provinces, All Sectors, (%), 2023



Source: General Directorate of Health Services

Figure 8.17. International Comparison of Acute Bed Occupancy Rate in Hospitals, (%), 2012, 2022



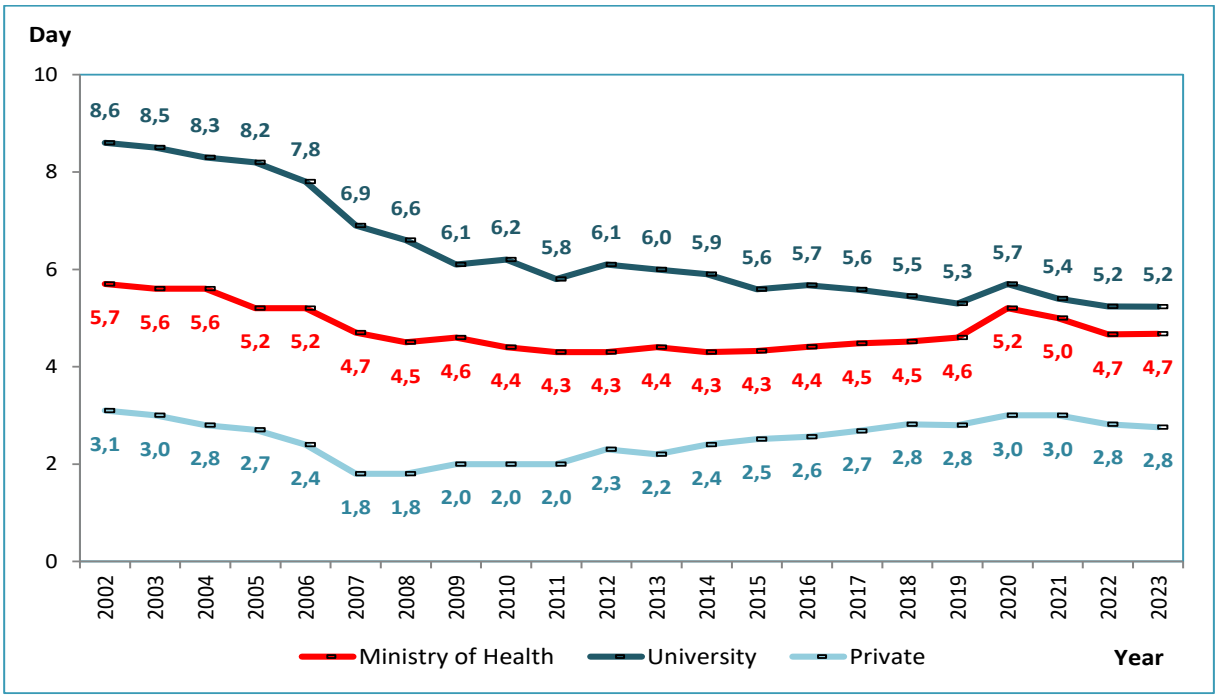
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2012 and 2023. Countries' data belong to the year 2012, 2022 or nearest.

Figure 8.18. International Comparison of Adult Intensive Care Bed Occupancy Rate, (%), 2022



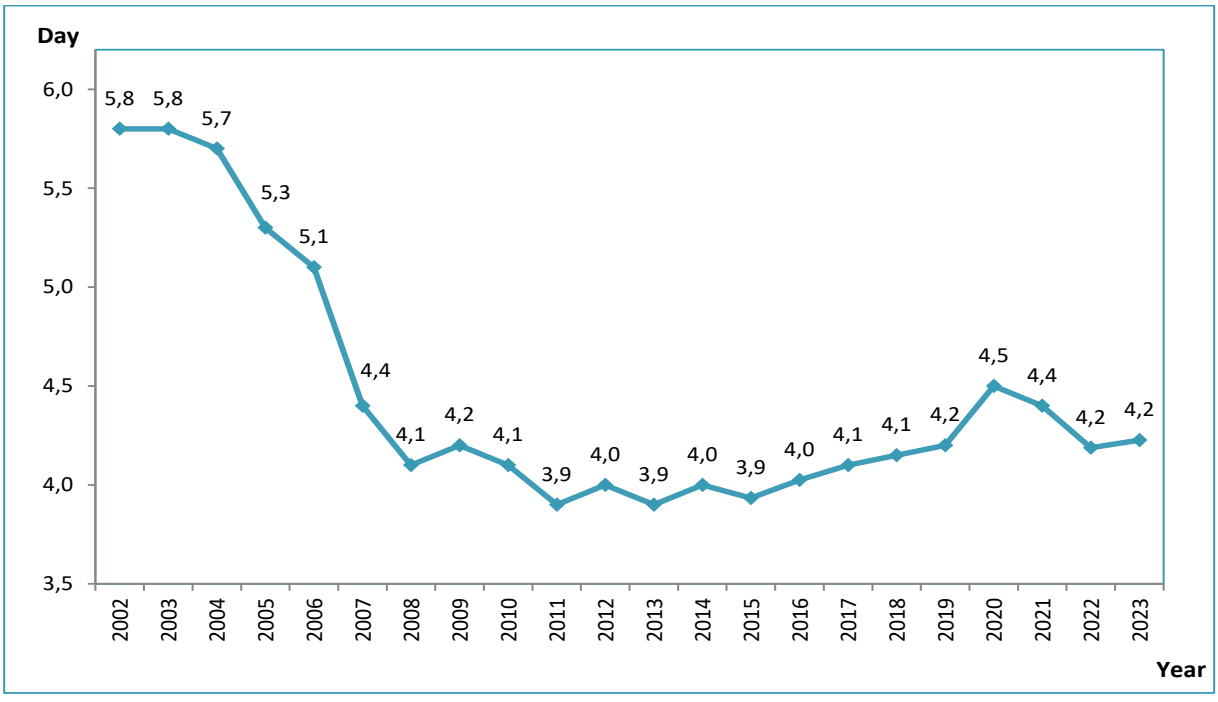
Source: General Directorate of Health Services, OECD Health Data 2024
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Figure 8.19. Average Length of Stay in Hospitals by Years and Sectors, (Day)



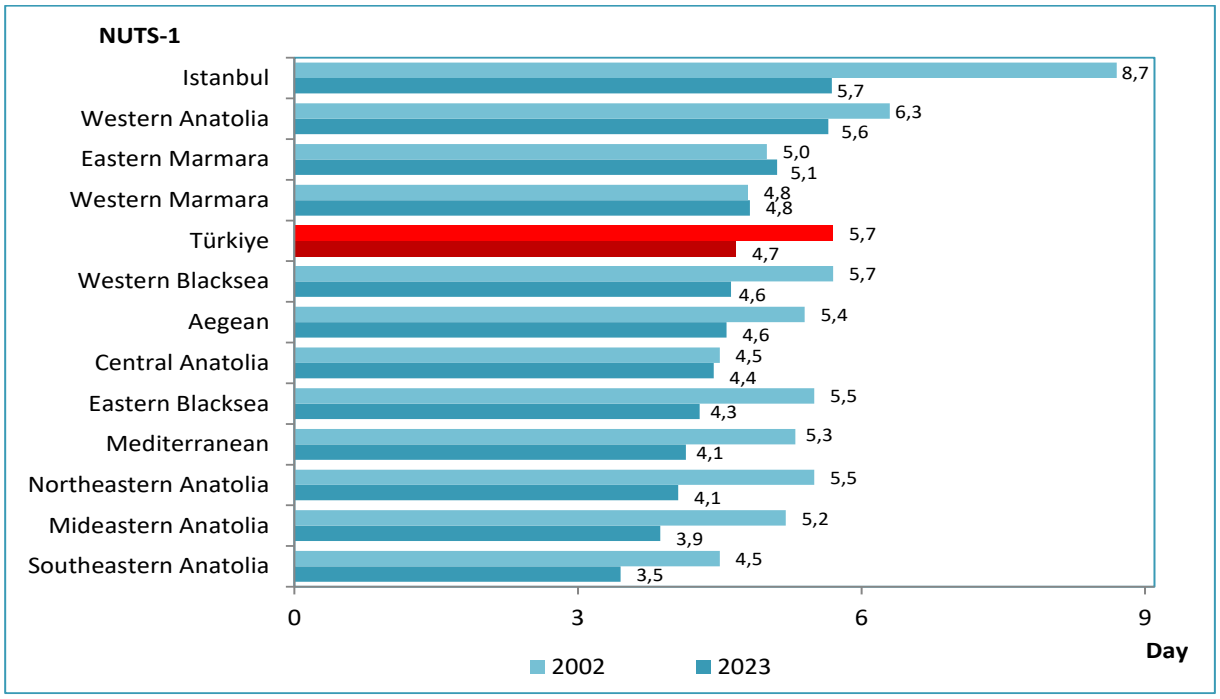
Source: General Directorate of Health Services

Figure 8.20. Average Length of Stay in Hospitals by Years, All Sectors, (Day)



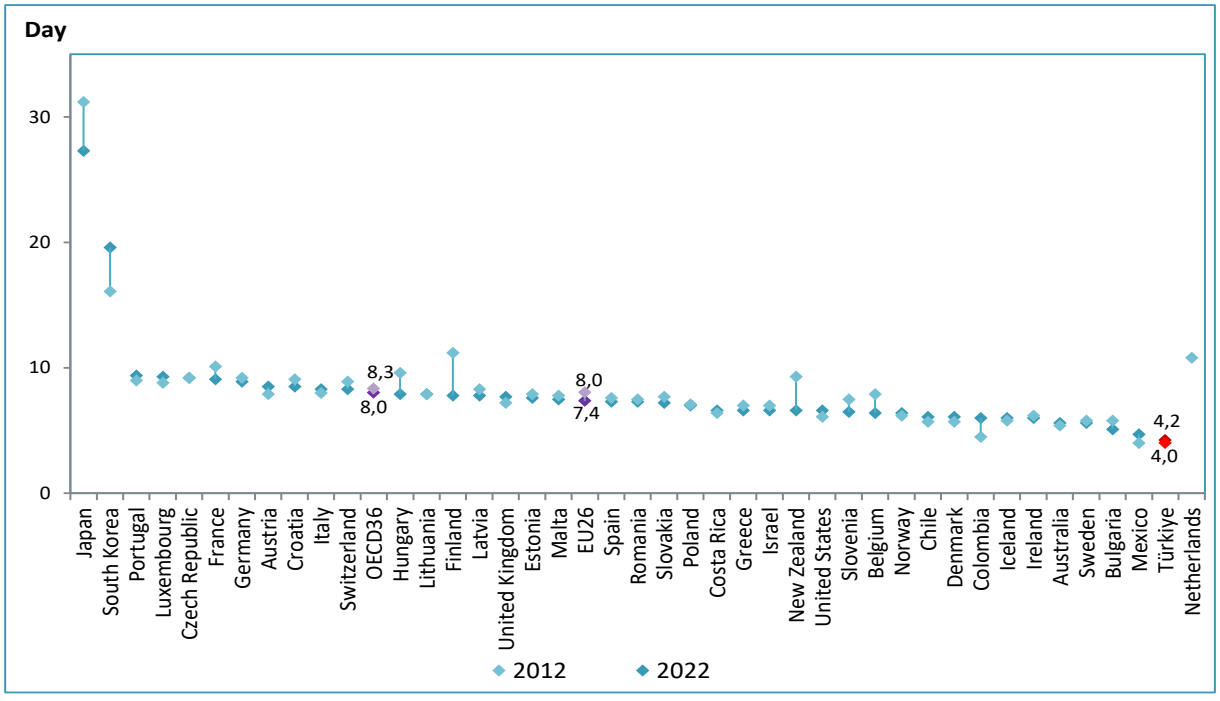
Source: General Directorate of Health Services

Figure 8.21. Average Length of Stay in Hospitals by NUTS-1, Ministry of Health, (Day), 2002, 2023



Source: General Directorate of Health Services

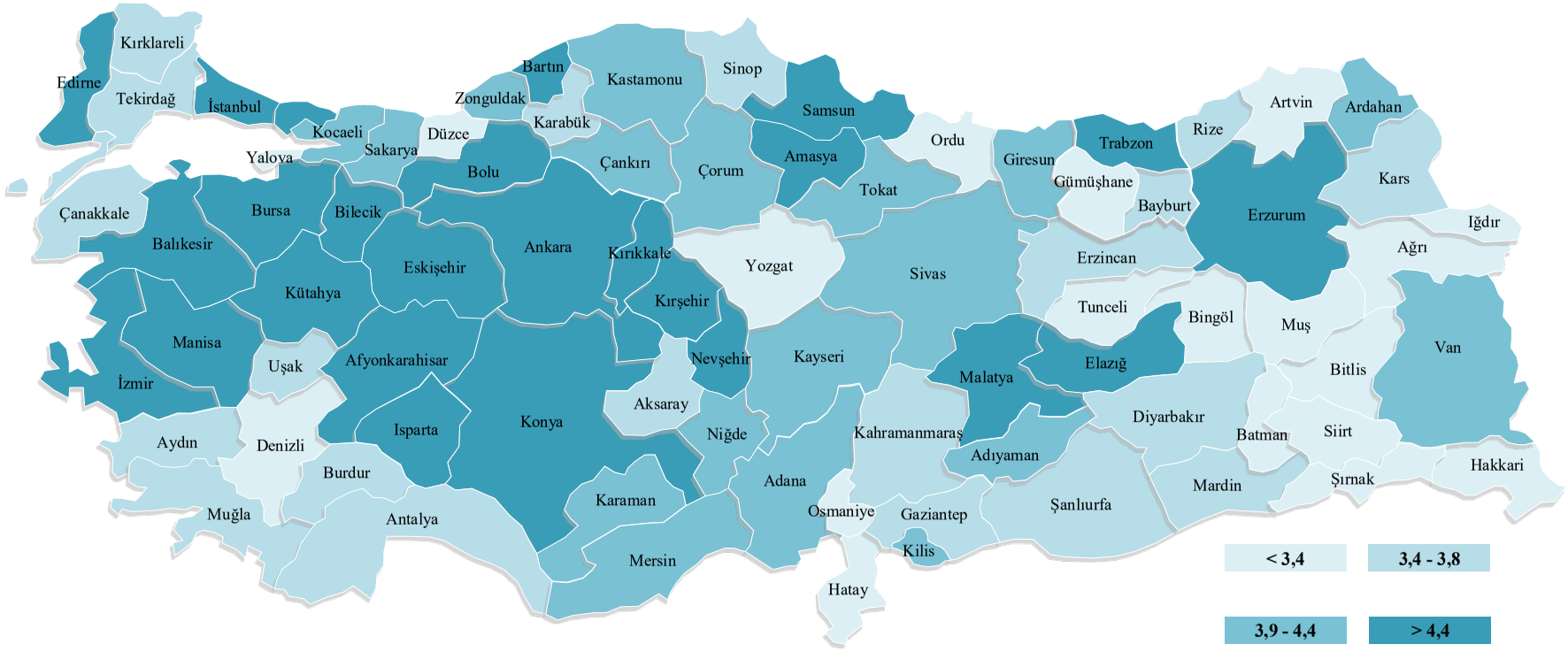
Figure 8.22. International Comparison of Average Length of Stay in Hospitals, (Day), 2012, 2022



Source: General Directorate of Health Services, OECD Health Data 2024

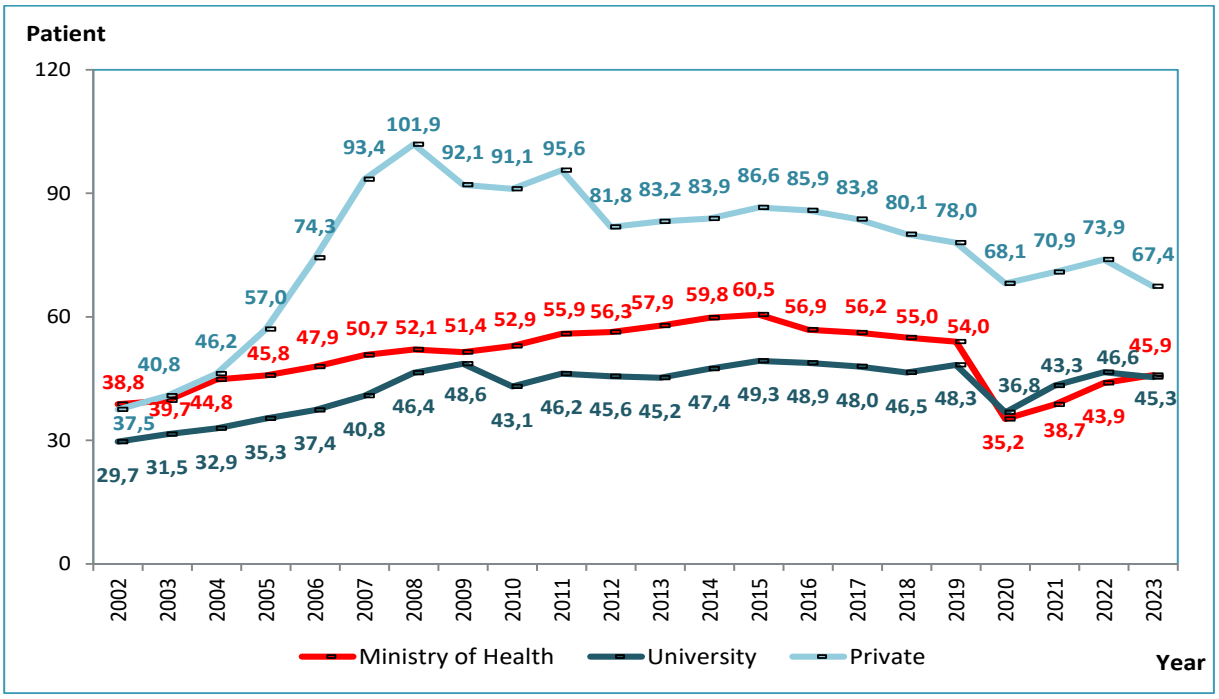
Note: Türkiye's data belongs to the year 2012 and 2023. Countries' data belong to the year 2012, 2022 or nearest.

Map 8.5. Average Length of Stay in Hospitals by Provinces, All Sectors, (Day), 2023



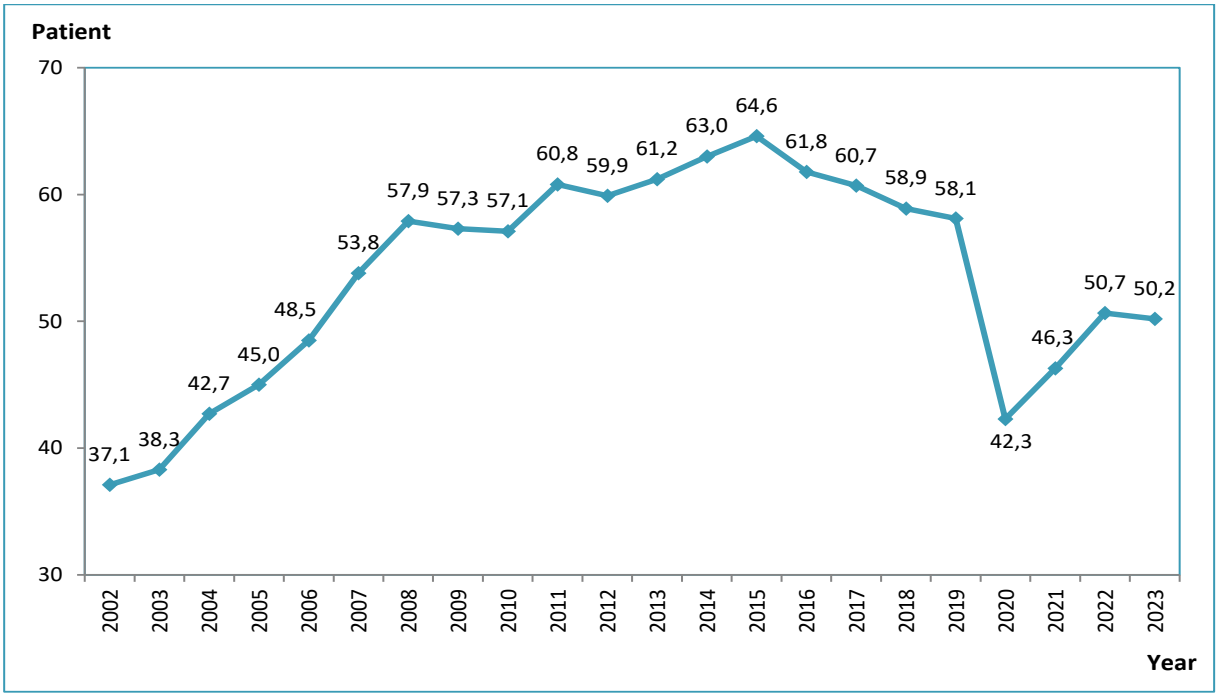
Source: General Directorate of Health Services

Figure 8.23. Bed Turnover Rate in Hospitals by Years and Sectors, (Patient)



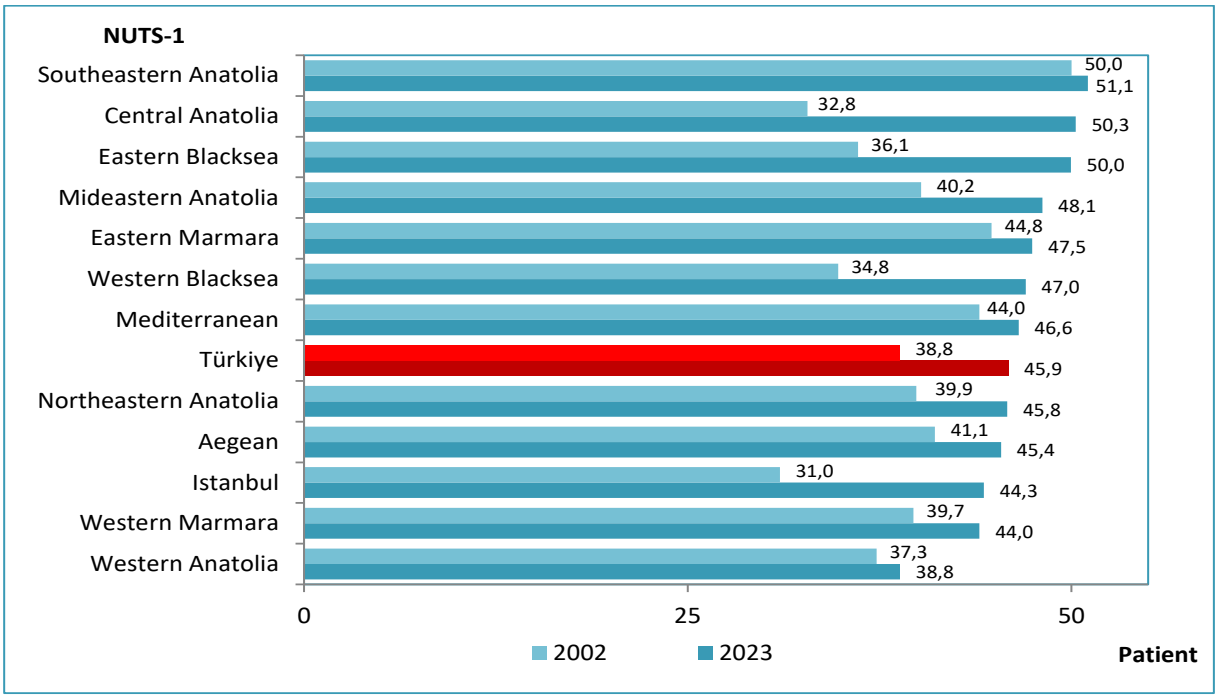
Source: General Directorate of Health Services

Figure 8.24. Bed Turnover Rate in Hospitals by Years, All Sectors, (Patient)



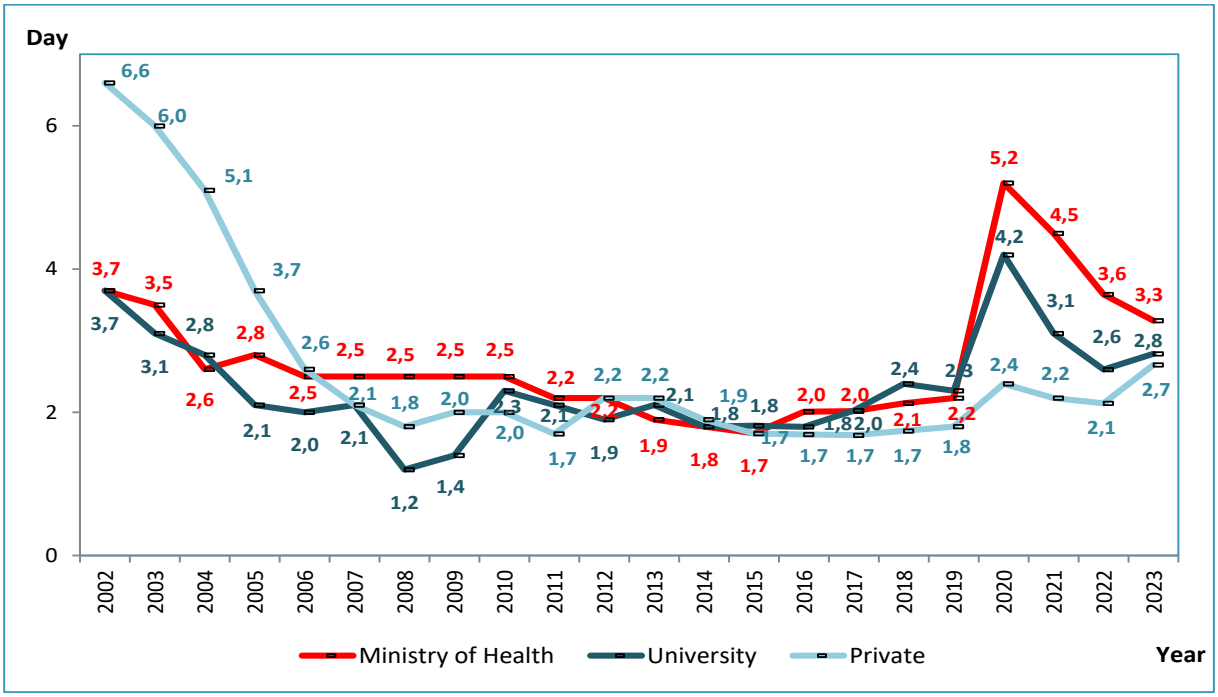
Source: General Directorate of Health Services

Figure 8.25. Bed Turnover Rate in Hospitals by NUTS-1, Ministry of Health, (Patient), 2002, 2023



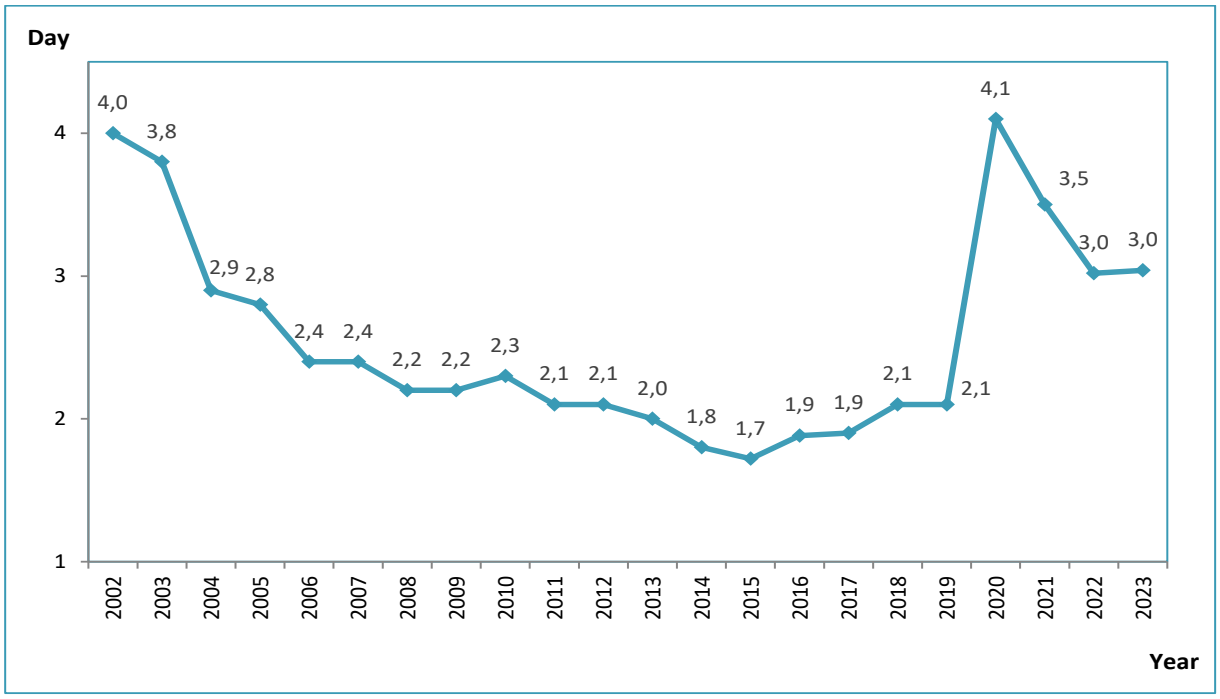
Source: General Directorate of Health Services

Figure 8.26. Bed Turnover Interval in Hospitals by Years and Sectors, (Day)



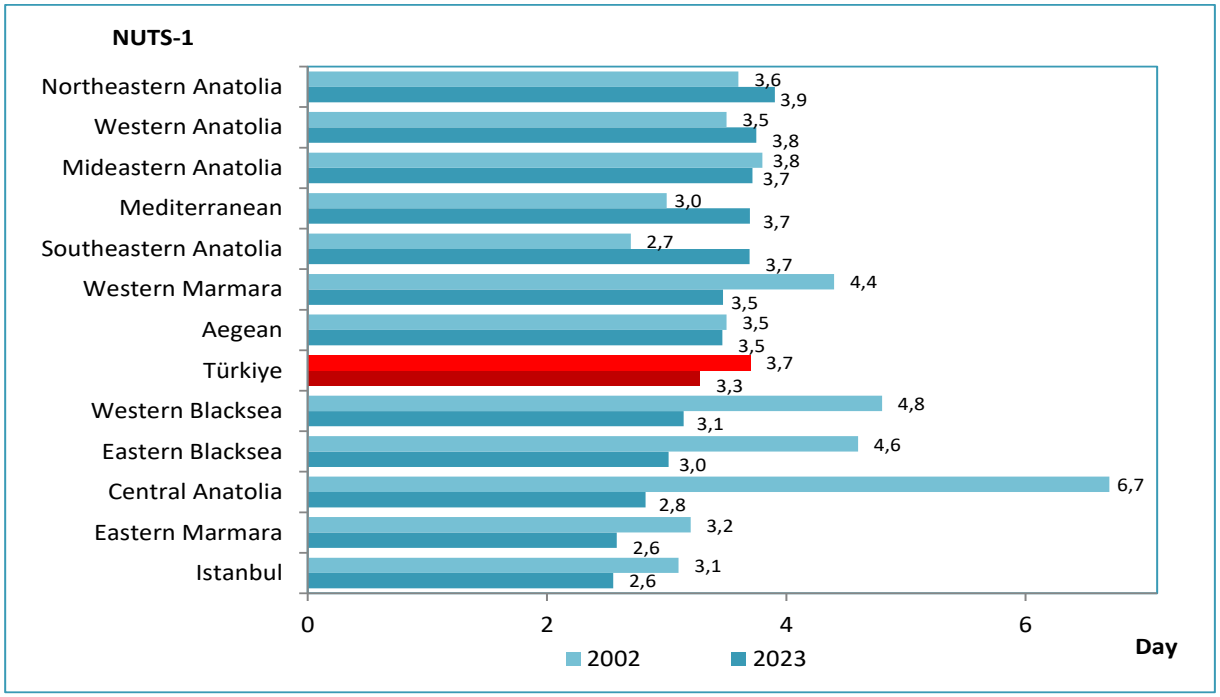
Source: General Directorate of Health Services

Figure 8.27. Bed Turnover Interval in Hospitals by Years, All Sectors, (Day)



Source: General Directorate of Health Services

Figure 8.28. Bed Turnover Interval in Hospitals by NUTS-1, Ministry of Health, (Day), 2002, 2023



Source: General Directorate of Health Services

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

	2002	2019	2020	2021	2022	2023
Kidney	550	3.863	2.494	3.375	3.611	3.452
Liver	159	1.776	1.317	1.530	1.604	1.756
Heart	35*	84	21	24	25	40
Lung	0	33	11	21	11	15
Pancreas	0	3	1	0	0	1
Small Intestine	1	4	2	2	1	1
Cornea	-	3.790	1.734	2.812	3.601	3.515
Stem Cell	-	5.198	4.938	5.238	5.685	5.535
Total	745	14.751	10.518	13.002	14.538	14.315

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

	2019	2020	2021	2022	2023
Kidney	22.935	22.138	22.491	23.840	24.551
Liver	2.260	2.199	2.180	2.526	2.592
Heart	1.163	1.215	1.232	1.354	1.450
Lung	89	152	141	177	198
Pancreas	297	285	274	272	277
Small Intestine	1	1	5	2	1
Cornea	1.723	2.230	3.085	3.352	3.794
Stem Cell	2.817	2.803	2.200	1.614	1.672
Total	31.285	31.023	31.608	33.137	34.535

Source: General Directorate of Health Services

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

	2019	2020	2021	2022	2023
Kidney	74	78	78	80	77
Liver	46	49	46	52	52
Heart	17	15	15	15	15
Heart Valve	2	0	0	0	0
Lung	5	4	3	3	2
Heart-Lung	5	0	0	0	0
Pancreas	8	8	8	7	9
Small Intestine	1	2	3	3	2
Cornea	588	559	609	630	630
Stem Cell	91	96	105	110	115
Total	837	811	867	900	902

Source: General Directorate of Health Services

Table 8.15. Number of Exams of Imaging Devices in Hospitals by Sectors, 2023

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	13.576.247	20.630.935	12.280.109	21.919.197	6.554.825	1.808.025
University	2.175.428	3.470.036	2.666.580	1.289.491	1.055.994	344.460
Private	3.164.828	2.663.360	4.834.371	2.941.277	1.651.501	551.912
Total	18.916.503	26.764.331	19.781.060	26.149.965	9.262.320	2.704.397

Source: General Directorate of Health Service

Table 8.16. Number of Exams of Imaging Devices in Hospitals per Scanner by Sectors, 2023

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	33.522	31.071	5.237	4.086	3.419	4.325
University	18.436	23.134	2.364	1.796	3.009	4.360
Private	6.621	4.887	2.123	1.493	1.923	1.195
Total	18.898	19.694	3.440	3.247	2.962	2.820

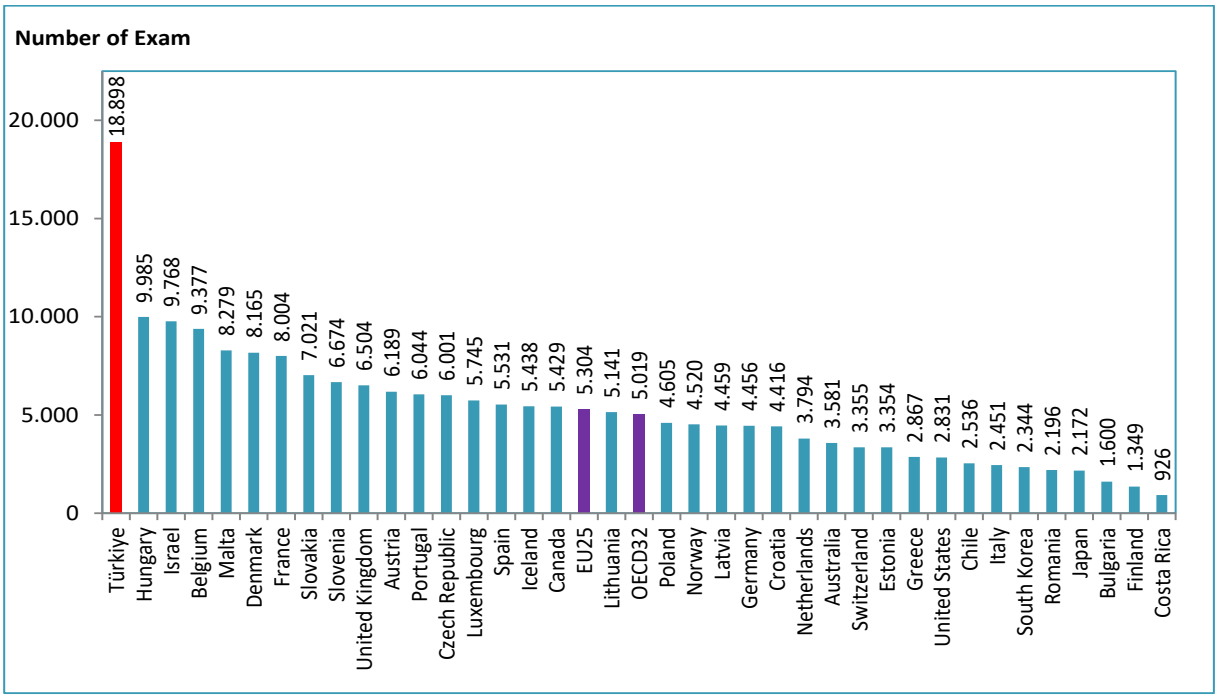
Source: General Directorate of Health Services

Table 8.17. Number of Exams of Imaging Devices in Hospitals per 1.000 Population by Sectors, 2023

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	159	242	144	257	77	21
University	25	41	31	15	12	4
Private	37	31	57	34	19	6
Total	222	314	232	306	108	32

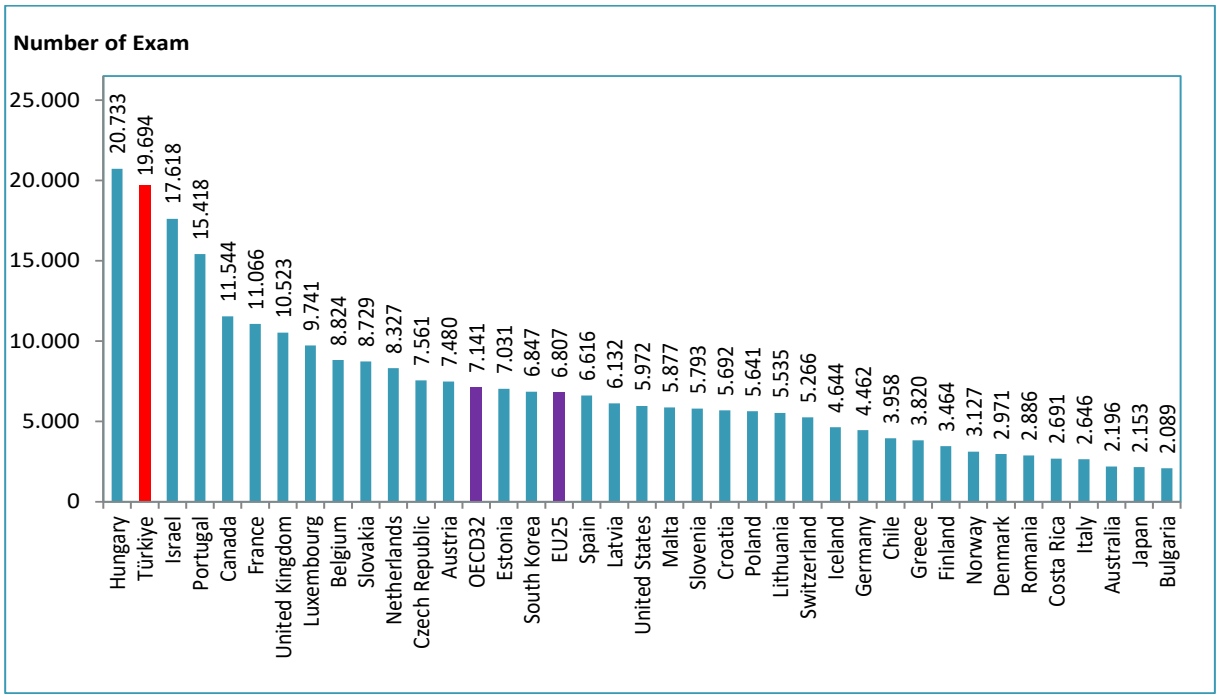
Source: General Directorate of Health Services

Figure 8.29. International Comparison of Number of Exams per MRI Scanner, 2022



Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest. Türkiye's 2022 value is 18.124.

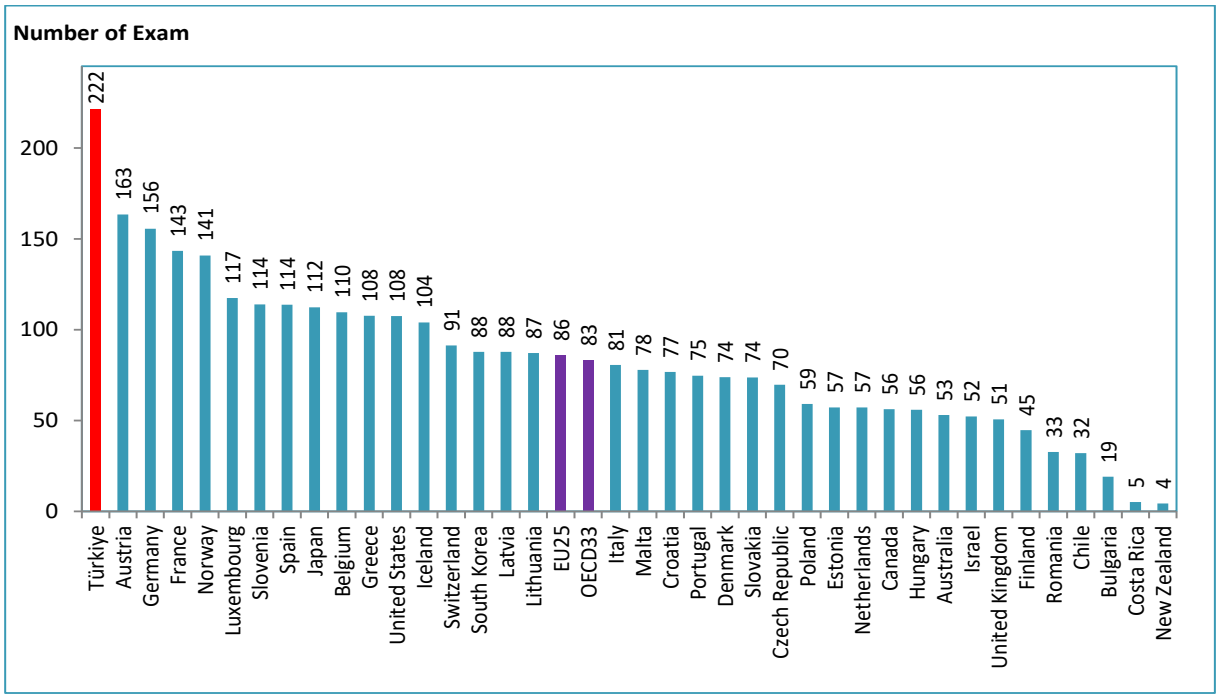
Figure 8.30. International Comparison of Number of Exams per CT Scanner, 2022



Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database

Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest. Türkiye's 2022 value is 18.917.

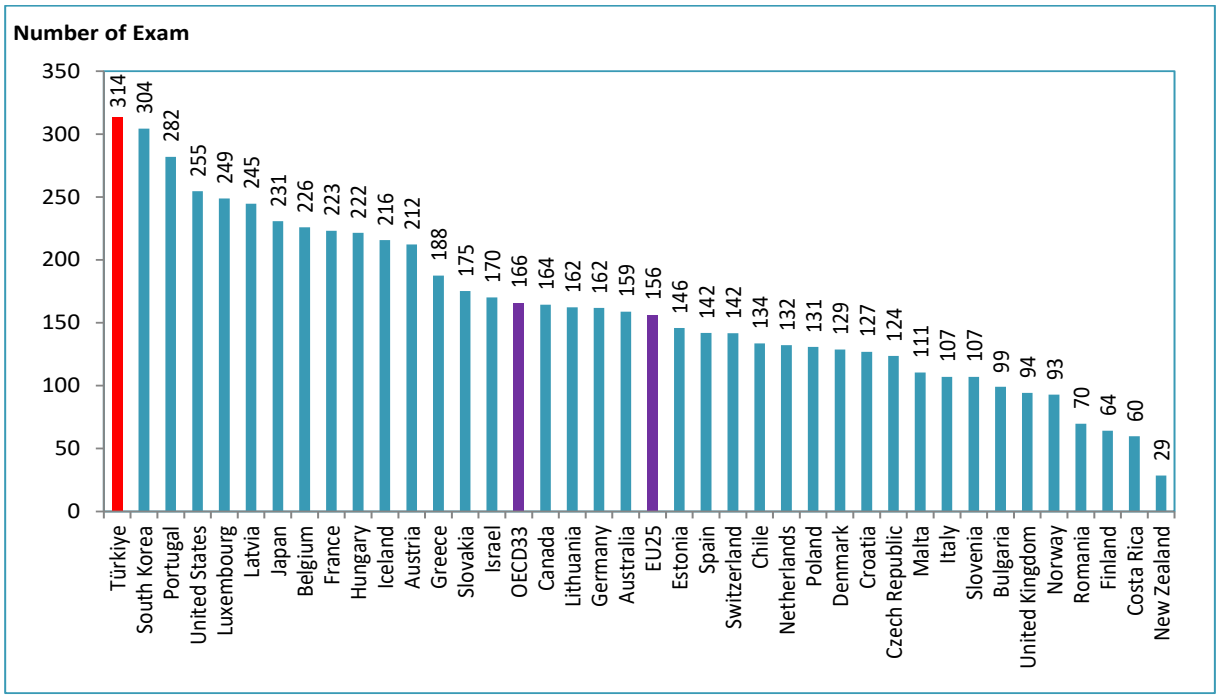
Figure 8.31. International Comparison of Number of MRI Exams per 1.000 Population, 2022



Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database

Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest. Türkiye's 2022 value is 207.

Figure 8.32. International Comparison of Number of CT Exams per 1.000 Population, 2022



Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest. Türkiye's 2022 value is 295.

Table 8.18. Number of MRI Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2023

NUTS-1	Ministry of Health	University	Private	Total
Southeastern Anatolia	23,5	44,2	46,4	27,3
Mideastern Anatolia	23,7	55,8	42,9	28,3
Central Anatolia	25,9	64,1	45,7	31,4
Western Blacksea	29,8	42,6	55,5	32,7
Mediterranean	31,9	38,3	42,7	33,9
Aegean	32,1	34,4	49,1	34,4
Eastern Marmara	30,1	40,7	52,9	34,5
Western Anatolia	31,0	46,8	52,9	34,8
Türkiye	**32,0**	**47,8**	**46,9**	**35,2**
Eastern Blacksea	33,9	71,1	57,5	37,7
Western Marmara	31,2	81,7	52,0	38,1
Istanbul	43,4	42,0	40,8	42,8
Northeastern Anatolia	34,7	115,1	61,0	43,7

Source: General Directorate of Health Services

Table 8.19. Number of CT Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2023

NUTS-1	Ministry of Health	University	Private	Total
Mideastern Anatolia	32,5	73,0	32,8	37,1
Southeastern Anatolia	34,4	83,2	39,0	37,6
Central Anatolia	41,5	101,0	28,1	45,7
Eastern Blacksea	45,8	80,0	38,3	46,7
Northeastern Anatolia	42,2	106,6	37,9	48,4
Eastern Marmara	49,7	72,9	36,2	49,4
Western Marmara	45,0	102,5	38,4	49,5
Türkiye	**48,6**	**76,2**	**39,5**	**49,8**
Aegean	48,2	85,4	41,8	51,2
Mediterranean	52,3	71,1	43,4	52,8
Western Blacksea	52,0	64,1	60,5	53,4
Istanbul	58,4	51,8	38,4	54,0
Western Anatolia	54,8	75,9	36,5	55,7

Source: General Directorate of Health Services

Table 8.20. Number of Ultrasound Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2023

NUTS-1	Ministry of Health	University	Private	Total
Western Blacksea	23,5	43,5	65,4	28,2
Western Marmara	17,5	73,6	70,5	28,5
Eastern Marmara	23,6	28,1	69,6	31,1
Istanbul	21,4	51,8	61,2	31,4
Eastern Blacksea	22,3	108,5	85,7	32,0
Aegean	27,6	53,2	74,0	35,9
Western Anatolia	27,8	62,2	83,4	36,7
Türkiye	**28,9**	**58,6**	**71,7**	**36,8**
Mediterranean	28,0	61,4	79,0	37,8
Central Anatolia	36,6	75,9	66,6	43,1
Mideastern Anatolia	40,6	74,6	61,2	45,5
Southeastern Anatolia	46,1	58,2	88,6	51,7
Northeastern Anatolia	51,6	86,9	56,8	55,3

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, 2023

NUTS-1	Ministry of Health	University	Private	Total
Northeastern Anatolia	21,8	31,6	15,4	22,5
Central Anatolia	25,4	65,0	51,6	31,6
Mideastern Anatolia	36,9	18,2	51,5	35,6
Western Blacksea	38,2	34,4	42,6	38,3
Eastern Blacksea	45,1	12,8	18,0	41,2
Mediterranean	48,2	16,2	20,5	41,7
Western Marmara	48,5	16,1	32,5	43,8
Southeastern Anatolia	47,1	21,5	32,2	43,9
Türkiye	**51,6**	**28,3**	**43,6**	**48,6**
Aegean	54,3	24,3	44,6	50,0
Eastern Marmara	59,5	42,5	29,7	53,6
Western Anatolia	66,4	35,9	30,6	59,7
Istanbul	65,2	23,2	70,0	63,0

Source: General Directorate of Health Services

Table 8.22. Number of ECHO Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2023

NUTS-1	Ministry of Health	University	Private	Total
Western Marmara	12,4	27,6	22,4	14,9
Mideastern Anatolia	15,3	16,4	16,8	15,5
Eastern Marmara	14,8	17,7	21,4	16,1
Southeastern Anatolia	15,6	25,9	17,7	16,4
Eastern Blacksea	16,3	25,9	15,0	16,6
Western Blacksea	14,3	19,4	39,4	16,7
Mediterranean	14,2	30,4	23,2	16,8
Central Anatolia	14,8	25,7	26,9	16,9
Türkiye	**15,4**	**23,2**	**24,5**	**17,2**
Northeastern Anatolia	16,2	28,2	12,7	17,2
Istanbul	16,0	18,9	25,3	18,1
Aegean	16,7	18,4	28,4	18,3
Western Anatolia	16,7	28,8	28,4	19,1

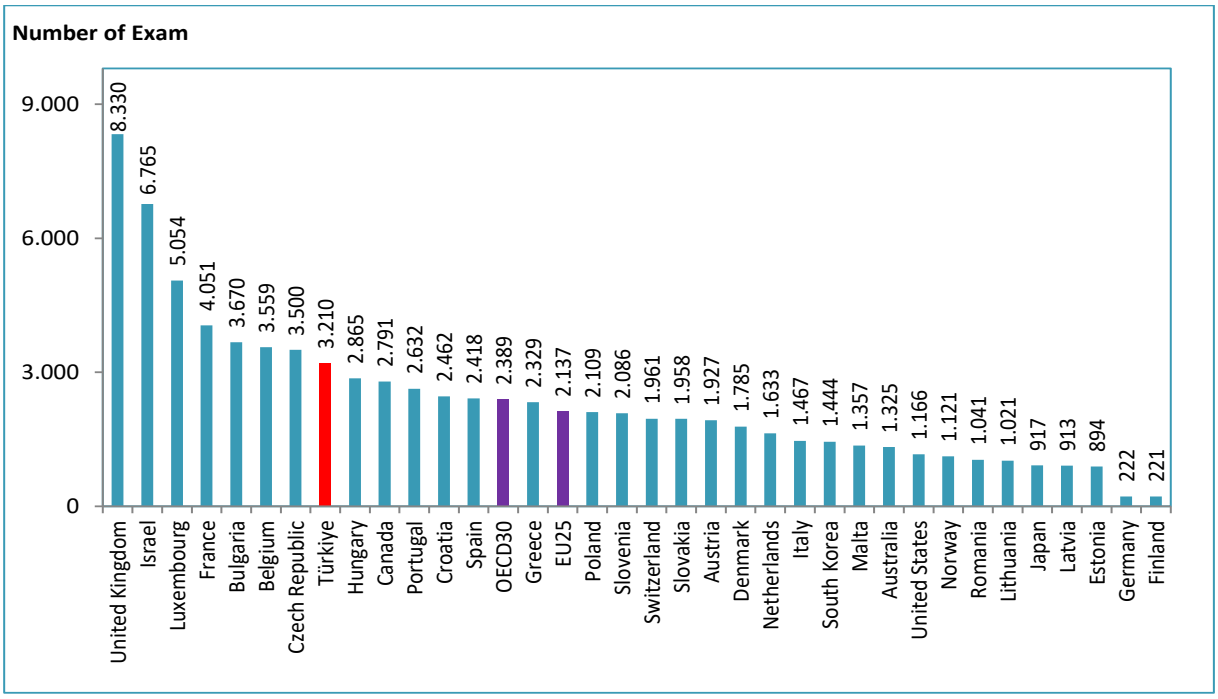
Source: General Directorate of Health Services

Table 8.23. Number of Mammography Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2023

NUTS-1	Ministry of Health	University	Private	Total
Southeastern Anatolia	1,4	2,2	2,1	1,5
Northeastern Anatolia	2,2	5,2	2,9	2,5
Mideastern Anatolia	2,1	8,8	2,3	2,9
Central Anatolia	2,9	4,3	5,6	3,3
Western Blacksea	3,7	8,5	5,6	4,2
Mediterranean	3,8	6,8	5,3	4,3
Eastern Blacksea	4,0	18,6	4,5	4,7
Western Marmara	4,5	7,9	6,4	5,0
Türkiye	**4,3**	**7,6**	**8,2**	**5,0**
Eastern Marmara	4,5	6,1	8,4	5,2
Aegean	5,3	7,2	6,7	5,7
Western Anatolia	5,4	11,2	11,9	6,6
Istanbul	6,3	7,5	12,8	7,6

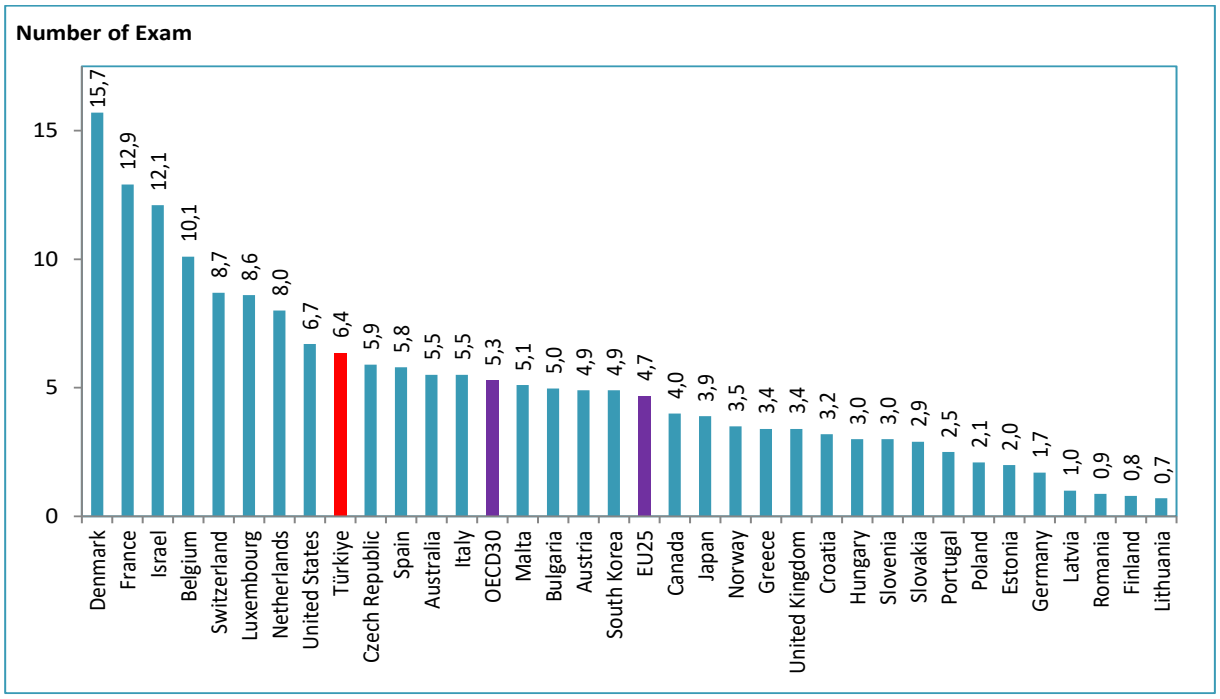
Source: General Directorate of Health Services

Figure 8.33. International Comparison of Number of Exams per PET Scanner, 2022



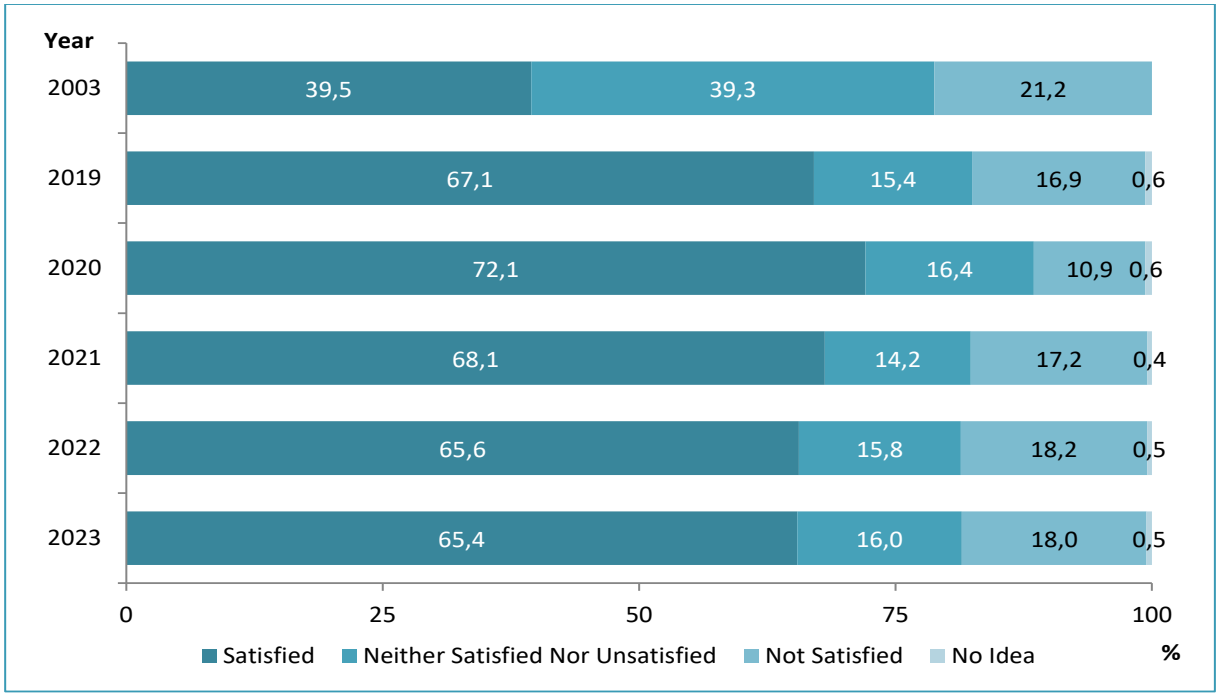
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Figure 8.34. International Comparison of Number of PET Exams per 1.000 Population, 2022



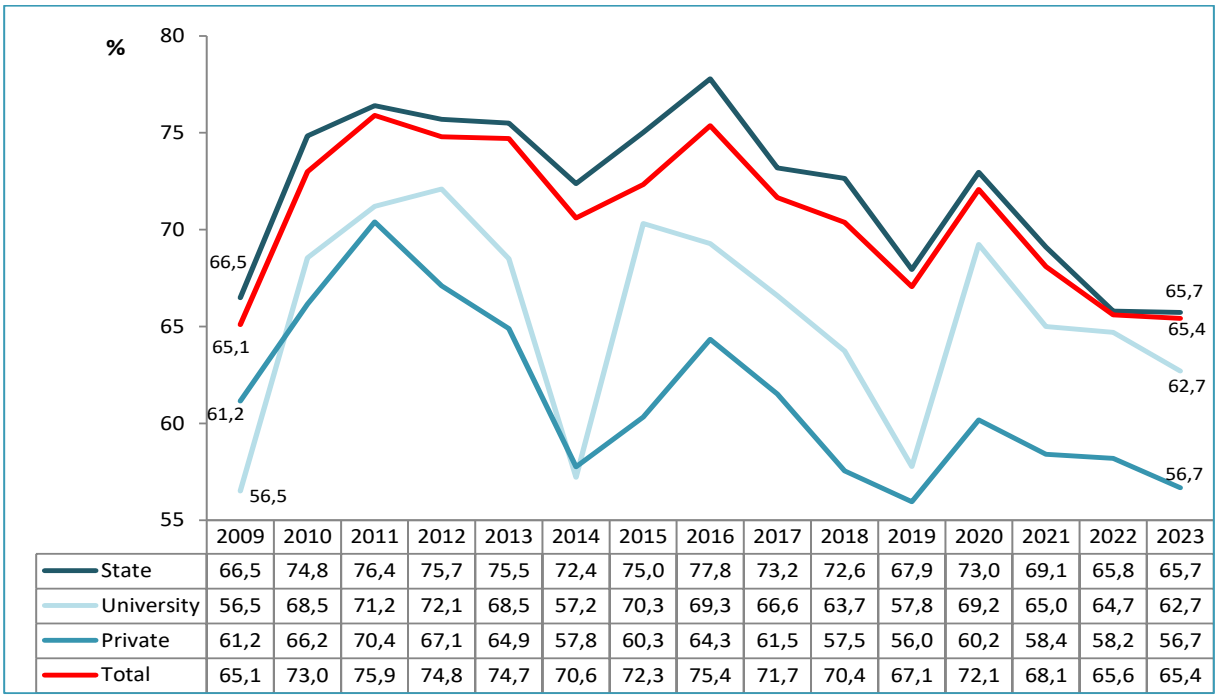
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Figure 8.35. Satisfaction Rate with Healthcare Services by Years, (%)



Source: TURKSTAT Life Satisfaction Survey 2003-2023

Figure 8.36. Satisfaction Rate with Healthcare Services by Years and Sectors, (%)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
State	66,5	74,8	76,4	75,7	75,5	72,4	75,0	77,8	73,2	72,6	67,9	73,0	69,1	65,8	65,7
University	56,5	68,5	71,2	72,1	68,5	57,2	70,3	69,3	66,6	63,7	57,8	69,2	65,0	64,7	62,7
Private	61,2	66,2	70,4	67,1	64,9	57,8	60,3	64,3	61,5	57,5	56,0	60,2	58,4	58,2	56,7
Total	65,1	73,0	75,9	74,8	74,7	70,6	72,3	75,4	71,7	70,4	67,1	72,1	68,1	65,6	65,4

Source: TURKSTAT Life Satisfaction Survey 2009-2023

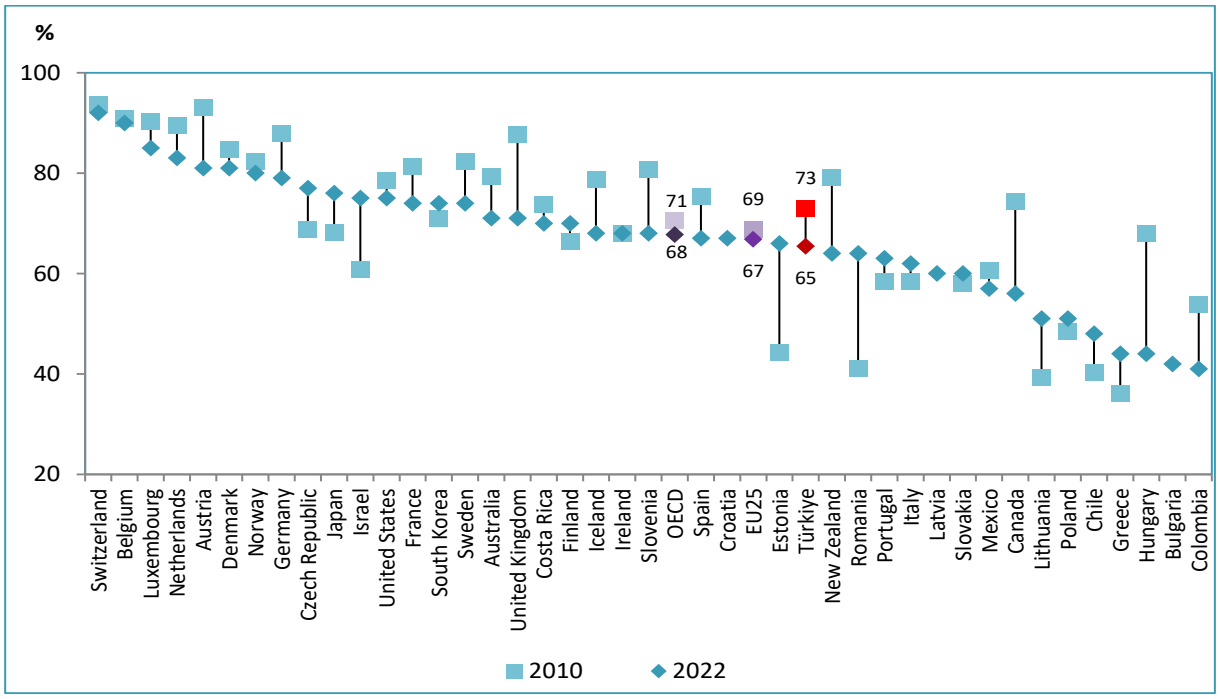
Note: "Total" data refers to the satisfaction rate with healthcare services of all healthcare facilities.

Table 8.24. Satisfaction Rate with Healthcare Services, (%), 2023

	Satisfied	Neither Satisfied Nor Unsatisfied	Not Satisfied	No Idea
Hospitals				
State	65,7	16,8	16,8	0,7
University	62,7	15,6	20,5	1,2
Private	56,7	16,9	25,9	0,5
Family Health Center	67,6	14,8	17,4	0,3
Private Policlinic	70,2	10,2	19,6	0,0
Organization's Doctor	51,7	23,3	25,0	0,0
Private Medical Centers	71,1	0,0	28,9	0,0

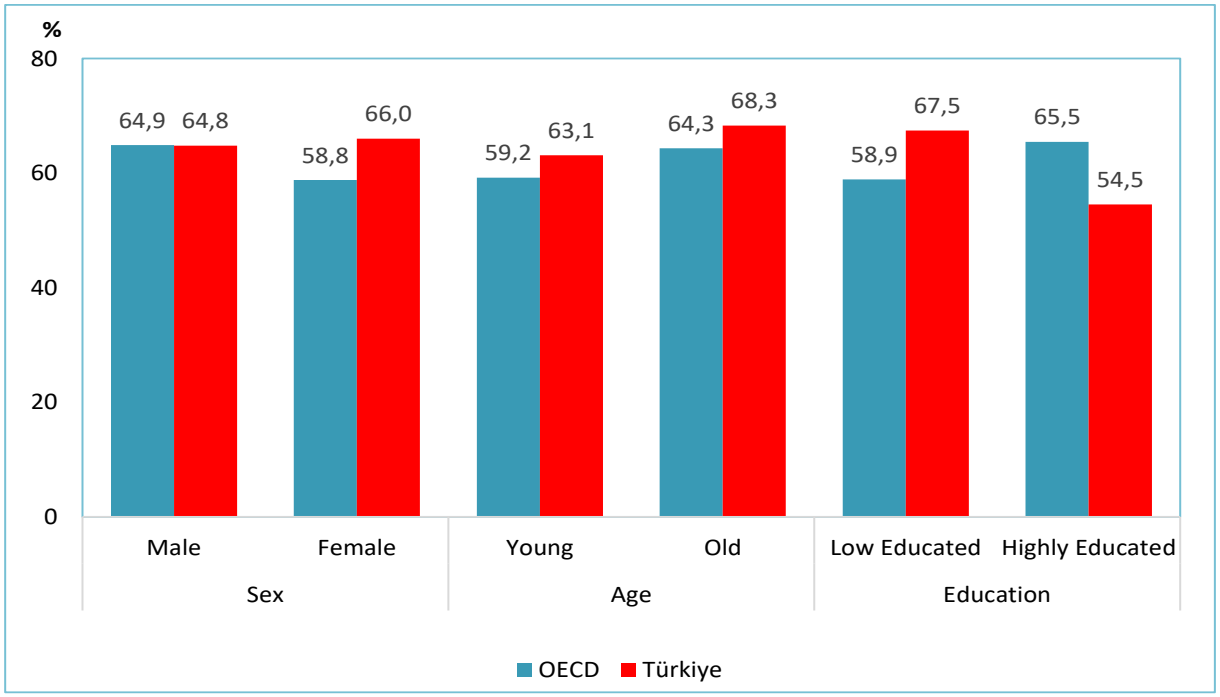
Source: TURKSTAT Life Satisfaction Survey 2023

Figure 8.37. International Comparison of Satisfaction Rate with Healthcare Services, (%), 2010, 2022



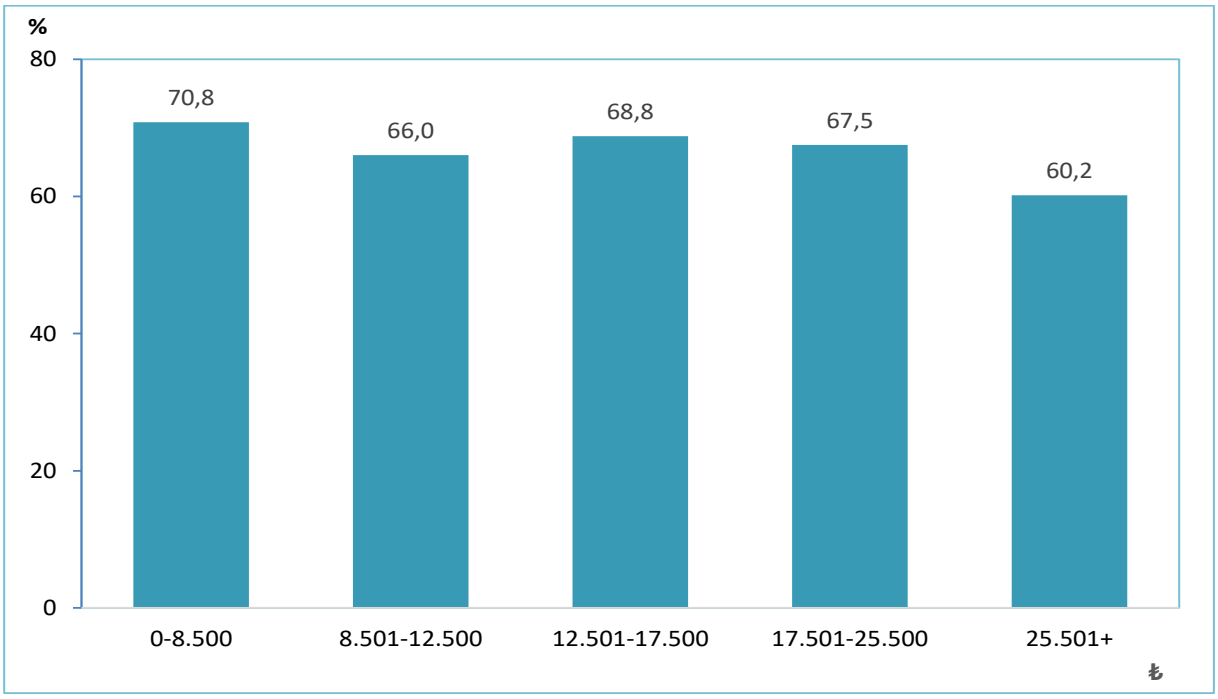
Source: TURKSTAT Life Satisfaction Survey 2023, OECD Health Data 2024
Note: Türkiye's data belong to the year of 2023.

Figure 8.38. Satisfaction Rate with Health Services According to Socio-demographic Characteristics, (%), 2023



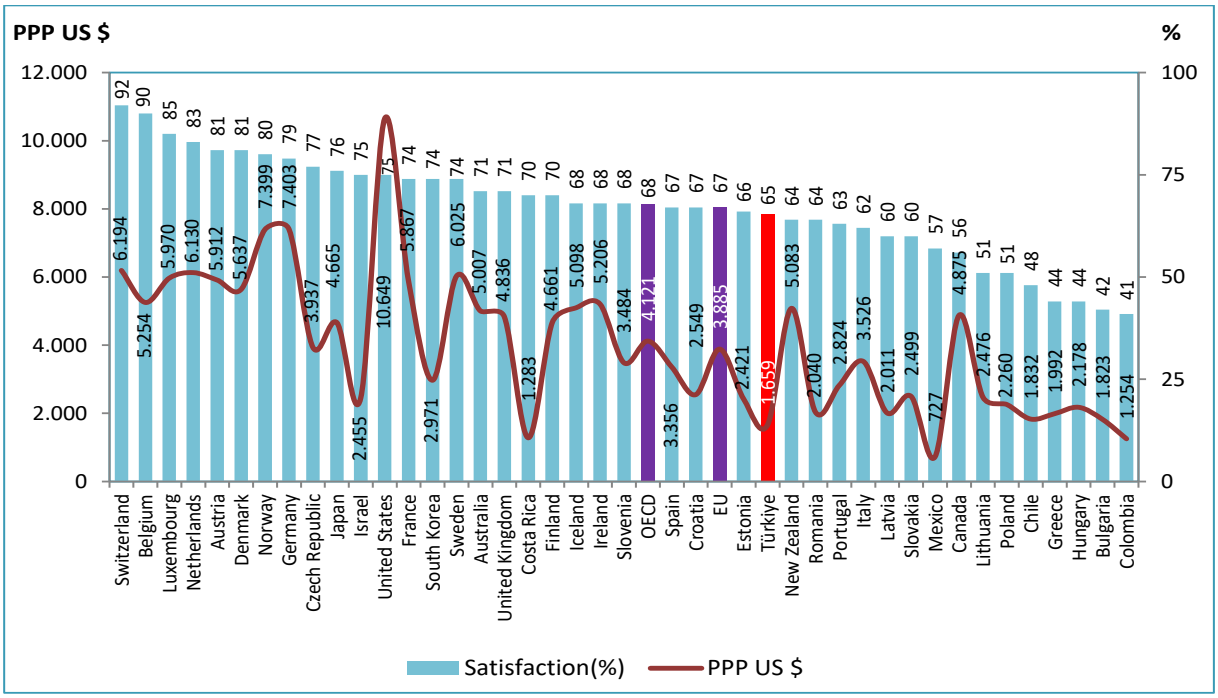
Source: TURKSTAT Life Satisfaction Survey 2023, OECD Health Data 2024
Note: OECD's data belongs to the year of 2021. Türkiye's data belong to the year of 2023.

Figure 8.39. Satisfaction Rate with Health Services by Household Income Group, (%), 2023



Source: TURKSTAT Life Satisfaction Survey 2023

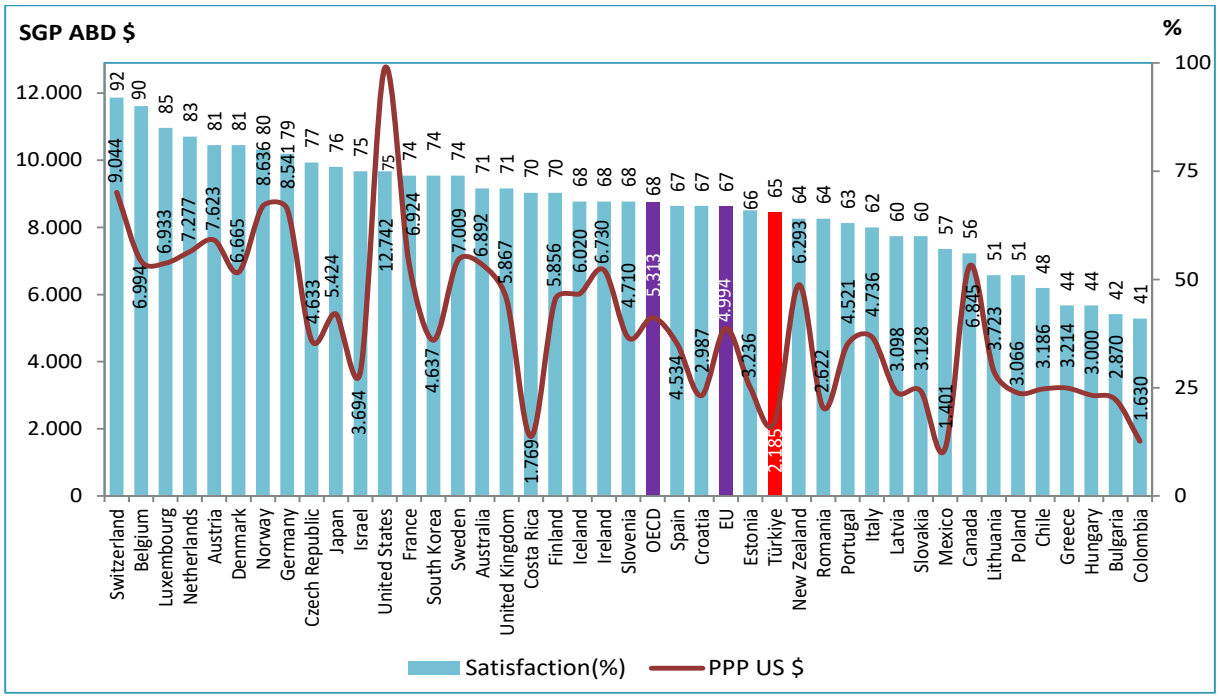
Figure 8.40. Satisfaction with Health Care Services, (%), 2022 and Public Current Health Expenditure per Capita, (PPP US $), 2022



Source: TURKSTAT, OECD Health Data 2024

Note: The country values of health care satisfaction and health expenditure belong to the year 2022. EU average covers 25 countries. Türkiye's health care satisfaction and health expenditure data belong to the year of 2023.

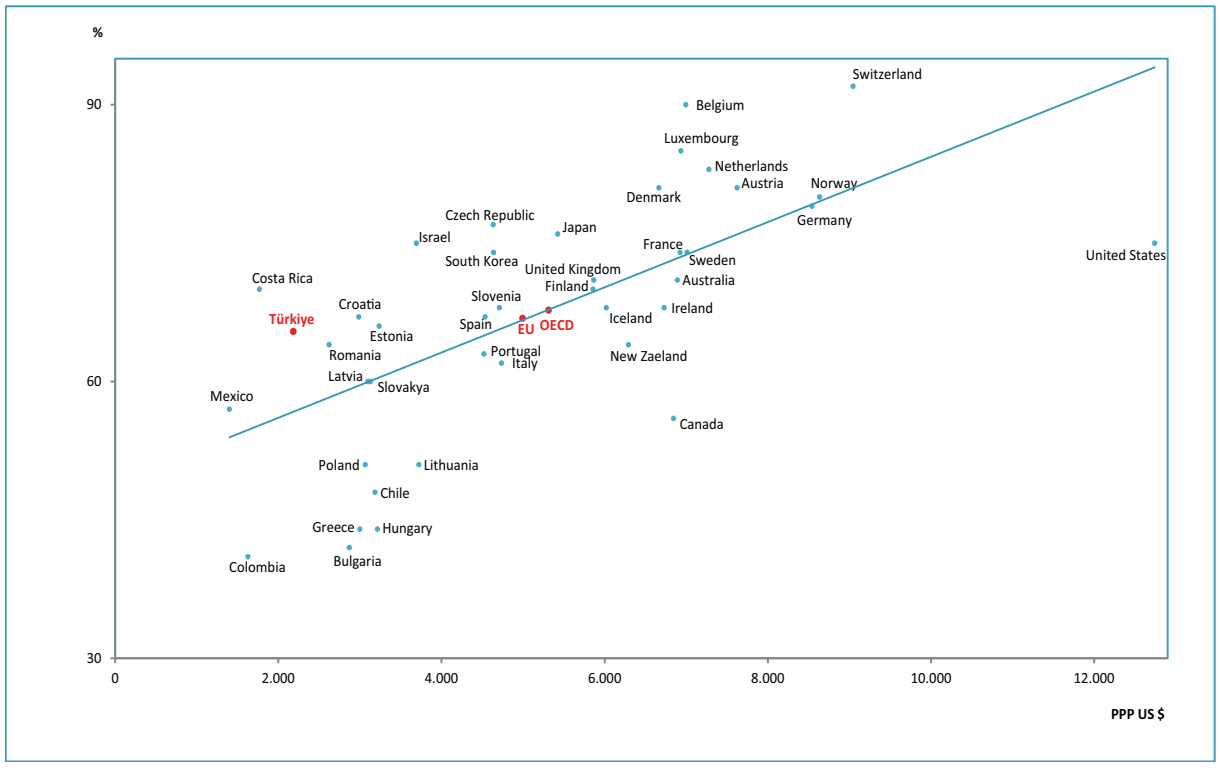
Figure 8.41. Satisfaction with Health Care Services, (%), 2022 and Total Current Health Expenditure per Capita, (PPP US $), 2022



Source: TURKSTAT, OECD Health Data 2024

Note: The country values of health care satisfaction and health expenditure belong to the year 2022. EU average covers 25 countries. Türkiye's health care satisfaction and health expenditure data belong to the year of 2023.

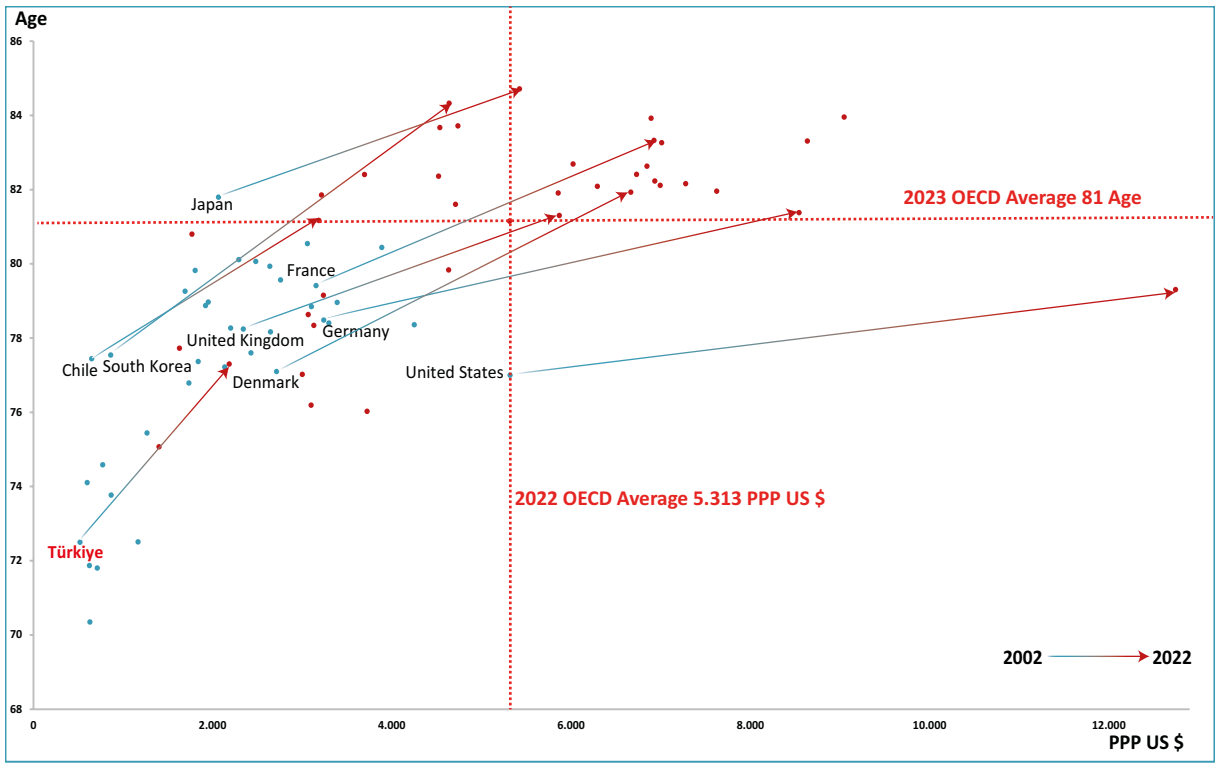
Figure 8.42. Satisfaction with Health Care Services, (%), 2022 and Total Current Health Expenditure per Capita, (PPP US $), 2022



Source: TURKSTAT, OECD Health Data 2024

Note: The country values of health care satisfaction and health expenditure belong to the year of 2022. EU average covers 25 countries. Türkiye health care satisfaction and health expenditure data belong to year of 2023.

Figure 8.43. Life Expectancy at Birth, (Age) and Total Current Health Expenditure per Capita, (PPP US $), 2002, 2022



Source: TURKSTAT, UNPD, OECD Health Data 2024

Note: The country values of life expectancy belong to the year of 2023 and values of expenditure belong to the year of 2022. Türkiye's expenditure and life expectancy data belong to the year of 2023 and 2021-2023 period respectively.

Table 8.25. Some Health Indicators by Provinces, 2023

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	14.015.781	14.275.384	12,5	1.186.992	0,52
Adıyaman	1.945.036	3.100.873	8,3	294.144	0,49
Afyonkarahisar	4.261.021	4.707.273	11,9	432.630	0,58
Ağrı	1.720.937	2.625.379	8,5	267.662	0,52
Amasya	2.130.538	2.292.006	13,0	259.090	0,76
Ankara	27.961.355	44.014.412	12,4	4.214.632	0,73
Antalya	14.473.256	17.643.707	11,9	1.886.509	0,70
Artvin	750.420	969.147	10,0	83.185	0,48
Aydın	6.886.614	8.092.744	12,9	913.103	0,79
Balıkesir	7.953.069	8.072.670	12,6	838.152	0,66
Bilecik	1.203.215	1.265.361	10,8	212.948	0,93
Bingöl	1.104.860	1.513.482	9,2	202.842	0,71
Bitlis	1.116.124	2.139.758	9,1	204.825	0,57
Bolu	1.903.315	2.523.069	13,6	404.631	1,25
Burdur	1.597.429	1.778.473	12,2	164.494	0,59
Bursa	17.761.290	19.150.847	11,5	2.194.595	0,68
Çanakkale	3.292.805	4.071.272	12,9	367.240	0,64
Çankırı	864.279	1.157.450	9,8	154.517	0,75
Çorum	3.017.821	3.417.579	12,2	370.415	0,70
Denizli	6.769.091	7.250.035	13,2	840.428	0,79
Diyarbakır	8.315.461	9.945.113	10,0	1.088.894	0,60
Edirne	2.426.161	3.242.179	13,5	343.781	0,82
Elazığ	2.853.622	4.420.771	12,0	468.325	0,77
Erzincan	1.136.828	1.767.327	11,9	237.470	0,98
Erzurum	3.509.559	5.263.799	11,7	788.230	1,05
Eskişehir	4.980.322	6.893.721	13,0	833.508	0,91
Gaziantep	10.705.862	12.402.001	10,7	1.275.150	0,59
Giresun	2.723.921	3.332.965	13,1	300.474	0,65
Gümüşhane	647.244	758.273	9,5	87.912	0,59
Hakkari	967.343	1.421.822	8,3	161.457	0,56
Hatay	4.738.863	6.465.611	7,3	417.932	0,27
Isparta	2.731.167	3.766.974	14,4	537.441	1,19
Mersin	12.216.581	11.444.771	12,2	946.011	0,49
İstanbul	61.420.949	102.716.334	10,5	9.716.847	0,62
İzmir	24.125.886	30.085.547	12,1	3.516.444	0,79
Kars	1.207.512	1.429.202	9,5	170.140	0,61
Kastamonu	1.961.206	2.481.992	11,4	266.496	0,69
Kayseri	9.337.798	9.981.190	13,4	1.188.287	0,82
Kırklareli	2.169.013	2.418.183	12,2	290.894	0,77
Kırşehir	1.448.569	1.644.647	12,5	174.941	0,71
Kocaeli	10.309.459	13.267.392	11,2	1.503.893	0,72

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

Table 8.25. Some Health Indicators by Provinces, 2023 - 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	12.393.776	15.729.614	12,1	1.895.159	0,82
Kütahya	3.631.925	3.486.849	12,4	473.117	0,82
Malatya	2.393.896	4.292.047	9,0	488.739	0,66
Manisa	8.413.250	9.938.184	12,4	1.069.487	0,72
Kahramanmaraş	3.738.744	5.990.355	8,7	537.003	0,48
Mardin	4.216.577	4.715.840	10,0	445.792	0,50
Muğla	5.792.726	5.971.380	11,0	603.530	0,57
Muş	1.623.136	2.297.373	9,8	200.872	0,50
Nevşehir	1.777.505	1.993.993	11,9	235.862	0,75
Niğde	2.378.445	2.191.843	12,1	284.382	0,75
Ordu	4.268.166	5.147.863	12,1	668.585	0,86
Rize	1.615.069	2.904.274	12,9	461.946	1,32
Sakarya	5.645.648	7.478.346	12,0	725.133	0,66
Samsun	8.266.258	11.139.439	14,1	1.356.988	0,99
Siirt	1.331.105	1.882.173	9,2	185.548	0,53
Sinop	1.124.373	1.385.282	10,9	175.754	0,77
Sivas	3.385.253	4.871.343	12,7	646.656	0,99
Tekirdağ	5.998.277	7.484.193	11,6	902.771	0,77
Tokat	3.387.105	4.124.390	12,4	537.887	0,89
Trabzon	5.189.982	6.130.164	13,7	644.081	0,78
Tunceli	396.497	453.616	9,5	58.723	0,66
Şanlıurfa	7.963.230	14.103.500	10,0	1.058.454	0,48
Uşak	2.610.850	2.267.800	12,9	274.532	0,73
Van	4.567.804	6.756.712	10,0	758.052	0,67
Yozgat	2.187.974	2.437.430	11,0	298.184	0,71
Zonguldak	2.892.594	4.598.037	12,7	530.004	0,90
Aksaray	2.656.247	2.828.626	12,5	236.448	0,54
Bayburt	470.916	511.439	11,4	72.244	0,84
Karaman	1.506.027	1.628.341	11,9	230.333	0,87
Kırıkkale	1.750.086	1.743.518	12,2	269.315	0,94
Batman	2.950.460	4.186.363	11,0	403.708	0,62
Şırnak	1.888.510	2.649.872	8,0	238.463	0,42
Bartın	1.377.389	1.272.822	12,8	132.574	0,64
Ardahan	474.916	552.966	11,1	76.466	0,82
Iğdır	891.269	1.050.480	9,3	143.939	0,69
Yalova	1.776.416	2.045.963	12,5	221.269	0,73
Karabük	1.306.947	1.878.127	12,5	243.355	0,95
Kilis	758.596	1.147.192	12,3	177.253	1,14
Osmaniye	3.163.408	3.201.526	11,4	327.264	0,59
Düzce	2.298.302	2.717.841	12,2	270.402	0,66
Türkiye	421.121.236	552.397.851	11,4	58.367.835	0,68

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

Table 8.25. Some Health Indicators by Provinces, 2023 - 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	410.162	1.778.627	194.381	68,9	4,3	58,0	2,0
Adıyaman	53.111	205.819	14.041	49,2	3,9	46,3	4,0
Afyonkarahisar	107.711	551.038	56.825	63,4	5,1	45,3	2,9
Ağrı	50.698	163.537	13.377	48,0	3,2	54,3	3,5
Amasya	38.266	173.378	17.208	54,3	4,5	43,7	3,8
Ankara	998.148	5.170.606	554.455	56,6	5,2	39,9	4,0
Antalya	458.759	1.690.965	203.770	61,4	3,7	60,8	2,3
Artvin	20.161	60.757	6.191	46,1	3,0	55,8	3,5
Aydın	219.649	811.157	95.660	61,8	3,7	61,1	2,3
Balıkesir	167.247	746.578	94.597	60,4	4,5	49,4	2,9
Bilecik	22.083	102.684	12.241	46,1	4,6	36,2	5,4
Bingöl	37.039	107.123	11.323	42,2	2,9	53,2	4,0
Bitlis	58.271	186.130	23.977	47,9	3,2	54,7	3,5
Bolu	71.332	353.769	26.192	70,2	5,0	51,7	2,1
Burdur	38.301	135.277	13.458	48,1	3,5	49,7	3,8
Bursa	485.726	2.218.486	216.195	71,6	4,6	57,2	1,8
Çanakkale	102.176	380.799	38.806	58,0	3,7	56,8	2,7
Çankırı	21.563	84.658	10.000	48,8	3,9	45,4	4,1
Çorum	86.854	381.936	31.689	61,4	4,4	51,0	2,8
Denizli	246.224	793.020	94.279	66,7	3,2	75,6	1,6
Diyarbakır	297.527	1.048.456	121.109	57,9	3,5	60,0	2,6
Edirne	89.574	402.716	25.265	56,7	4,5	46,0	3,4
Elazığ	191.671	872.842	56.212	75,8	4,6	60,8	1,5
Erzincan	41.782	147.567	14.329	60,8	3,5	62,8	2,3
Erzurum	151.075	833.703	82.970	61,8	5,5	40,9	3,4
Eskişehir	169.126	906.314	91.016	68,5	5,4	46,7	2,5
Gaziantep	379.303	1.369.882	157.119	42,1	3,6	42,6	5,0
Giresun	99.107	418.632	32.272	63,7	4,2	55,1	2,4
Gümüşhane	15.159	46.630	4.861	39,3	3,1	46,6	4,7
Hakkari	27.897	70.584	7.176	39,1	2,5	56,5	3,9
Hatay	131.382	411.217	55.101	22,4	3,1	26,1	10,8
Isparta	100.757	549.502	61.441	70,9	5,5	47,5	2,2
Mersin	300.317	1.222.529	141.542	64,4	4,1	57,8	2,2
İstanbul	2.234.356	9.997.568	1.135.262	58,4	4,5	47,7	3,2
İzmir	647.811	2.933.045	354.061	55,2	4,5	44,5	3,7
Kars	30.101	101.998	11.074	35,0	3,4	37,7	6,3
Kastamonu	51.640	218.405	17.696	50,5	4,2	43,6	4,1
Kayseri	293.438	1.209.221	120.229	68,5	4,1	60,7	1,9
Kırklareli	56.499	194.647	17.249	52,5	3,4	55,6	3,1
Kırşehir	35.743	171.486	9.240	78,3	4,8	59,6	1,3
Kocaeli	287.595	1.134.249	141.035	57,1	3,9	52,8	3,0

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

Table 8.25. Some Health Indicators by Provinces, 2023 - 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	435.553	2.028.438	199.543	63,2	4,7	49,6	2,7
Kütahya	82.003	456.097	30.449	63,1	5,6	41,4	3,3
Malatya	114.879	573.227	37.362	44,8	5,0	32,8	6,1
Manisa	228.442	1.080.199	97.912	62,5	4,7	48,2	2,8
Kahramanmaraş	126.331	453.217	47.758	40,9	3,6	41,6	5,2
Mardin	97.225	326.252	41.709	51,2	3,4	55,7	3,2
Muğla	147.860	525.539	64.007	56,8	3,6	58,3	2,7
Muş	44.792	133.025	13.739	48,3	3,0	59,3	3,2
Nevşehir	43.741	201.153	16.243	64,3	4,6	51,0	2,6
Niğde	44.437	182.730	12.823	54,5	4,1	48,4	3,4
Ordu	168.169	486.840	48.456	57,9	2,9	73,0	2,1
Rize	69.615	246.950	24.468	60,4	3,5	62,1	2,3
Sakarya	141.452	560.900	55.096	62,8	4,0	57,8	2,3
Samsun	276.607	1.305.894	118.024	67,6	4,7	52,3	2,3
Siirt	49.847	166.821	15.047	58,4	3,3	63,7	2,4
Sinop	34.848	127.922	10.486	53,1	3,7	52,8	3,2
Sivas	111.671	494.681	39.808	46,3	4,4	38,1	5,1
Tekirdağ	197.404	735.186	71.495	62,3	3,7	61,1	2,3
Tokat	127.030	492.363	45.482	60,2	3,9	56,7	2,6
Trabzon	152.555	756.147	75.845	62,6	5,0	46,1	3,0
Tunceli	5.703	18.377	2.782	33,6	3,2	38,0	6,4
Şanlıurfa	305.106	1.057.512	114.959	67,9	3,5	71,6	1,6
Uşak	63.539	229.363	26.938	55,0	3,6	55,6	3,0
Van	154.835	647.729	75.189	57,7	4,2	50,4	3,1
Yozgat	61.254	202.100	21.870	45,0	3,3	49,8	4,0
Zonguldak	122.402	522.198	52.517	61,9	4,3	52,9	2,6
Aksaray	60.882	210.013	23.302	51,6	3,4	54,6	3,2
Bayburt	12.130	41.049	3.837	54,9	3,4	59,2	2,8
Karaman	33.359	143.979	16.185	60,3	4,3	51,0	2,8
Kırıkkale	52.308	282.161	25.035	61,6	5,4	41,7	3,4
Batman	91.401	286.150	36.419	43,2	3,1	50,4	4,1
Şırnak	43.543	113.399	19.785	42,0	2,6	58,8	3,6
Bartın	24.600	110.403	8.647	59,7	4,5	48,5	3,0
Ardahan	9.786	39.671	3.048	51,8	4,1	46,6	3,8
Iğdır	22.275	58.050	8.337	48,9	2,6	68,5	2,7
Yalova	63.734	174.558	17.412	60,5	2,7	80,6	1,8
Karabük	44.986	168.232	15.061	61,4	3,7	59,9	2,4
Kilis	26.467	102.177	10.465	65,1	3,9	61,6	2,1
Osmaniye	109.856	304.821	35.521	47,6	2,8	62,7	3,0
Düzce	63.466	191.792	24.353	57,4	3,0	69,3	2,2
Türkiye	13.391.434	56.594.852	5.992.338	58,2	4,2	50,2	3,0

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.

☑ As of 01.02.2023, E2 - E3 Integrated District State Hospitals, which previously provided primary healthcare services under the General Directorate of Public Health, have been transferred to the General Directorate of Public Hospitals and began providing secondary healthcare services as District State Hospitals. Consequently, data revisions have been made retrospectively.

☑ 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 places 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 be changed 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.

☑ Figure 8.6. Family Medicine Unit Referral Rate by Year refers to the Health Center referrals for the years 2002 - 2007.

☑ **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: (Number of Beds x 365 - Number of Bed Days) / (Discharged + 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.

TURKSTAT Life Satisfaction Survey 2023

☑ **Coverage:** All private households of Republic of Türkiye, which have 18 years of age and over persons who are Turkish citizens and foreign people are covered. Institutional population (dormitories, rest homes for elderly persons, special hospitals, military barracks and recreation quarters for officers etc.) are not covered.

☑ **Estimation Level:** The survey was designed in order to produce total estimate for Türkiye. Thus, the total sample size necessary was found to be 5.410 households.

☑ **Sampling Distribution:** The survey was finalized with 5.410 households selected for the sample.

☑ **Period of Field Study:** Life Satisfaction Survey by Türkiye was designed to be carried out annually in order to produce estimations by Türkiye level. Field application is in November of the each year.



CHAPTER 9

Pharmaceutical Statistics

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

ATC-1 Group	2018	2019	2020	2021	2022	2023
Alimentary T.& Metabolism	398,7	406,3	401,0	446,0	469,8	482,4
Respiratory System	329,8	335,0	276,9	291,8	399,0	415,4
Musculo-Skeletal System	259,7	261,3	229,9	255,7	256,9	342,6
Nervous System	308,0	313,2	320,2	351,9	377,5	324,4
Cardiovascular System	238,3	251,4	273,6	279,8	291,0	297,5
Systemic Anti-Infectives	262,7	265,8	205,7	204,5	243,3	268,9
Dermatologicals	118,6	123,1	115,2	130,9	144,1	162,0
Blood & Blood Forming Organs	107,0	107,1	117,1	133,2	132,5	129,9
G.U.System & Sex Hormones	77,6	78,7	73,0	82,7	90,9	90,5
Sensory Organs	71,2	73,2	63,2	71,9	75,7	83,1
Systemic Hormonal Preparations (Excl. Sex Hormones and Insulins)	59,7	65,6	61,2	64,7	68,6	70,0
Hospital Solutions	92,6	100,5	86,9	70,6	51,2	51,0
Various (Other)	6,3	7,1	12,9	13,2	16,5	14,9
Antineoplastic & Immunomodul Agents	11,3	12,6	13,7	14,0	14,2	14,3
Antiparasitic Products, Insecticides and Repellents	5,4	5,7	5,3	6,2	7,5	9,4
Diagnostic Agents	4,3	4,7	3,9	4,6	4,4	3,9
Total	2.351,2	2.411,3	2.259,6	2.421,6	2.643,2	2.760,1

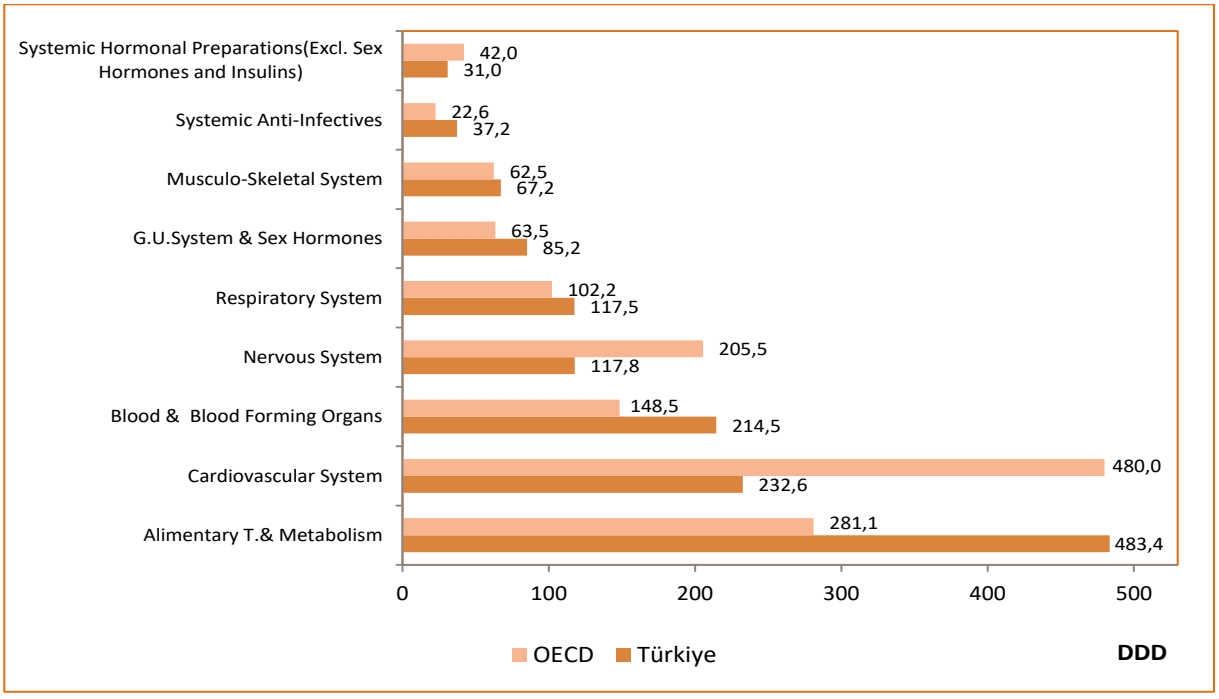
Source: Turkish Medicines and Medical Devices Agency

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

ATC-1 Group	2018	2019	2020	2021	2022	2023
Alimentary T.& Metabolism	387,4	392,4	417,3	441,6	483,4	547,9
Cardiovascular System	187,7	195,1	218,8	221,7	232,6	244,9
Blood & Blood Forming Organs	169,3	170,2	152,8	188,1	214,5	224,1
Nervous System	101,1	101,5	108,7	113,0	117,8	126,4
Respiratory System	109,0	111,2	97,9	98,2	117,5	116,5
G.U.System & Sex Hormones	69,9	73,7	74,3	80,9	85,2	87,6
Musculo-Skeletal System	61,6	64,8	58,4	65,1	67,2	77,4
Systemic Anti-Infectives	33,3	34,6	27,6	29,6	37,2	44,7
Systemic Hormonal Preparations (Excl. Sex Hormones and Insulins)	24,2	25,7	27,8	30,0	31,0	32,1

Source: Turkish Medicines and Medical Devices Agency

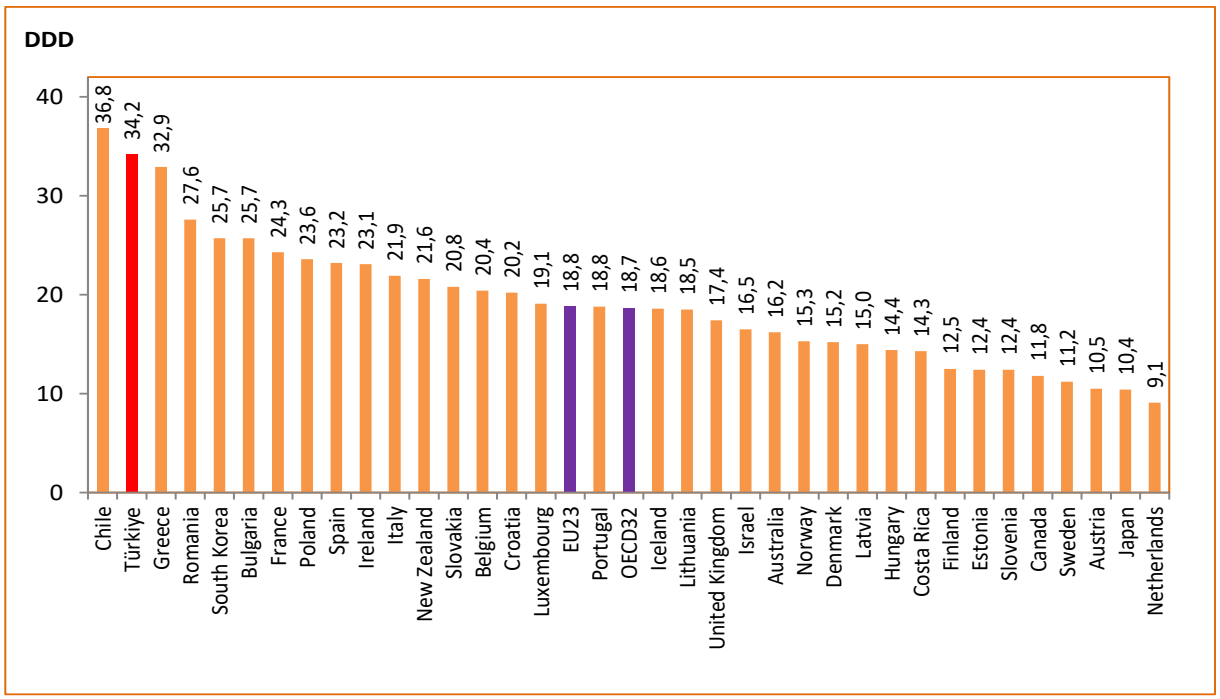
Figure 9.1. International Comparison of Pharmaceutical Consumption per 1.000 Population by Selected ATC-1 Groups, DDD, 2022



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2024

Note: Türkiye's data belongs to the year 2022. OECD's data belong to the year of 2022 or nearest.

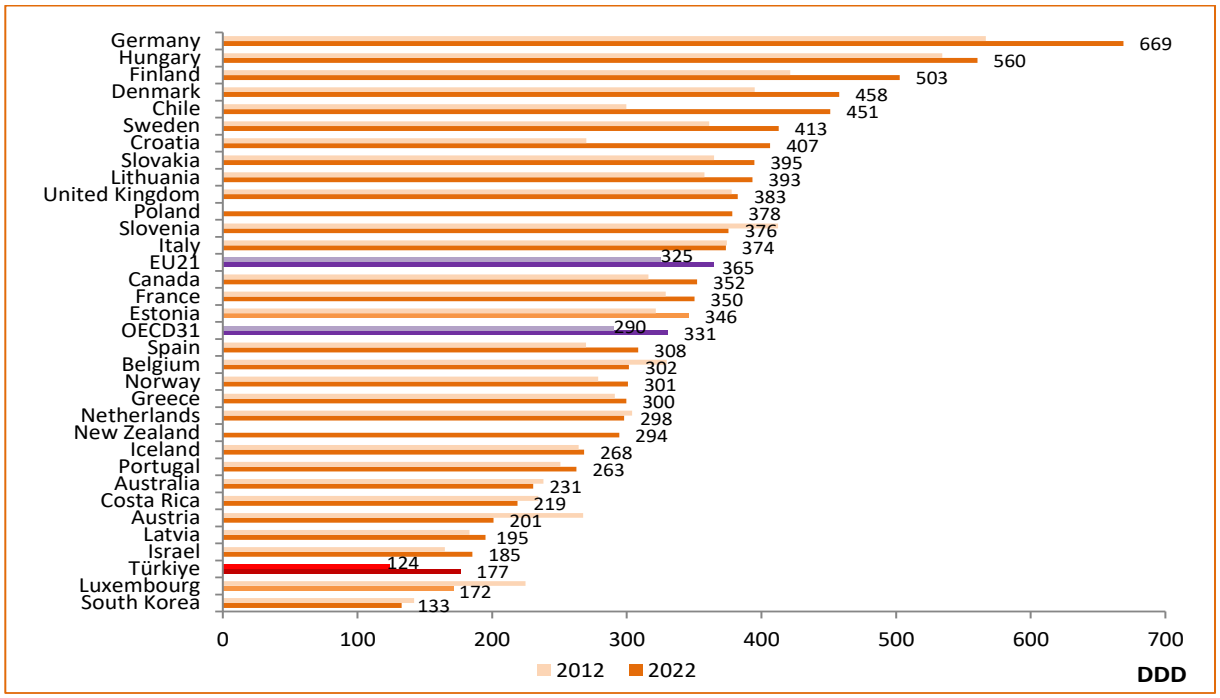
Figure 9.2. International Comparison of Antibiotic (ATC-J01) Consumption per 1.000 Population, DDD, 2022



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2024

Note: Türkiye's data belongs to the year 2022. Countries' data belong to the year of 2022 or nearest. Türkiye's 2023 value is 41,1.

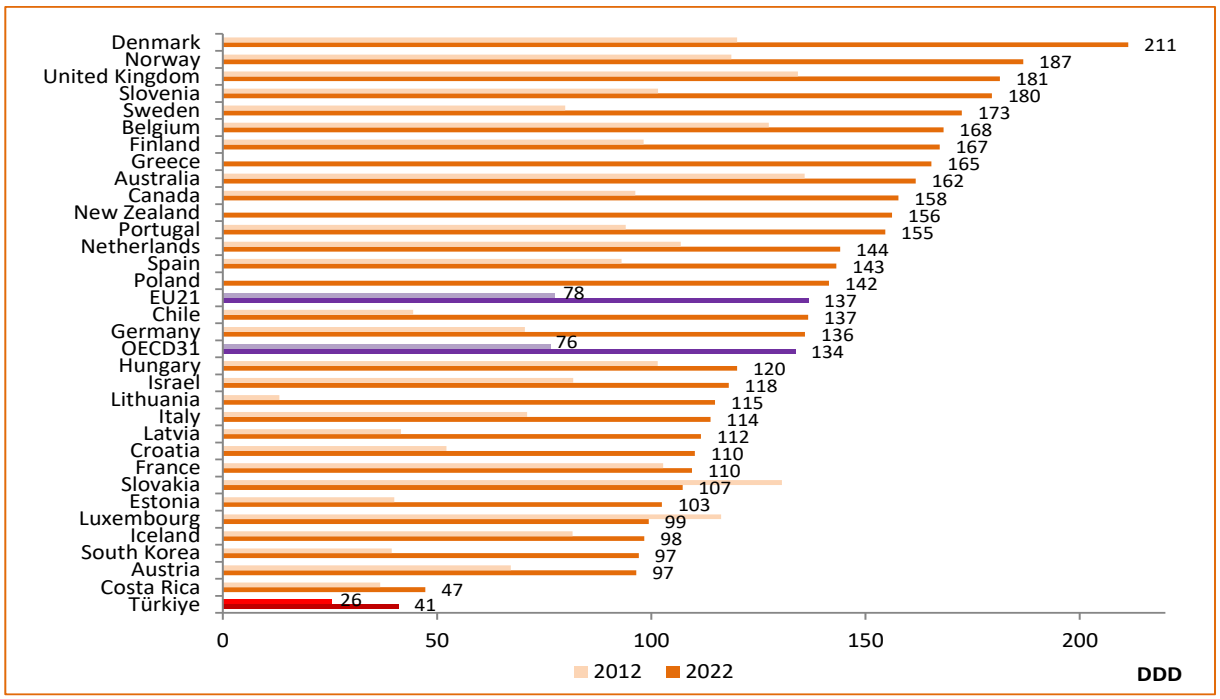
Figure 9.3. International Comparison of Antihypertensive Drug Consumption per 1.000 Population, DDD, 2012, 2022



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2024

Note: Türkiye's data belongs to the year 2012 and 2022. Countries' data belong to the year of 2012, 2022 or nearest. Data includes ATC codes C02, C03, C07, C08, C09. Türkiye's 2023 value is 186.

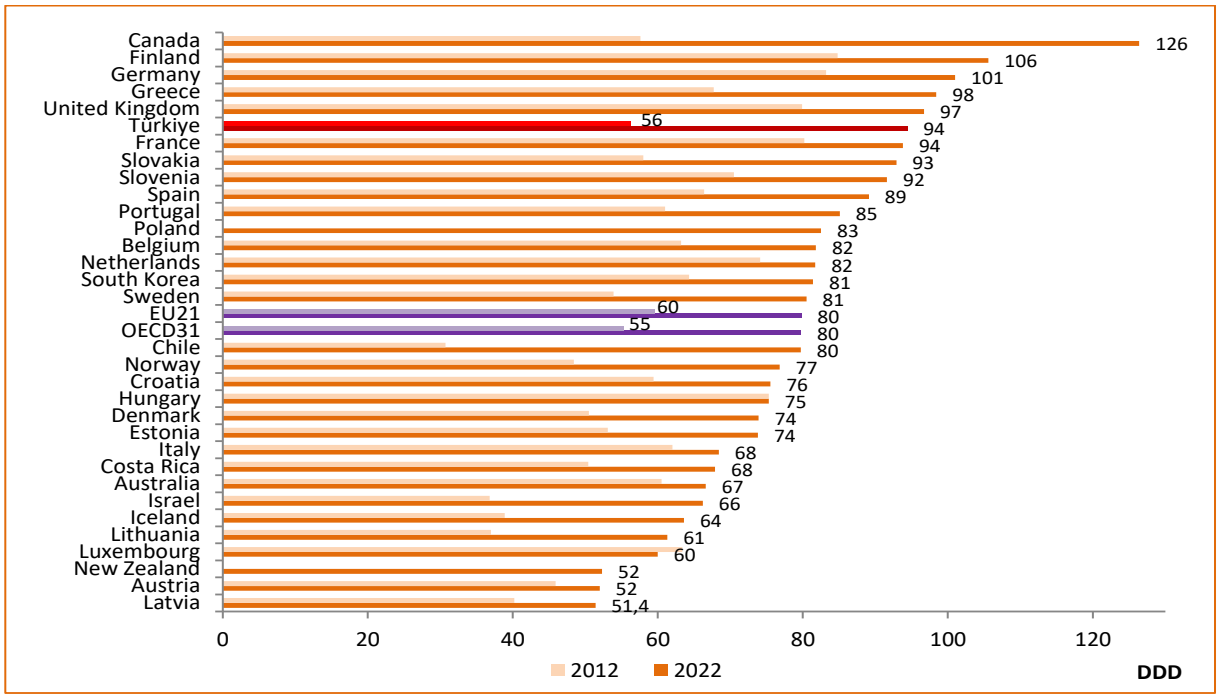
Figure 9.4. International Comparison of Cholesterol-Lowering Drug (ATC-C10) Consumption per 1.000 Population, DDD, 2012, 2022



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2024

Note: Türkiye's data belongs to the year 2012 and 2022. Countries' data belong to the year of 2012, 2022 or nearest. Türkiye's 2023 value is 43.

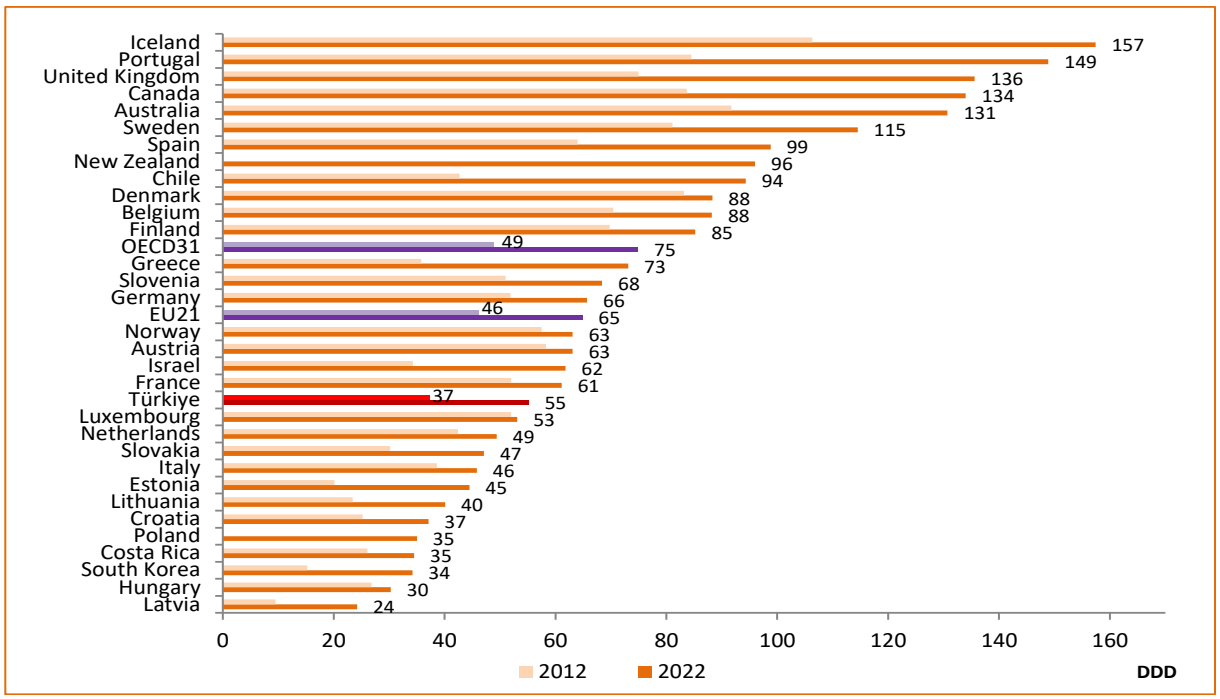
Figure 9.5. International Comparison of Antidiabetic Drug (ATC-A10) Consumption per 1.000 Population, DDD, 2012, 2022



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2024

Note: Türkiye's data belongs to the year 2012 and 2022. Countries' data belong to the year of 2012, 2022 or nearest. Türkiye's 2023 value is 97.

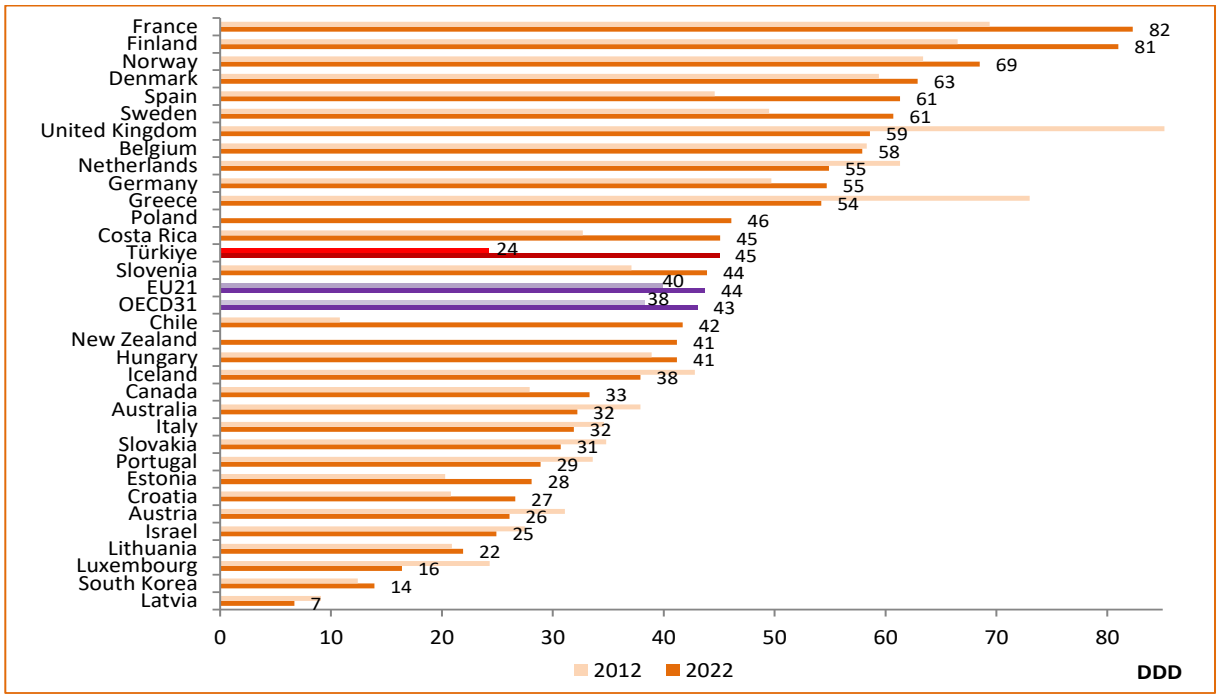
Figure 9.6. International Comparison of Antidepressant Drug (ATC-N06A) Consumption per 1.000 Population, DDD, 2012, 2022



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2024

Note: Türkiye's data belongs to the year 2012 and 2022. Countries' data belong to the year of 2012, 2022 or nearest. Türkiye's 2023 value is 61.

Figure 9.7. International Comparison of Drugs for Obstructive Airway Disease (ATC-R03) Consumption per 1.000 Population, DDD, 2012, 2022



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2024

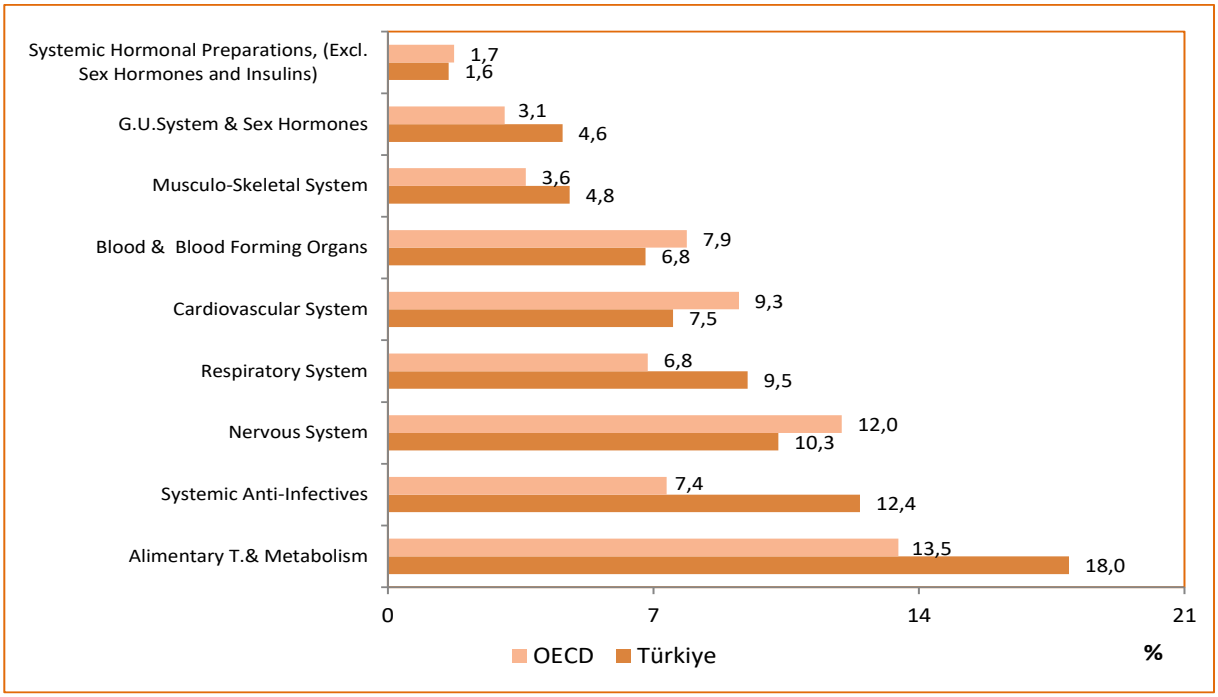
Note: Türkiye's data belongs to the year 2012 and 2022. Countries' data belong to the year of 2012, 2022 or nearest. Türkiye's 2023 value is 41.

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

ATC-1 Group	2018	2019	2020	2021	2022	2023
Alimentary T.& Metabolism	5.223,5	6.893,8	9.117,7	12.158,5	20.910,5	38.847,8
Antineoplastic & Immunomodul Agents	4.179,2	5.691,7	7.391,5	9.716,4	17.795,0	34.938,1
Systemic Anti-Infectives	3.895,8	5.252,0	5.511,5	6.853,7	14.497,2	27.688,6
Respiratory System	3.019,9	3.906,6	4.172,0	5.267,7	11.044,6	21.780,4
Nervous System	3.607,3	4.659,9	5.563,4	7.050,7	11.992,6	19.917,5
Cardiovascular System	2.608,9	3.441,1	4.375,4	5.358,0	8.751,8	16.753,8
Blood & Blood Forming Organs	2.309,3	3.114,7	3.935,0	5.042,0	7.908,2	14.534,4
Musculo-Skeletal System	1.915,1	2.441,3	2.509,3	3.327,6	5.580,9	13.472,1
G.U.System & Sex Hormones	1.485,5	1.897,9	2.006,2	2.871,3	5.359,5	10.120,2
Dermatologicals	983,0	1.264,9	1.385,5	2.010,7	4.084,7	8.255,8
Sensory Organs	1.073,2	1.230,7	1.259,7	1.798,4	2.558,2	5.016,3
Systemic Hormonal Preparations, (Excl. Sex Hormones and Insulins)	614,3	753,3	861,1	1.151,4	1.865,5	3.526,2
Various (Other)	314,7	419,4	788,6	1.016,0	1.995,2	3.276,1
Hospital Solutions	550,0	671,9	691,3	622,1	1.055,0	2.190,3
Diagnostic Agents	267,7	382,7	338,6	479,3	895,2	1.599,6
Antiparasitic Products, Insecticides and Repellents	34,4	48,6	58,4	83,3	174,8	530,8
Total	32.081,8	42.070,4	49.965,3	64.807,1	116.468,9	222.448,1

Source: Turkish Medicines and Medical Devices Agency

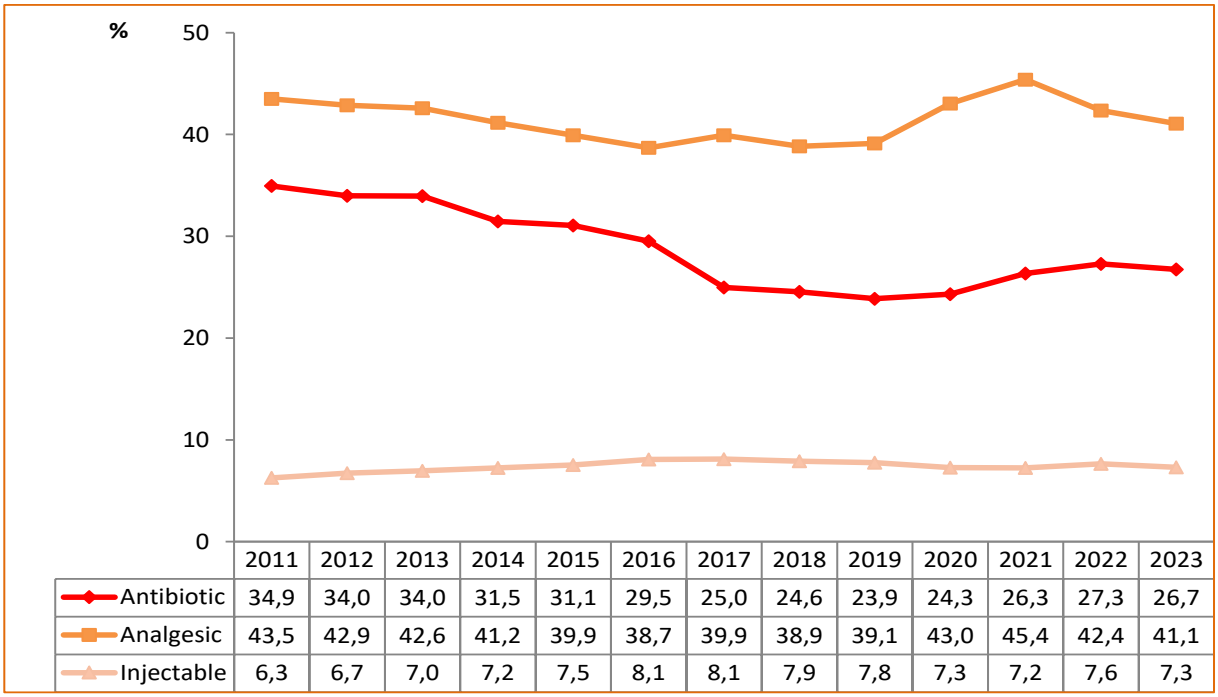
Figure 9.8. International Comparison of the Share of Pharmaceutical Sales Amounts (National Currency) in Total Pharmaceutical Sales by Selected ATC-1 Groups, (%), 2022



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2024
Note: Türkiye's data belongs to the year 2022. OECD's data belong to the year of 2022 or nearest.

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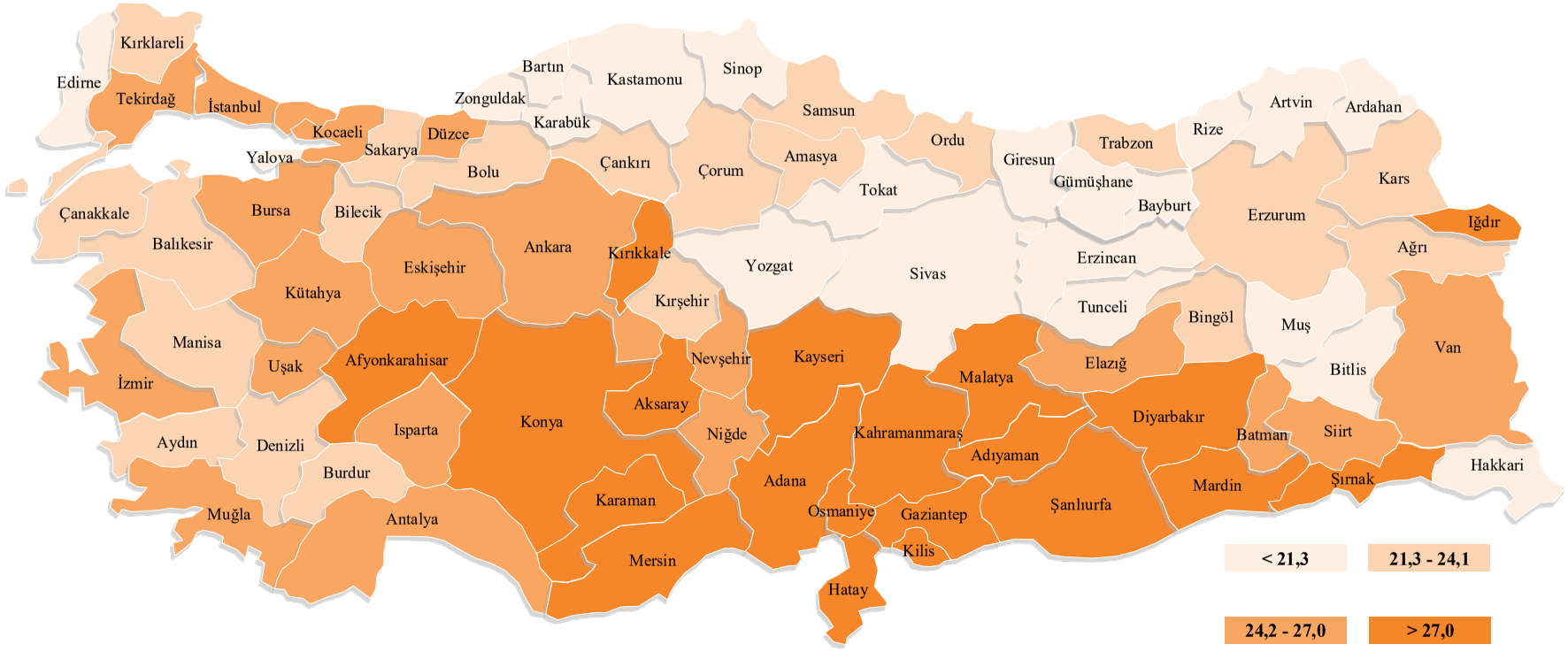
Figure 9.9. Ratio of Prescriptions Including Antibiotic, Analgesic, Injectable Drug Among All Prescriptions Written Out by Family Physicians by Years, (%)



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Antibiotic	34,9	34,0	34,0	31,5	31,1	29,5	25,0	24,6	23,9	24,3	26,3	27,3	26,7
Analgesic	43,5	42,9	42,6	41,2	39,9	38,7	39,9	38,9	39,1	43,0	45,4	42,4	41,1
Injectable	6,3	6,7	7,0	7,2	7,5	8,1	8,1	7,9	7,8	7,3	7,2	7,6	7,3

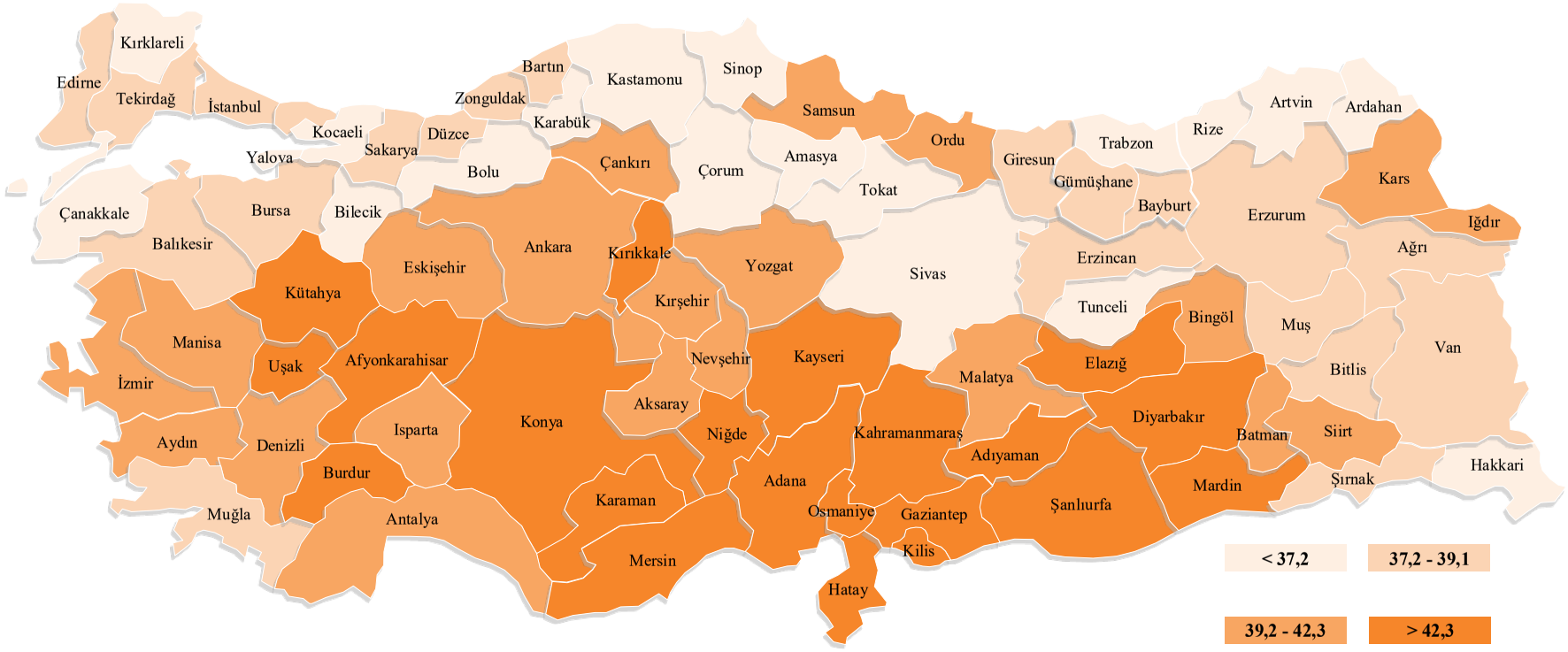
Source: Turkish Medicines and Medical Devices Agency

Map 9.1. Ratio of Prescriptions Including Antibiotic Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2023



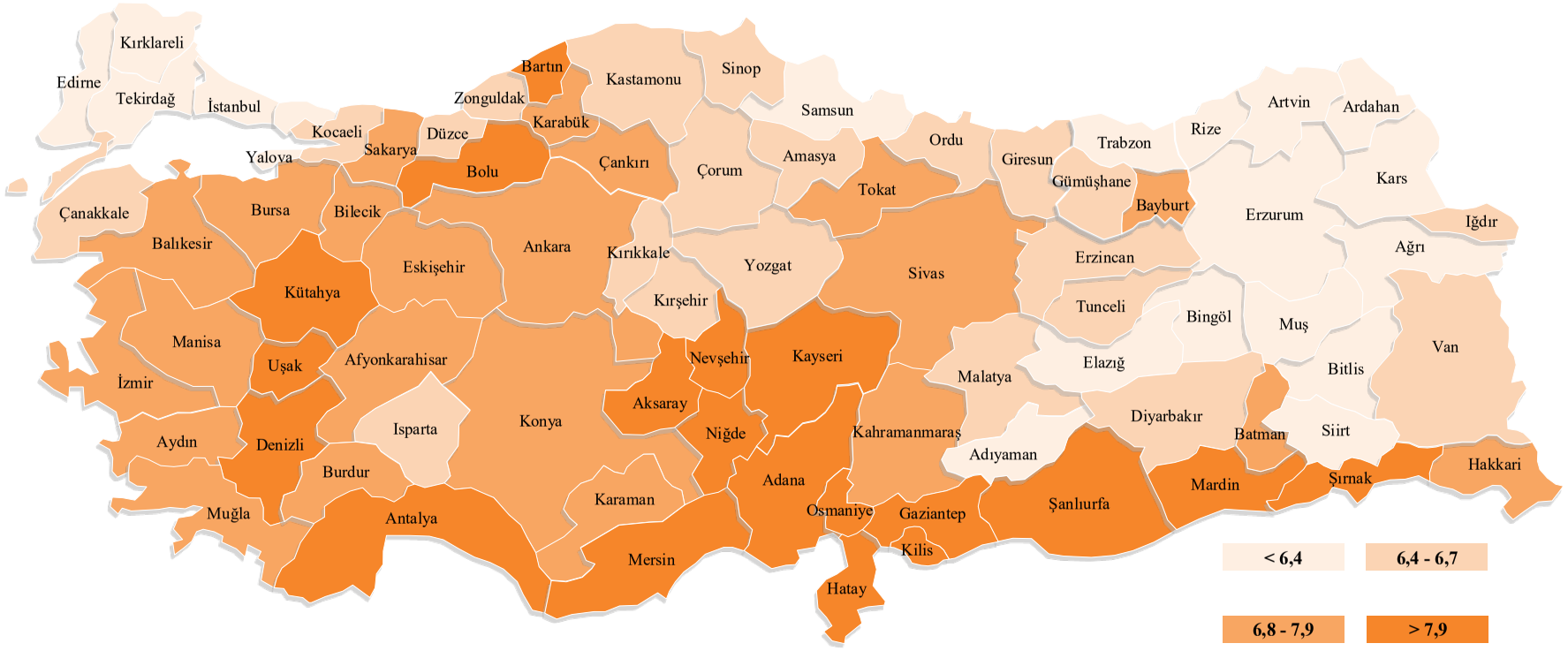
Source: Turkish Medicines and Medical Devices Agency

Map 9.2. Ratio of Prescriptions Including Analgesic Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2023



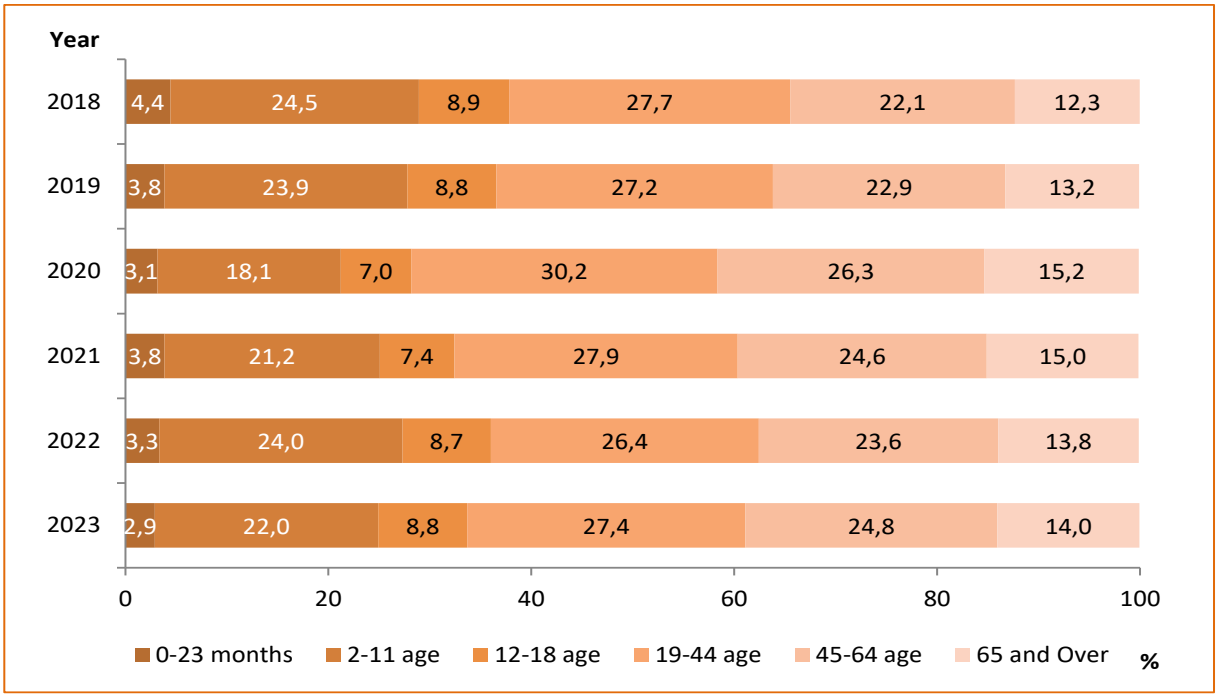
Source: Turkish Medicines and Medical Devices Agency

Map 9.3. Ratio of Prescriptions Including Injectable Drug Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2023



Source: Turkish Medicines and Medical Devices Agency

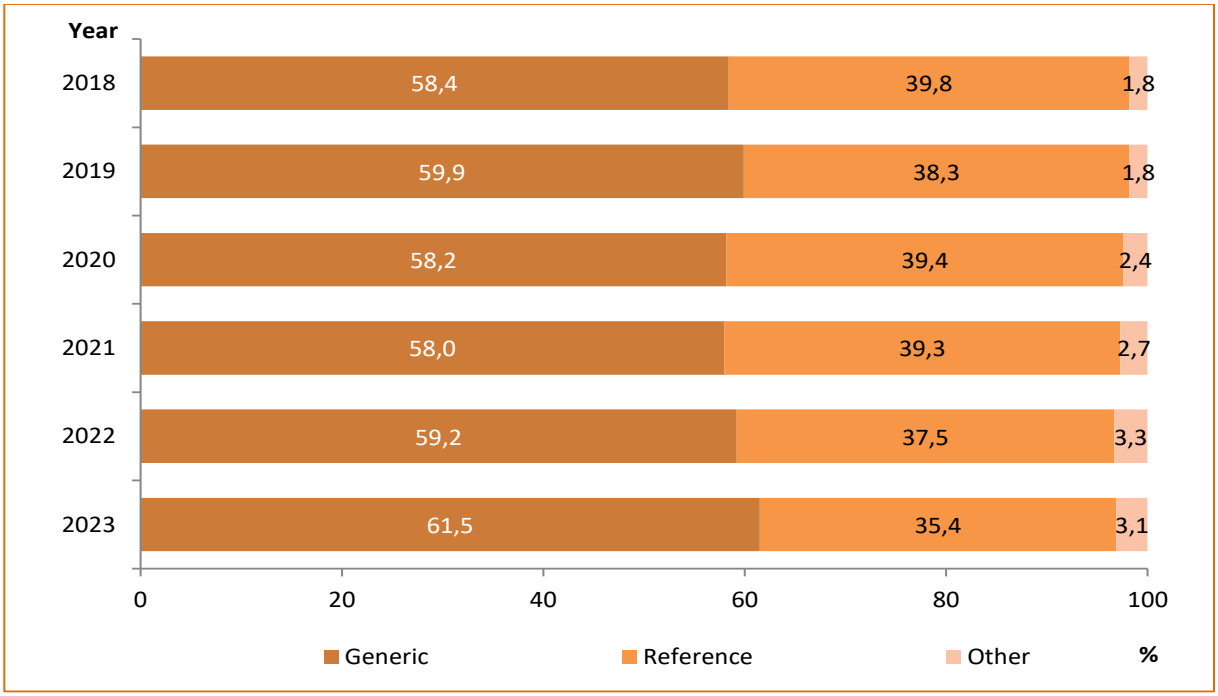
Figure 9.10. Distribution of Prescriptions Including Antibiotic Written Out by Family Physicians by Years and Age Groups, (%)



Source: Turkish Medicines and Medical Devices Agency

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

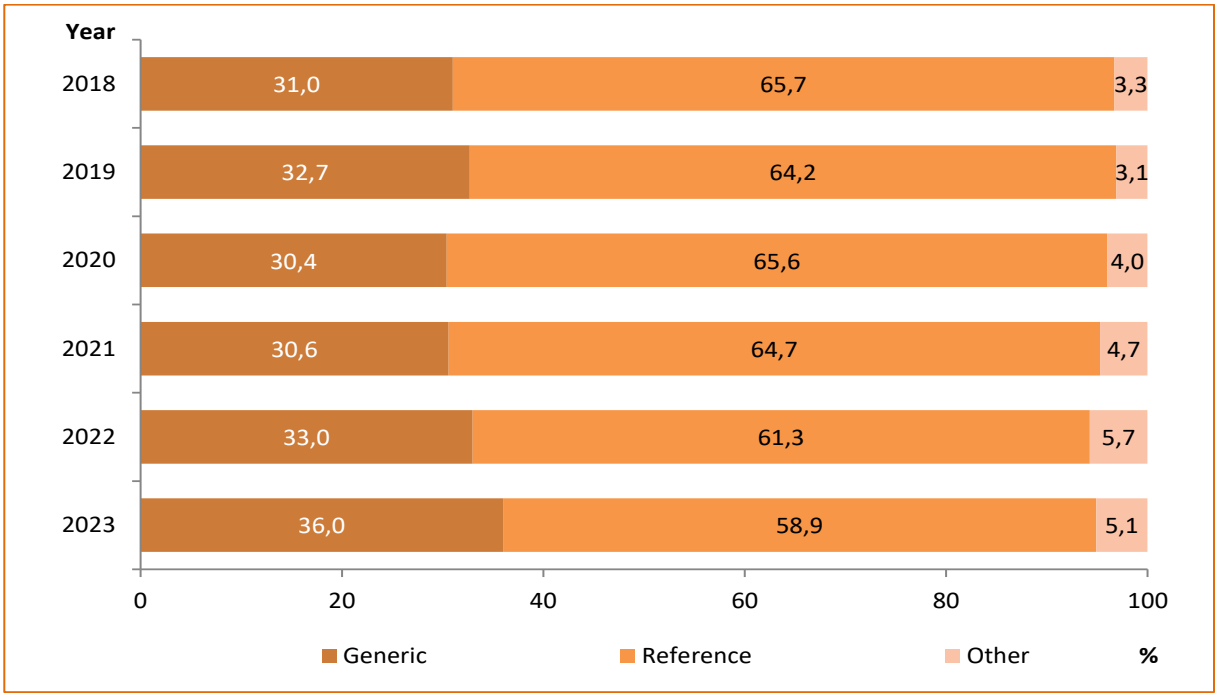
Figure 9.11. Distribution of Pharmaceutical Box Sales by Years and Types of Reference, (%)



Source: Turkish Medicines and Medical Devices Agency

Note: The term "Original" has been changed to "Reference" by the "Regulation on the Registration of Medicinal Products for Human Use".

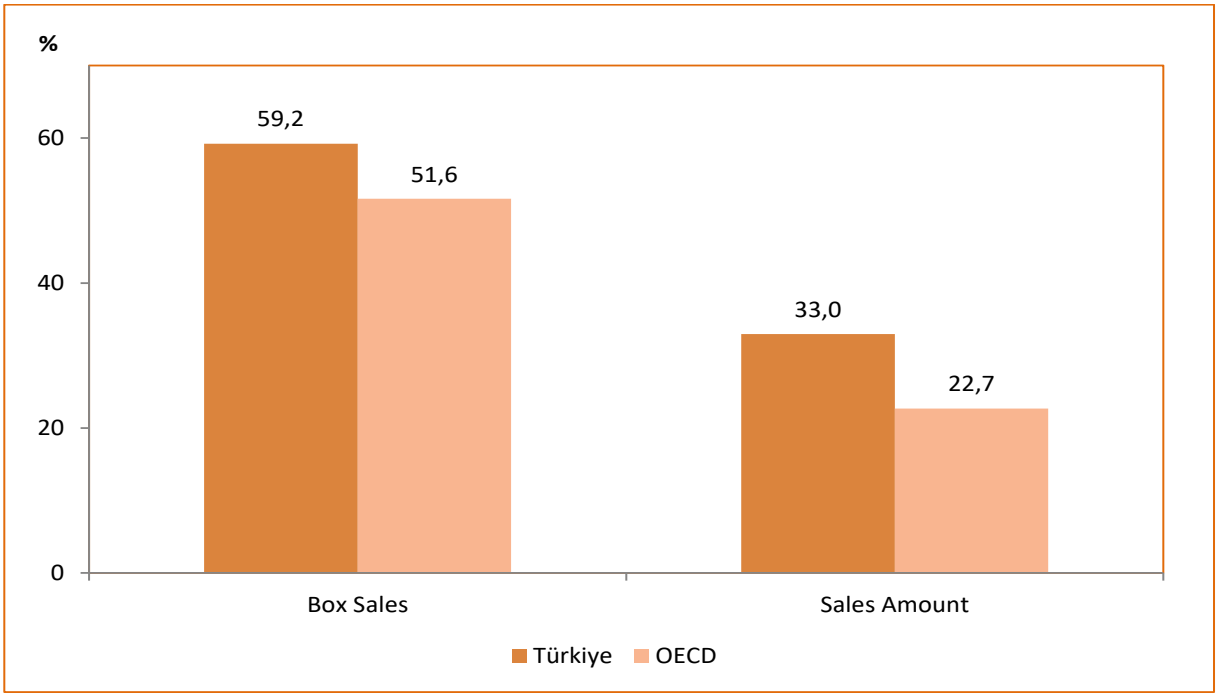
Figure 9.12. Distribution of Pharmaceutical Sales Amounts (in ₺) by Years and Types of Reference, (%)



Source: Turkish Medicines and Medical Devices Agency

Note: The term "Original" has been changed to "Reference" by the "Regulation on the Registration of Medicinal Products for Human Use".

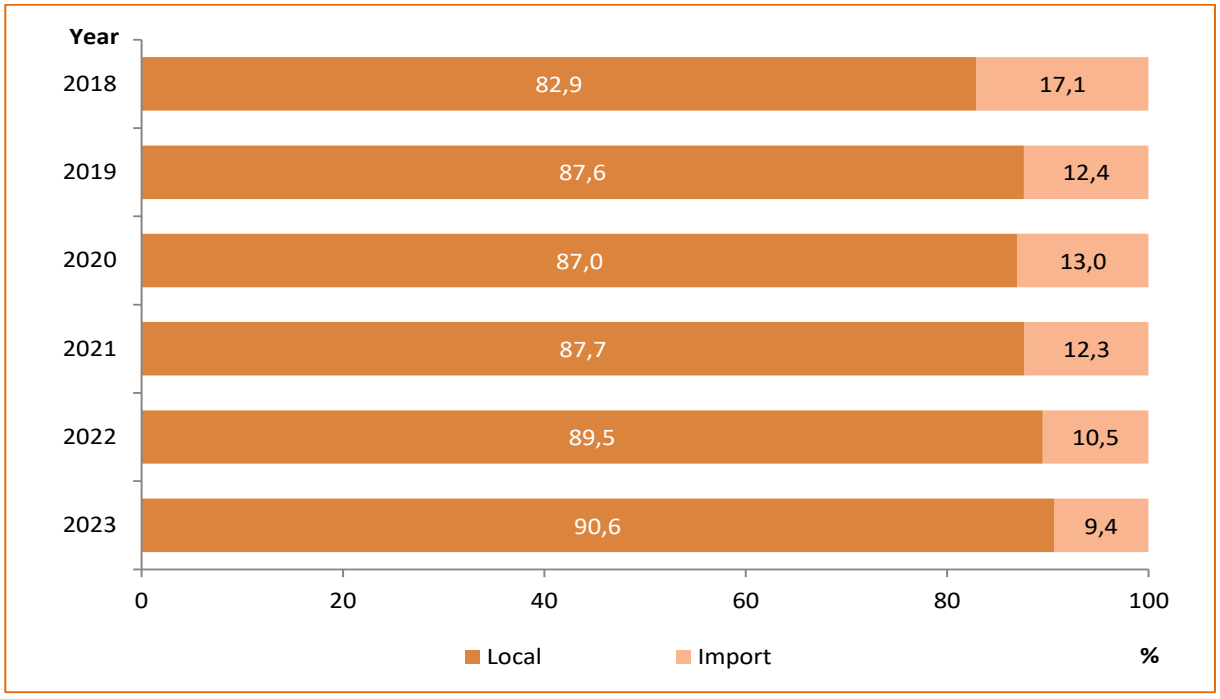
Figure 9.13. International Comparison of Share of Generic Market with respect to Box Sales and Sales Amounts (National Currency) in Total Pharmaceutical Market, (%), 2022



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2024

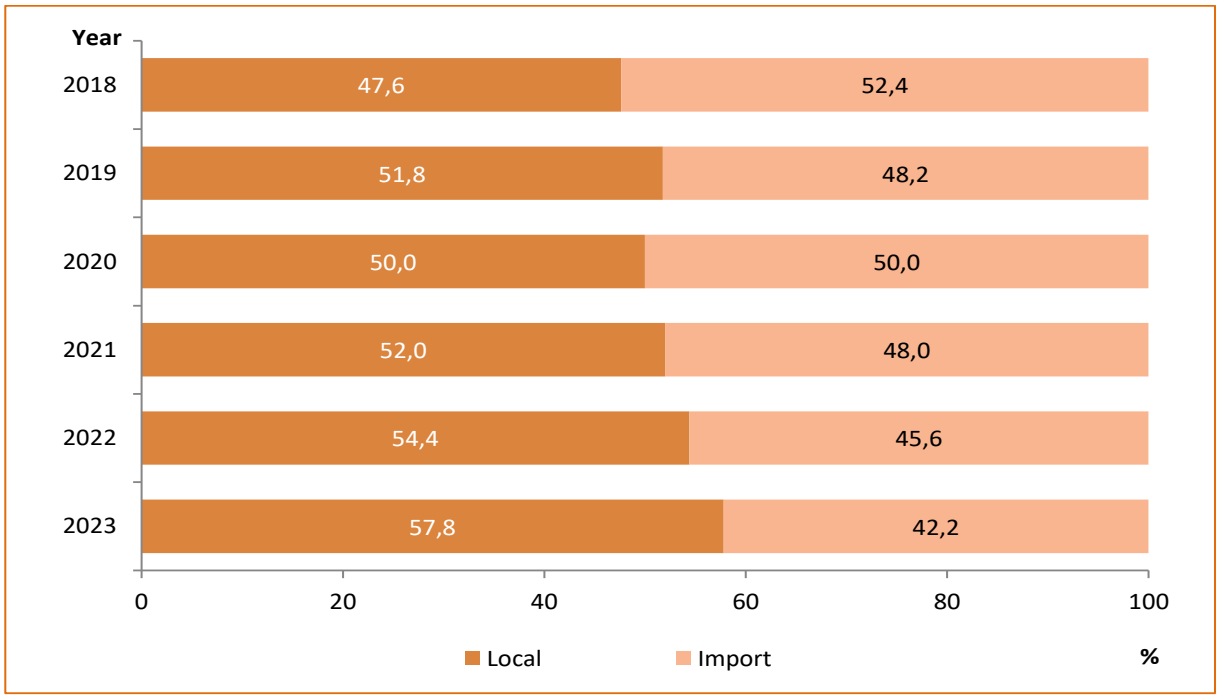
Note: Türkiye's data belongs to the year 2022. OECD's data belong to the year of 2022 or nearest.

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



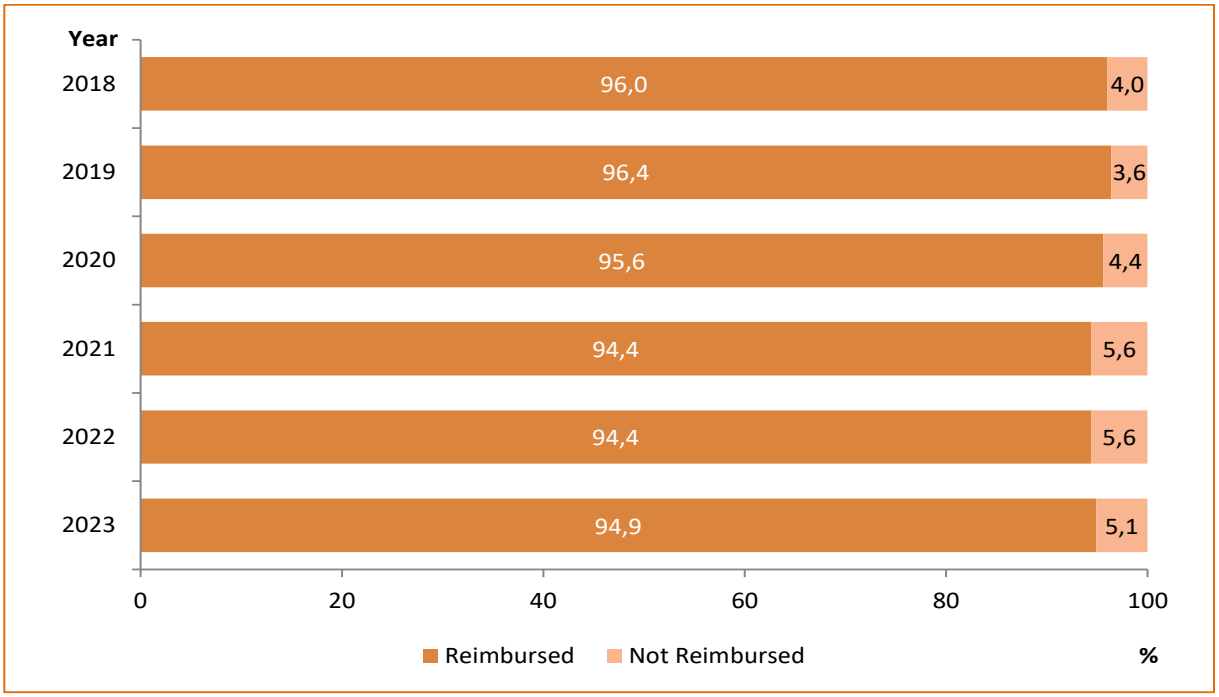
Source: Turkish Medicines and Medical Devices Agency

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



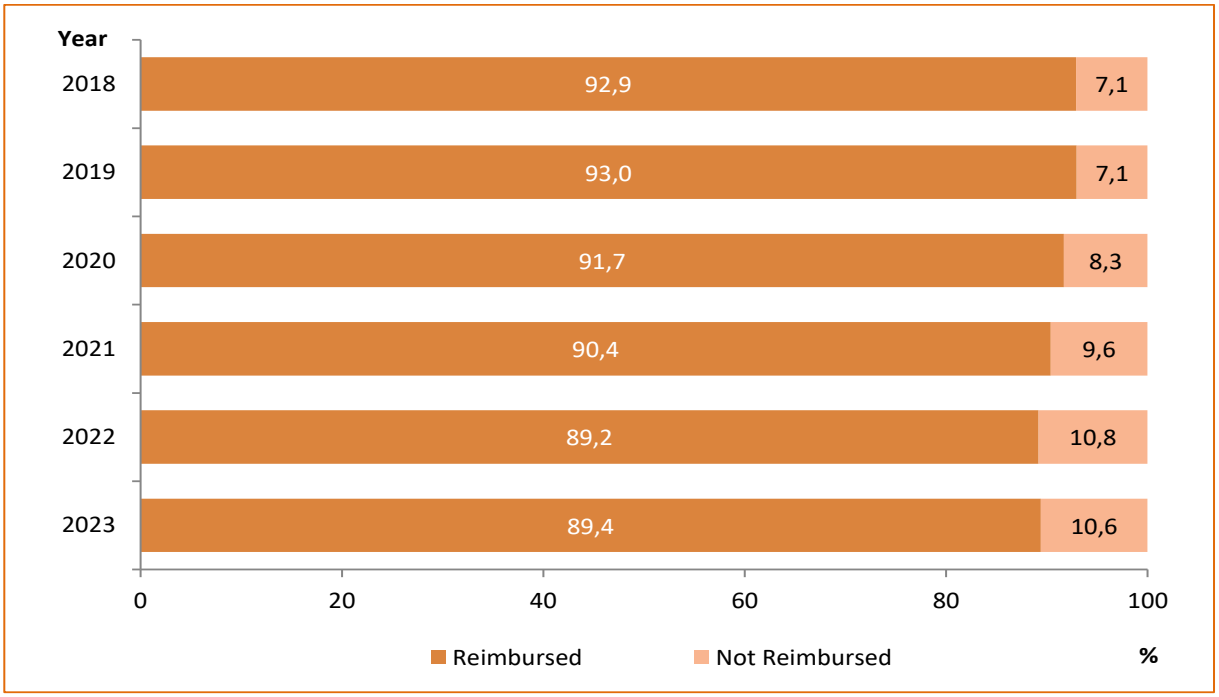
Source: Turkish Medicines and Medical Devices Agency

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	2020			2021			2022			2023		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Ratio of adequate use of cholesterol lowering treatment in people with diabetes, (%)	25,7	23,6	24,5	20,9	20,1	20,4	38,1	34,2	35,9	42,3	38,9	40,4
Ratio of first choice antihypertensive for people with diabetes, (%)	73,4	78,6	76,6	69,4	75,0	73,1	76,0	81,4	79,2	76,8	82,2	79,9
Volume of cephalosporines and quinolones as a proportion of all systemic antibiotics prescribed, (%)	26,6	30,2	28,6	25,3	29,3	27,5	25,3	29,1	27,5	27,3	30,4	29,1
Overall volume (DDD) of antibiotics for systemic use prescribed (per 1.000 population in FMIS)	10,1	11,4	10,8	10,6	11,9	11,3	12,8	14,3	13,6	10,3	10,9	10,6

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: https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/measuring-health-care-quality/definitions-of-health-care-quality-outcomes.pdf

Table 9.5. International Comparison of OECD Health Care Quality Indicators on Primary Care Prescription, 2022

Health Care Quality Indicators	Türkiye	OECD
Ratio of first choice antihypertensives for people with diabetes, (%)	79,2	85,6
Volume of cephalosporines and quinolones as a proportion of all systemic antibiotics prescribed, (%)	27,5	17,7
Ratio of adequate use of cholesterol lowering treatment in people with diabetes, (%)	35,9	69,9
Overall volume (DDD) of antibiotics for systemic use prescribed (per 1.000 population in FMIS)	13,6	16,8

Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2024

Note: Türkiye's data belongs to the year 2022. OECD's data belong to the year of 2022 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
A	**Alimentary T. & Metabolism**
A10	Drugs Used in Diabetes
B	**Blood and Blood Forming Organs**
C	**Cardiovascular System**
C02	Antihypertensives
C03	Diuretics
C07	Beta Blocking Agents
C08	Calcium Channel Blockers
C09	Agents Acting on The Renin-Angiotensin System
C10	Lipid Modifying Agents
G	**G.U. System & Sex Hormones**
H	**Systemic Hormonal Preparations (Excl. Sex Hormones and Insulins)**
J	**Systemic Anti-Infectives**
J01	Antibacterials for Systemic Use
M	**Musculo-Skeletal System**
N	**Nervous System**
N06A	Antidepressants
R	**Respiratory System**
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 softwares and communication infrastructure.

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

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

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

☑ **Generic Drug:** The products, which contain the same active substance with the reference product with the same amount and in the same pharmaceutical form and the bio equivalency (BE) of which is accepted under different trade names, are called equivalent drugs.

☑ **Reference (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 reference/generic.



CHAPTER 10

Human Resources for Health

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

	2002	2018	2019	2020	2021	2022	2023
Specialist Physicians	45.457	82.894	85.199	88.127	93.517	95.600	101.233
General Practitioners	30.900	44.053	46.843	49.760	53.035	53.697	54.899
Medical Residents	15.592	26.181	28.768	33.372	37.017	45.391	48.091
Total Physicians	**91.949**	**153.128**	**160.810**	**171.259**	**183.569**	**194.688**	**204.223**
Total Dentists	16.371	30.615	32.925	34.830	39.851	42.359	45.718
Pharmacists	22.289	32.032	33.841	35.364	37.211	38.981	40.610
Nurses	72.393	190.499	198.103	227.292	232.442	243.565	248.287
Midwives	41.479	56.351	55.972	59.040	57.908	59.632	59.750
Other Health Personnel	50.106	177.409	182.456	206.103	219.630	232.661	266.217
Other Personnel and Procurement of Services	83.964	376.367	369.660	408.581	481.311	538.642	549.116
Total Personnel	378.551	1.016.401	1.033.767	1.142.469	1.251.922	1.350.528	1.413.921

Source: General Directorate of Health Services

Note: 2.933 physicians in the subspecialty program are included to the number of "Medical Resident" in 2023. 3.309 dental residents are included to the number of "Total Dentist". 4.016 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, 2023

	Ministry of Health	University	Private	Total
Specialist Physicians	57.286	12.574	31.373	101.233
General Practitioners	48.855	666	5.378	54.899
Medical Residents	24.232	20.926	-	45.158
Subspecialty Medical Residents	1.389	1.544	-	2.933
Total Physicians	**131.762**	**35.710**	**36.751**	**204.223**
Specialist Dentists	1.426	2.210	3.727	7.363
Dentists	11.439	438	23.169	35.046
Dental Residents	9	3.300	-	3.309
Total Dentists	**12.874**	**5.948**	**26.896**	**45.718**
Pharmacists	4.761	751	35.098	40.610
Nurses	177.767	36.875	33.645	248.287
Midwives	56.179	994	2.577	59.750
Other Health Personnel	188.375	24.104	53.738	266.217
Other Personnel and Procurement of Services	283.625	70.752	194.739	549.116
Total Personnel	855.343	175.134	383.444	1.413.921

Source: General Directorate of Health Services

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

	2002	2018	2019	2020	2021	2022	2023
Specialist Physicians	22.187	45.262	46.601	48.599	50.055	52.176	57.286
General Practitioners	29.030	39.445	42.303	45.293	47.376	47.899	48.855
Medical Residents	6.189	10.500	11.988	14.782	17.440	22.181	25.621
Total Physicians	**57.406**	**95.207**	**100.892**	**108.674**	**114.871**	**122.256**	**131.762**
Total Dentists	3.211	10.826	11.399	11.588	11.767	12.155	12.874
Pharmacists	1.596	3.067	3.406	3.699	4.034	4.425	4.761
Nurses	54.360	127.366	132.794	156.672	155.935	169.893	177.767
Midwives	39.473	52.511	52.092	55.521	54.191	55.955	56.179
Other Health Personnel	33.276	121.447	124.978	140.369	142.860	153.558	188.375
Other Personnel and Procurement of Services	67.496	236.370	229.700	250.843	252.813	260.702	283.625
Total Personnel	256.818	646.794	655.261	727.366	736.471	778.944	855.343

Source: General Directorate of Health Services

Table 10.4. Number of Health Care Professionals by Years, University

	2002	2018	2019	2020	2021	2022	2023
Specialist Physicians	10.518	12.523	12.919	13.029	11.845	12.908	12.574
General Practitioners	178	288	304	283	647	700	666
Medical Residents	9.403	15.681	16.780	18.590	19.577	23.210	22.470
Total Physicians	**20.099**	**28.492**	**30.003**	**31.902**	**32.069**	**36.818**	**35.710**
Total Dentists	681	4.212	4.413	4.764	4.906	5.442	5.948
Pharmacists	134	688	838	975	727	748	751
Nurses	8.736	28.788	30.863	34.547	36.674	36.613	36.875
Midwives	225	773	793	885	912	968	994
Other Health Personnel	2.788	16.252	16.830	18.844	21.469	23.164	24.104
Other Personnel and Procurement of Services	9.877	48.162	47.966	48.312	73.151	74.194	70.752
Total Personnel	42.540	127.367	131.706	140.229	169.908	177.947	175.134

Source: General Directorate of Health Services

Table 10.5. Number of Health Care Professionals by Years, Private

	2002	2018	2019	2020	2021	2022	2023
Specialist Physicians	12.752	25.109	25.679	26.499	31.617	30.516	31.373
General Practitioners	1.692	4.320	4.236	4.184	5.012	5.098	5.378
Medical Residents	-	-	-	-	-	-	-
Total Physicians	**14.444**	**29.429**	**29.915**	**30.683**	**36.629**	**35.614**	**36.751**
Total Dentists	12.479	15.577	17.113	18.478	23.178	24.762	26.896
Pharmacists	20.559	28.277	29.597	30.690	32.450	33.808	35.098
Nurses	9.297	34.345	34.446	36.073	39.833	37.059	33.645
Midwives	1.781	3.067	3.087	2.634	2.805	2.709	2.577
Other Health Personnel	14.042	39.710	40.648	46.890	55.301	55.939	53.738
Other Personnel and Procurement of Services	6.591	91.835	91.994	109.426	155.347	203.746	194.739
Total Personnel	79.193	242.240	246.800	274.874	345.543	393.637	383.444

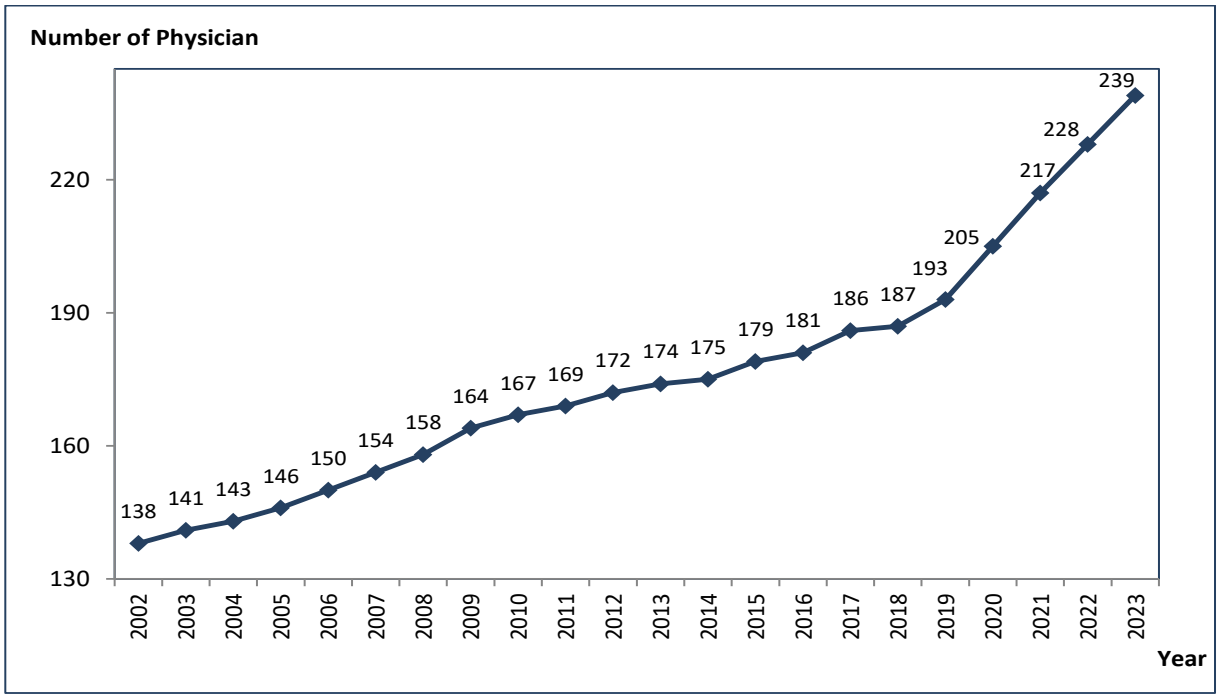
Source: General Directorate of Health Services

Table 10.6. Distribution of Health Care Professionals Working in Central Organization by Titles, Ministry of Health, 2023

	Central Organization
Specialist Physicians	178
General Practitioners	267
Medical Residents	-
Total Physicians	**445**
Specialist Dentists	6
Dentists	37
Dental Residents	-
Total Dentists	**43**
Pharmacists	391
Nurses	445
Midwives	144
Other Health Personnel	946
Other Personnel and Procurement of Services	4.485
Total Personnel	6.899

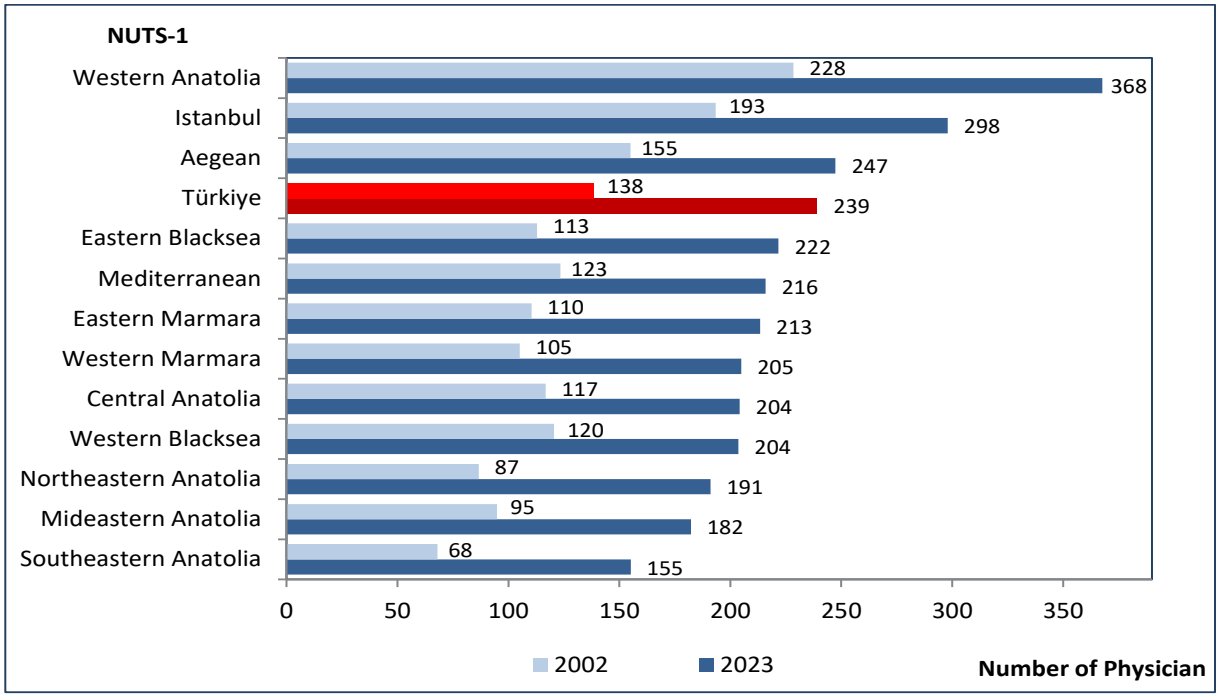
Source: General Directorate of Health Services

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, 2023

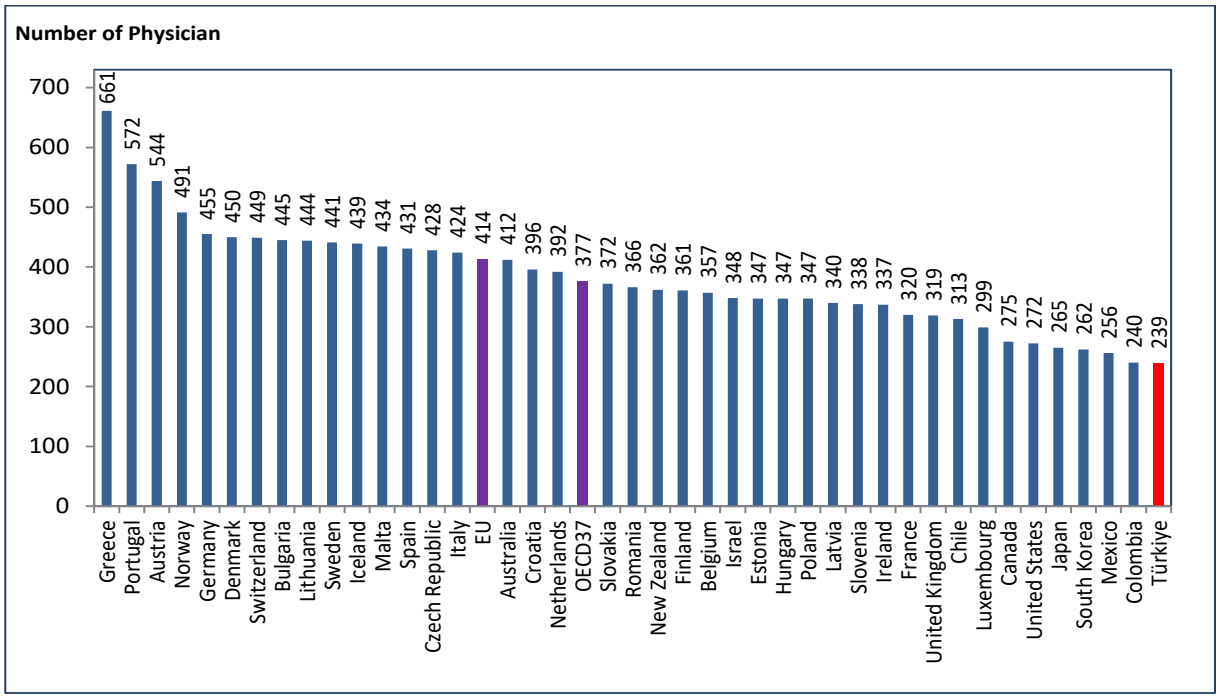


Source: General Directorate of Health Services

Map 10.1. Number of Total Physicians per 100.000 Population by Provinces, All Sectors, 2023

Source: General Directorate of Health Services

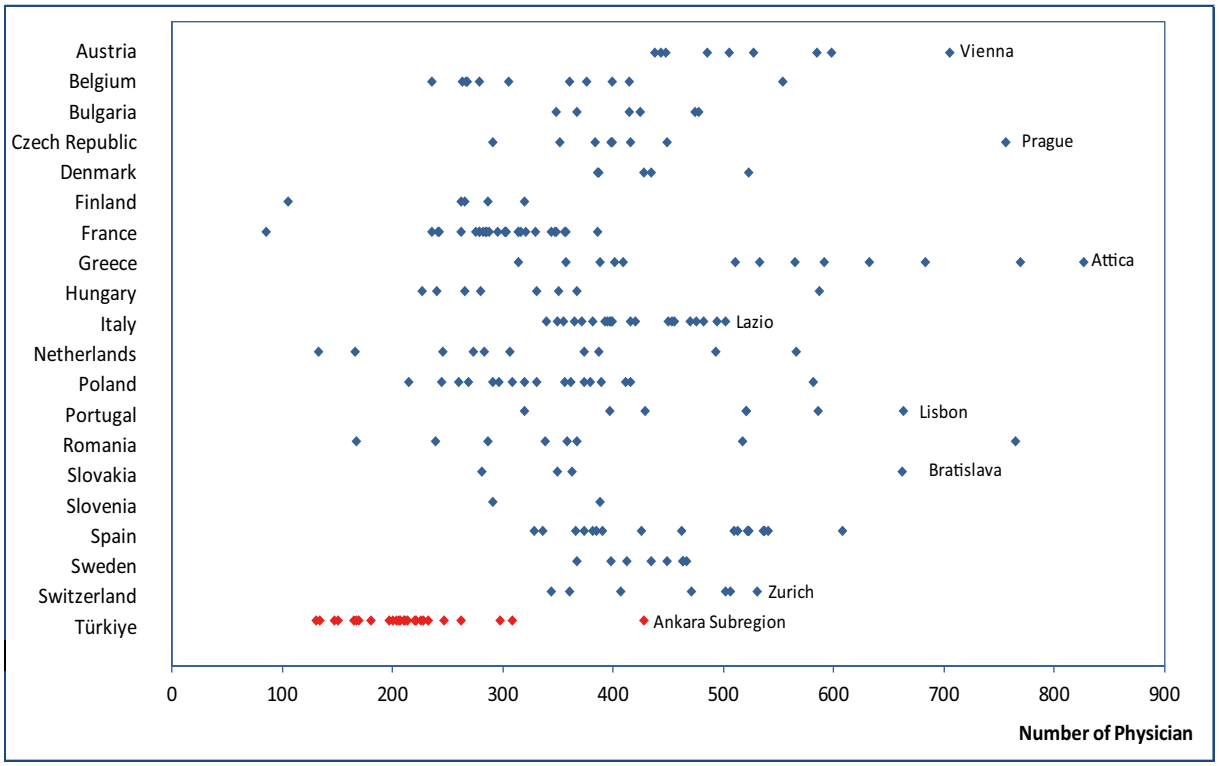
Figure 10.3. International Comparison of Number of Total Physicians per 100.000 Population, 2022



Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database

Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year of 2022 or nearest.

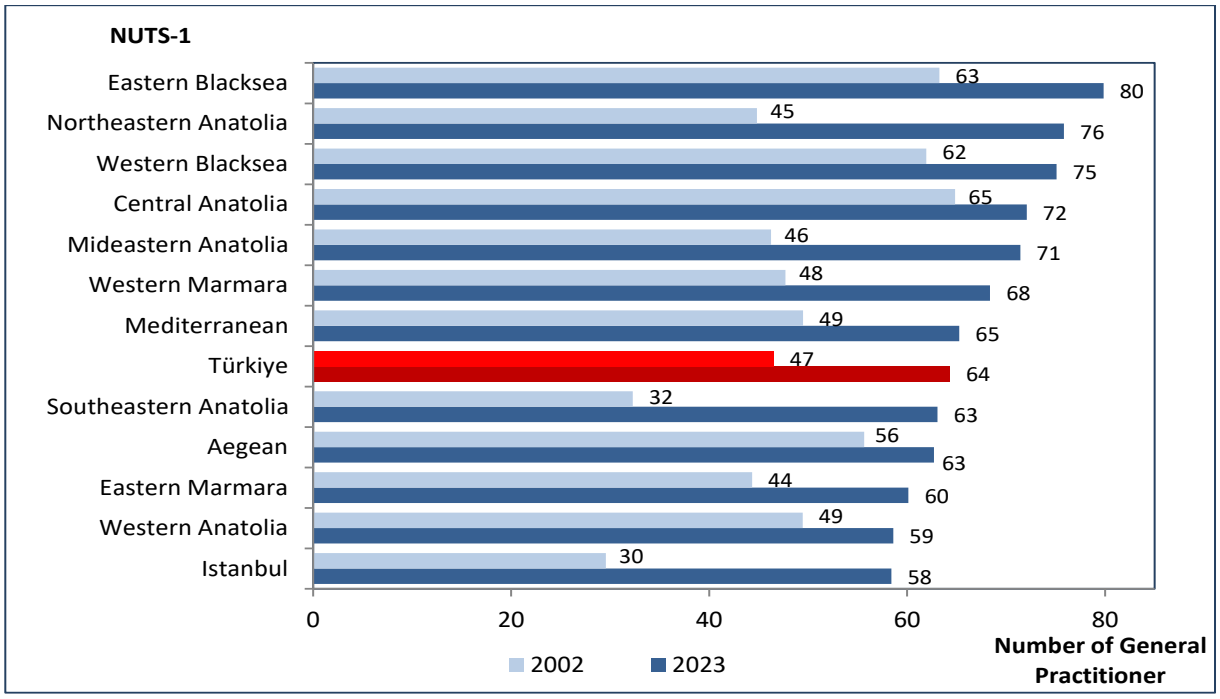
Figure 10.4. International Comparison of Number of Total Physicians per 100.000 Population by NUTS-2, 2022



Source: General Directorate of Health Services, EUROSTAT Database

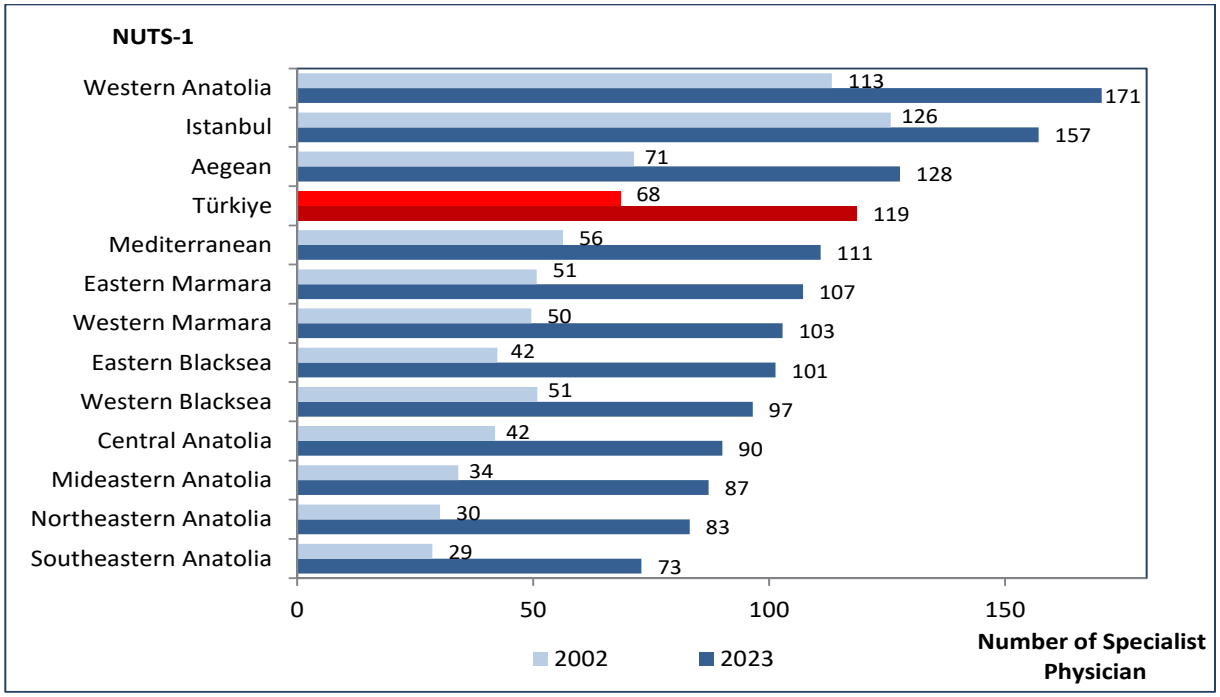
Note: Türkiye's data belong to the year 2023. Countries' data belong to the year of 2022 or nearest.

Figure 10.5. Number of General Practitioners per 100.000 Population by NUTS-1, All Sectors, 2002, 2023



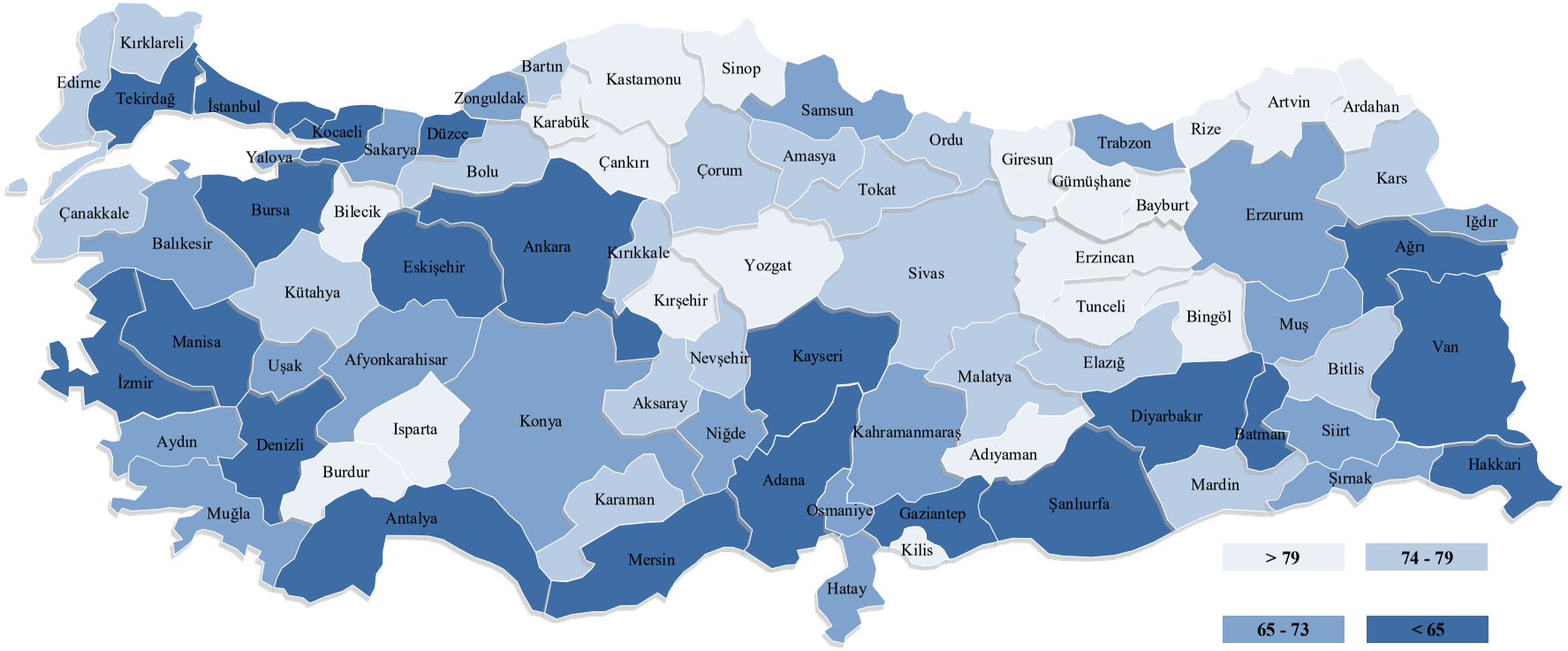
Source: General Directorate of Health Services

Figure 10.6. Number of Specialist Physicians per 100.000 Population by NUTS-1, All Sectors, 2002, 2023



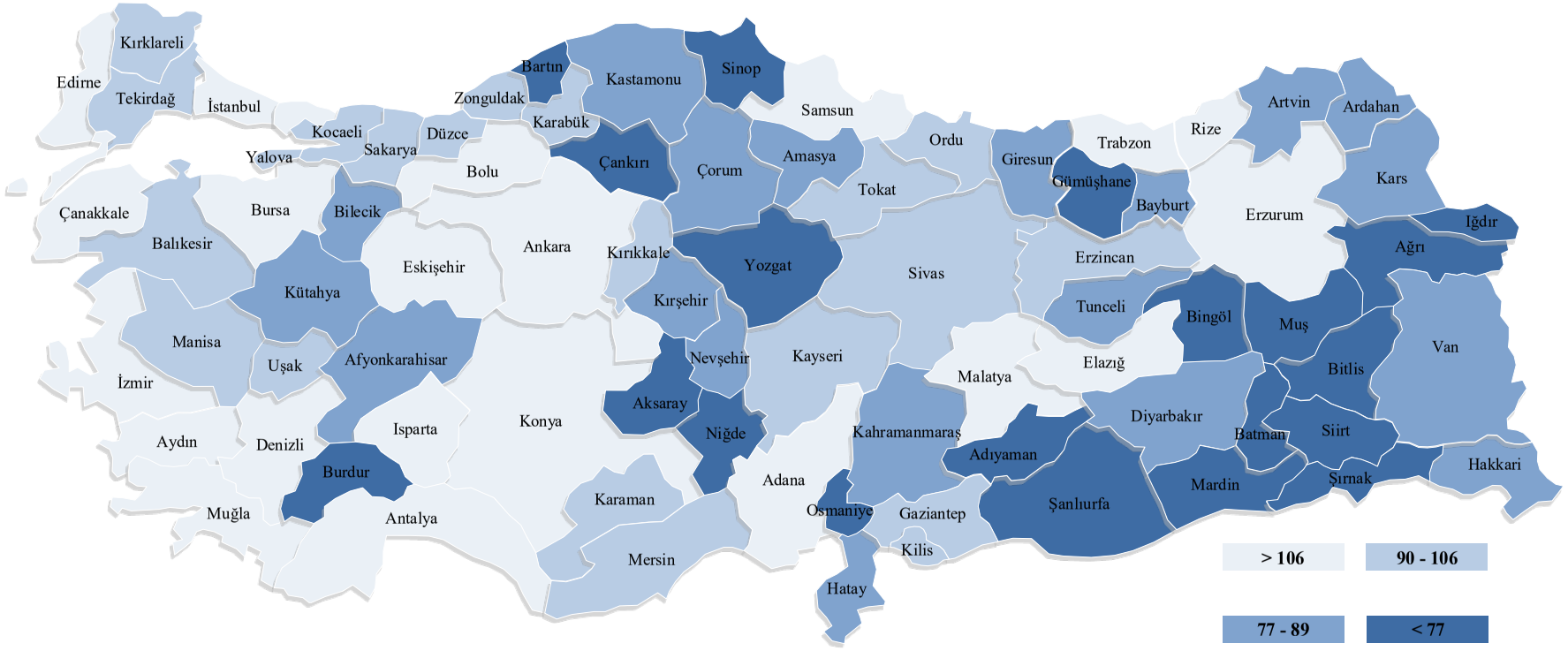
Source: General Directorate of Health Services

Map 10.2. Number of General Practitioners per 100.000 Population by Provinces, All Sectors, 2023



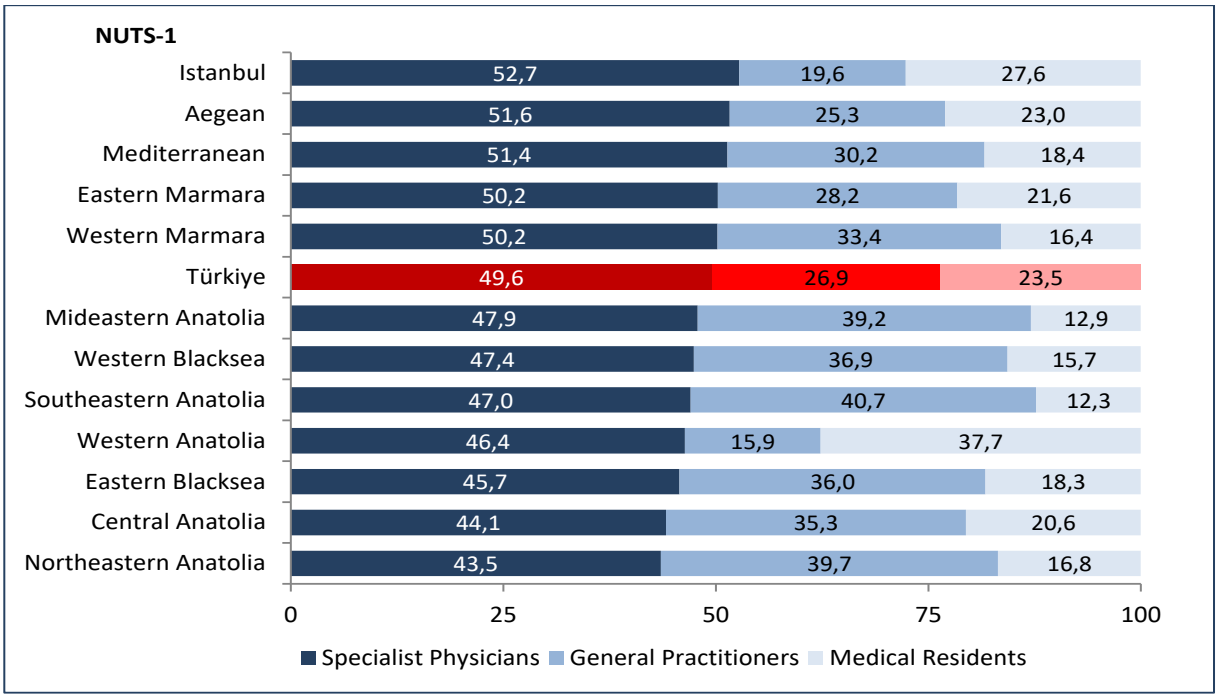
Source: General Directorate of Health Services

Map 10.3. Number of Specialist Physicians per 100.000 Population by Provinces, All Sectors, 2023



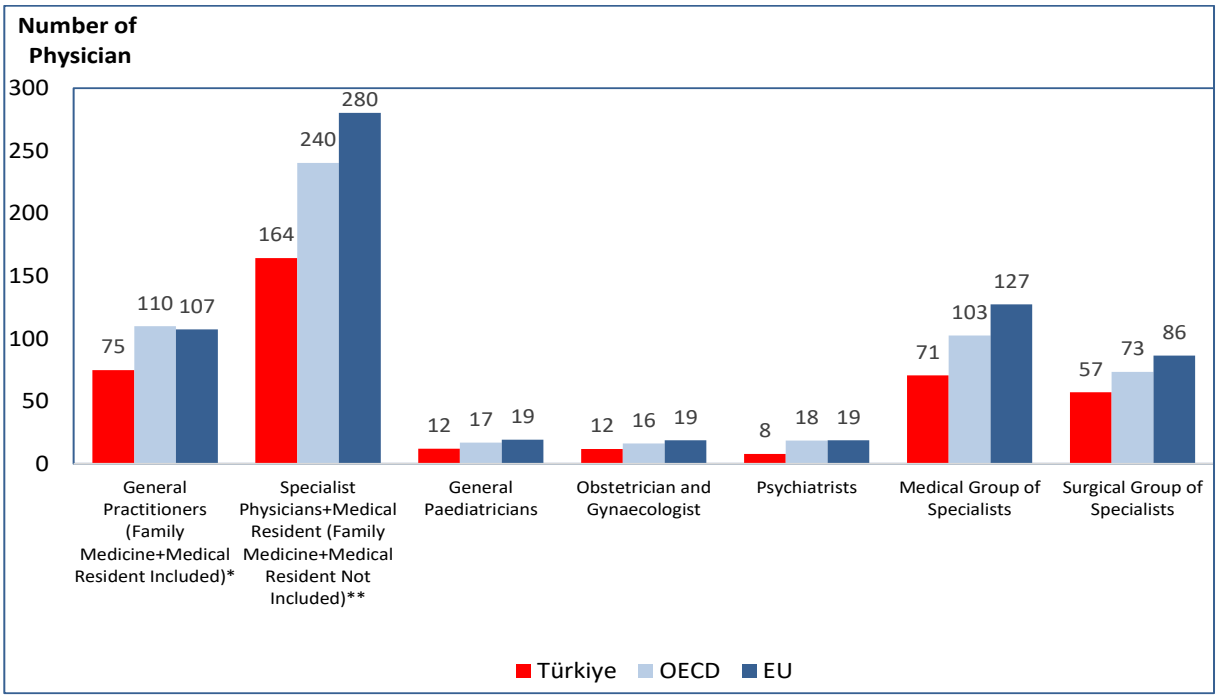
Source: General Directorate of Health Services

Figure 10.7. Distribution of Specialist Physicians, General Practitioners and Medical Residents by NUTS-1, All Sectors, (%), 2023



Source: General Directorate of Health Services

Figure 10.8. International Comparison of the Number of Physicians per 100.000 Population by Medical Speciality, 2022



Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database

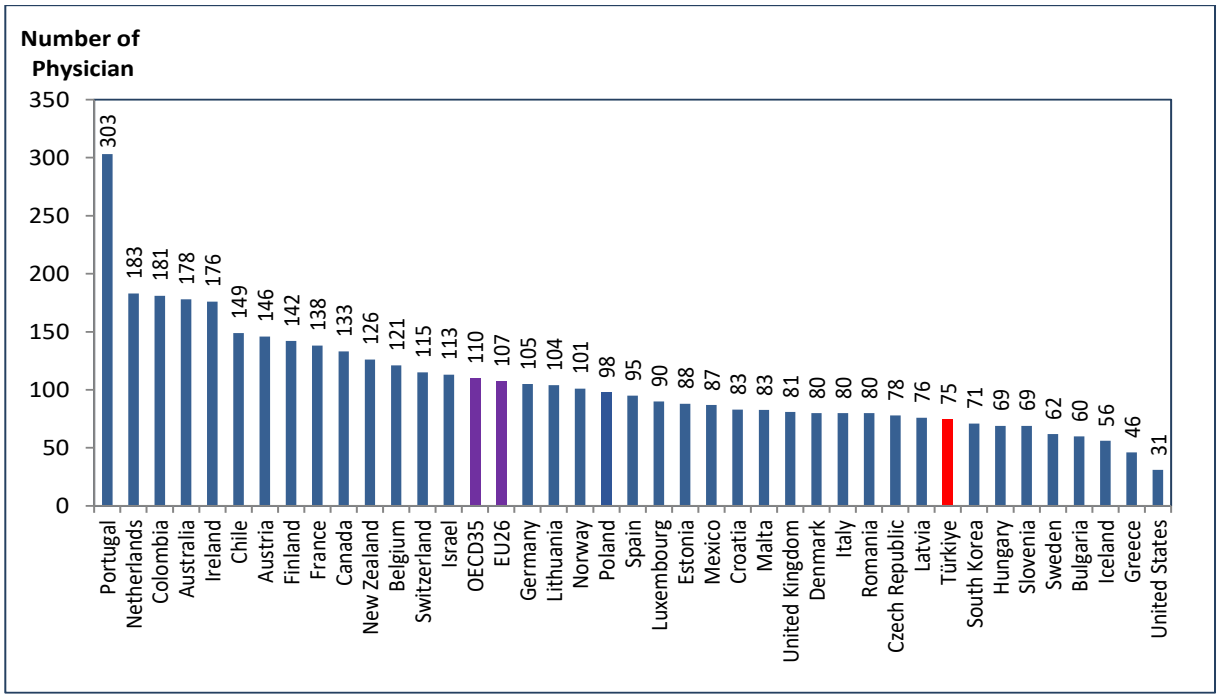
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year of 2022 or nearest.

***General Practitioners (Family Medicine+Medical Resident Included)**: 9.001 Family Medicine and Medical Resident are included in the number of General Practitioners.*

****Specialist Physicians+Medical Resident (Family Medicine+Medical Resident Not Included):** The number of Specialist Physicians and Medical Resident does not include 9.001 Family Medicine and Medical Resident.*

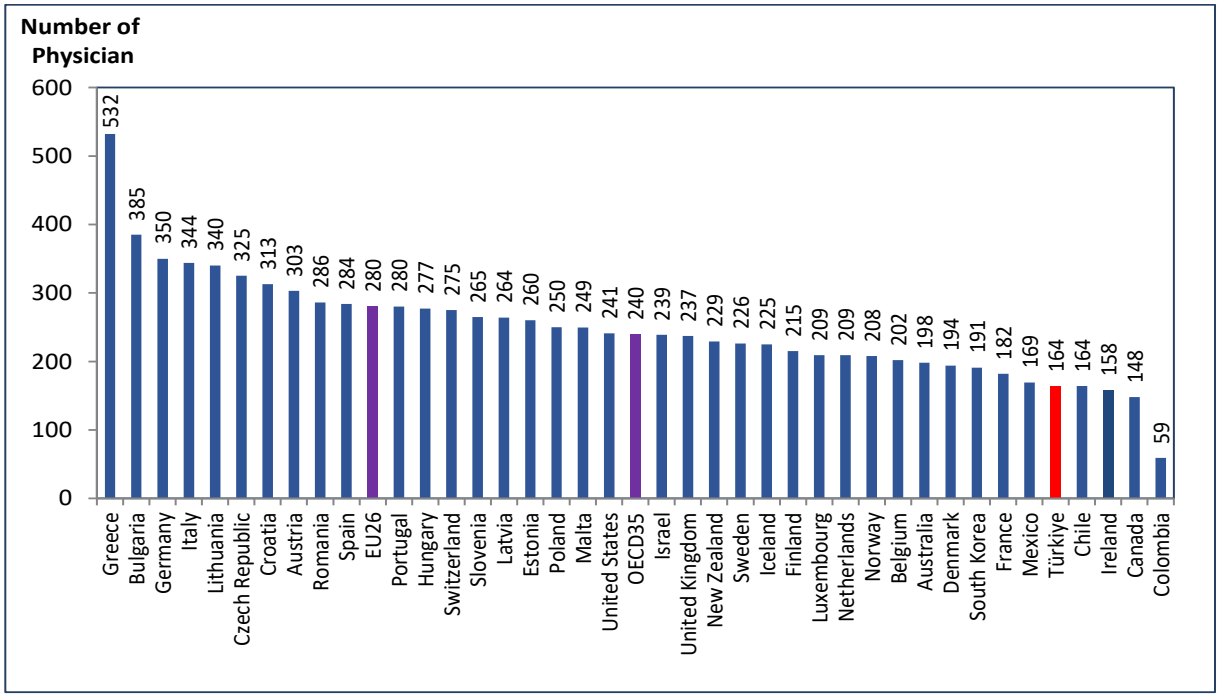
Note: Detailed information about the classification of areas of specialization is included in the link and the explanations.

Figure 10.9. International Comparison of Number of General Practitioners (Family Medicine and Medical Resident Included) per 100.000 Population, 2022



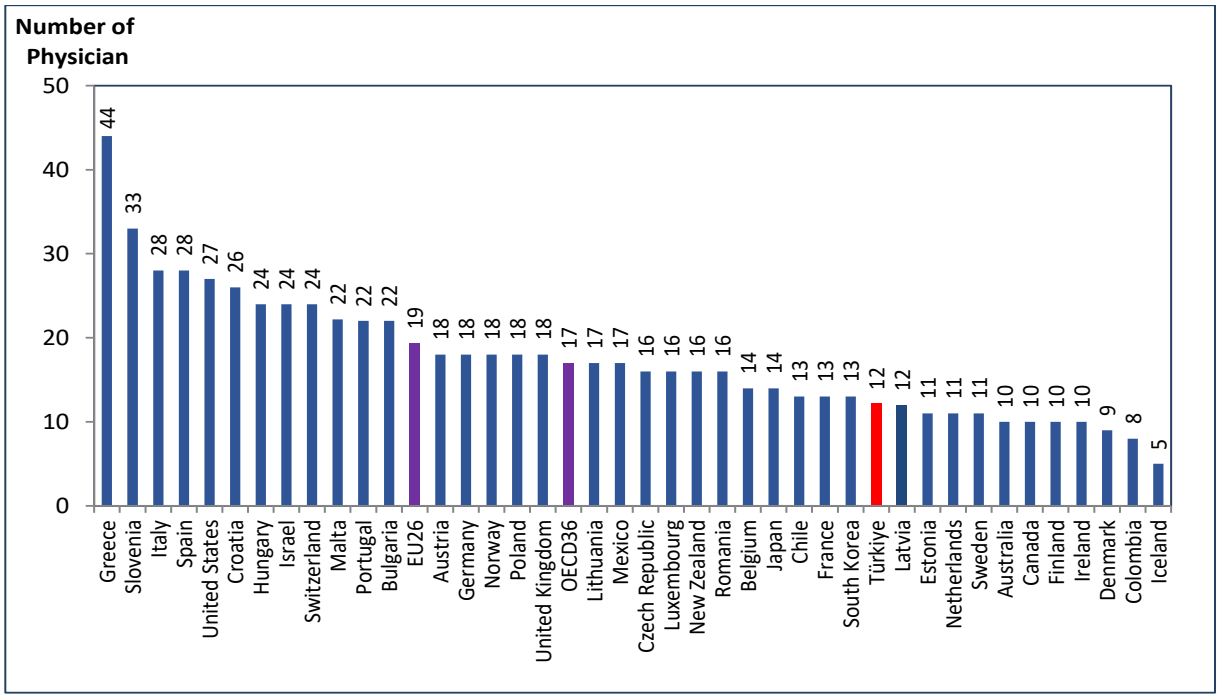
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year of 2022 or nearest.

Figure 10.10. International Comparison of Number of Specialist Physicians and Medical Resident (Family Medicine and Medical Resident Not Included) per 100.000 Population, 2022



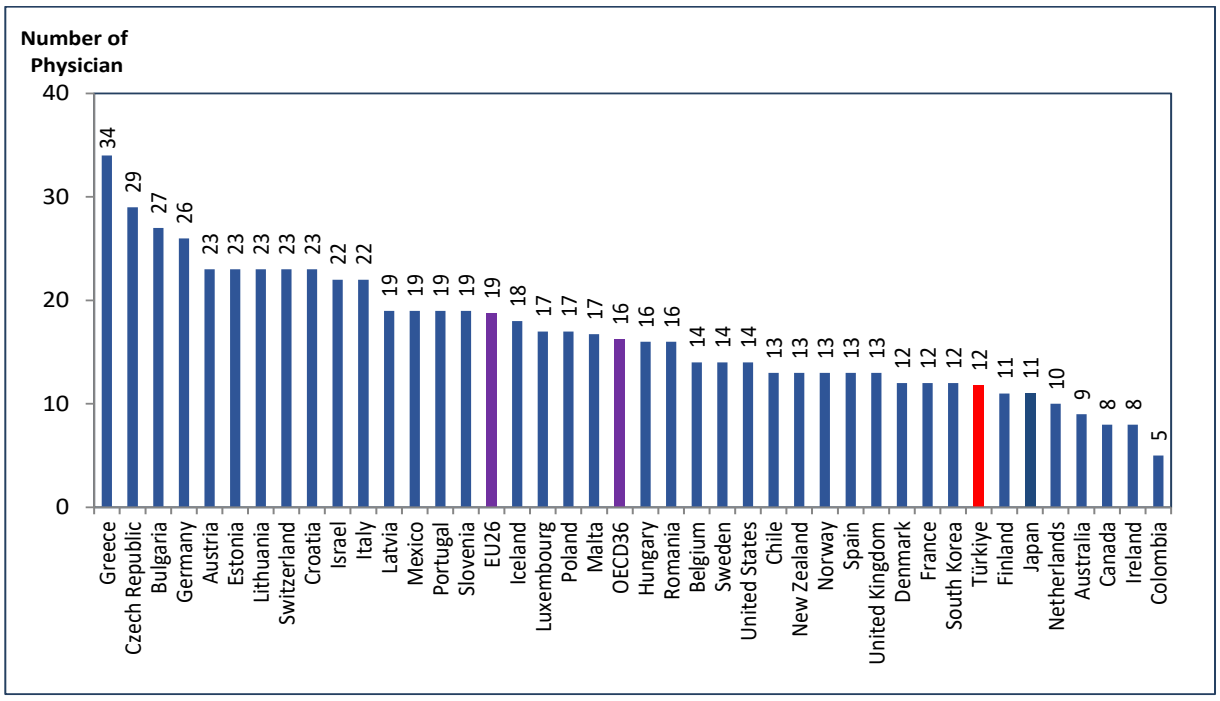
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year of 2022 or nearest.

Figure 10.11. International Comparison of Number of General Paediatrician Specialists per 100.000 Population, 2022



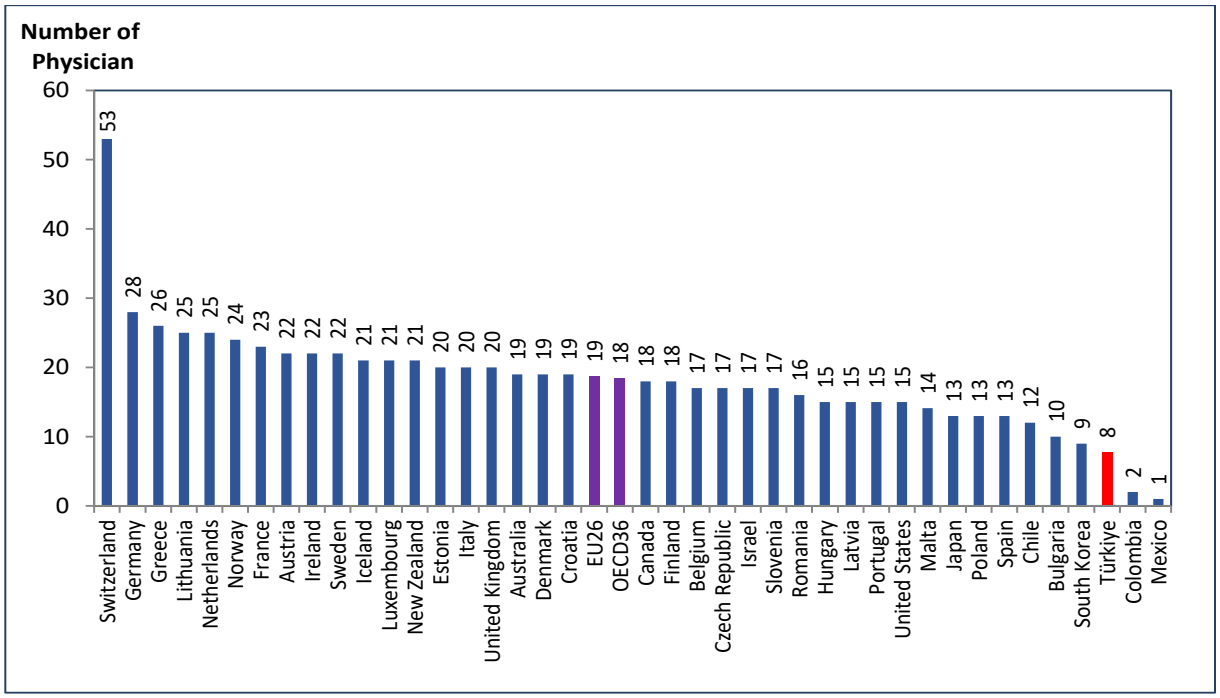
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year of 2022 or nearest.

Figure 10.12. International Comparison of Number of Obstetrician and Gynecologist Specialists per 100.000 Population, 2022



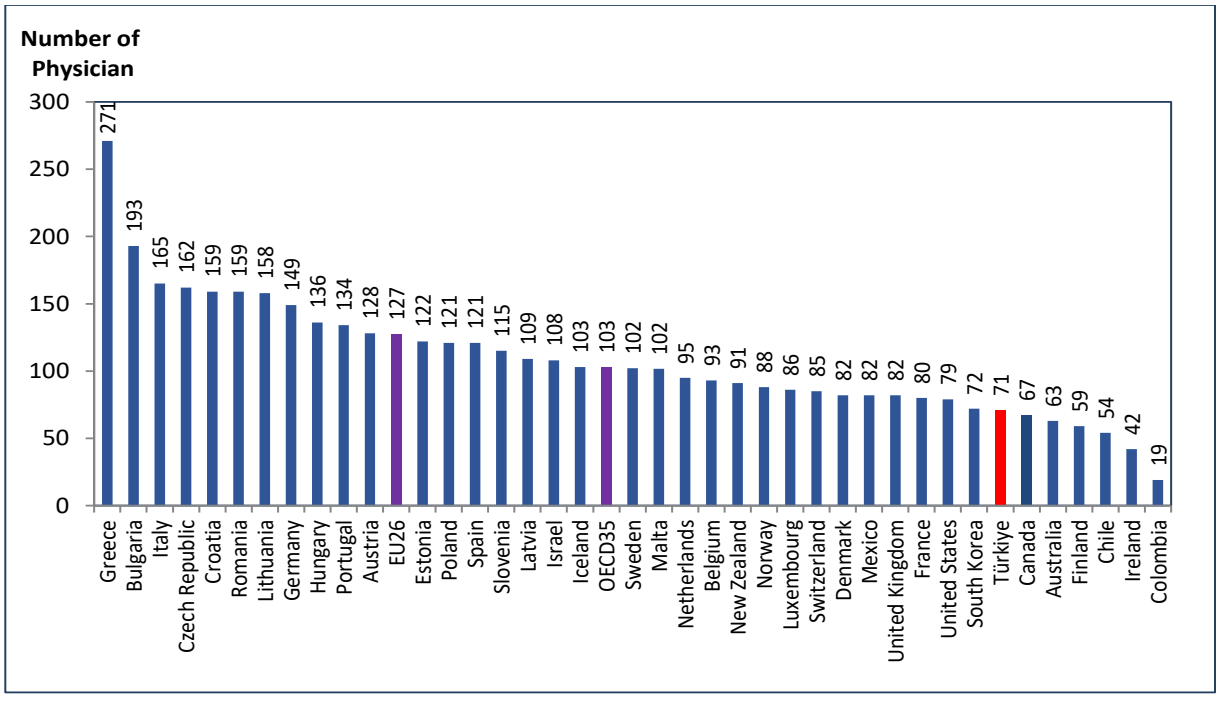
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year of 2022 or nearest.

Figure 10.13. International Comparison of Number of Psychiatrist Specialists per 100.000 Population, 2022



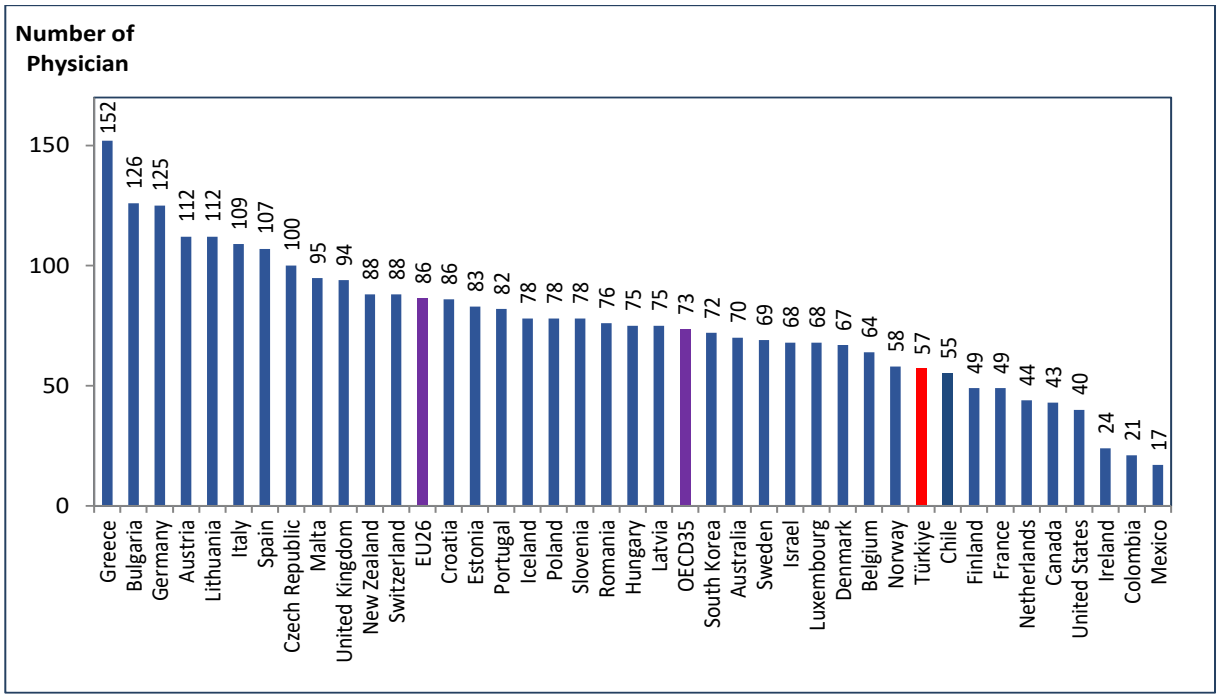
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year of 2022 or nearest.

Figure 10.14. International Comparison of Number of Medical Group of Specialists per 100.000 Population, 2022



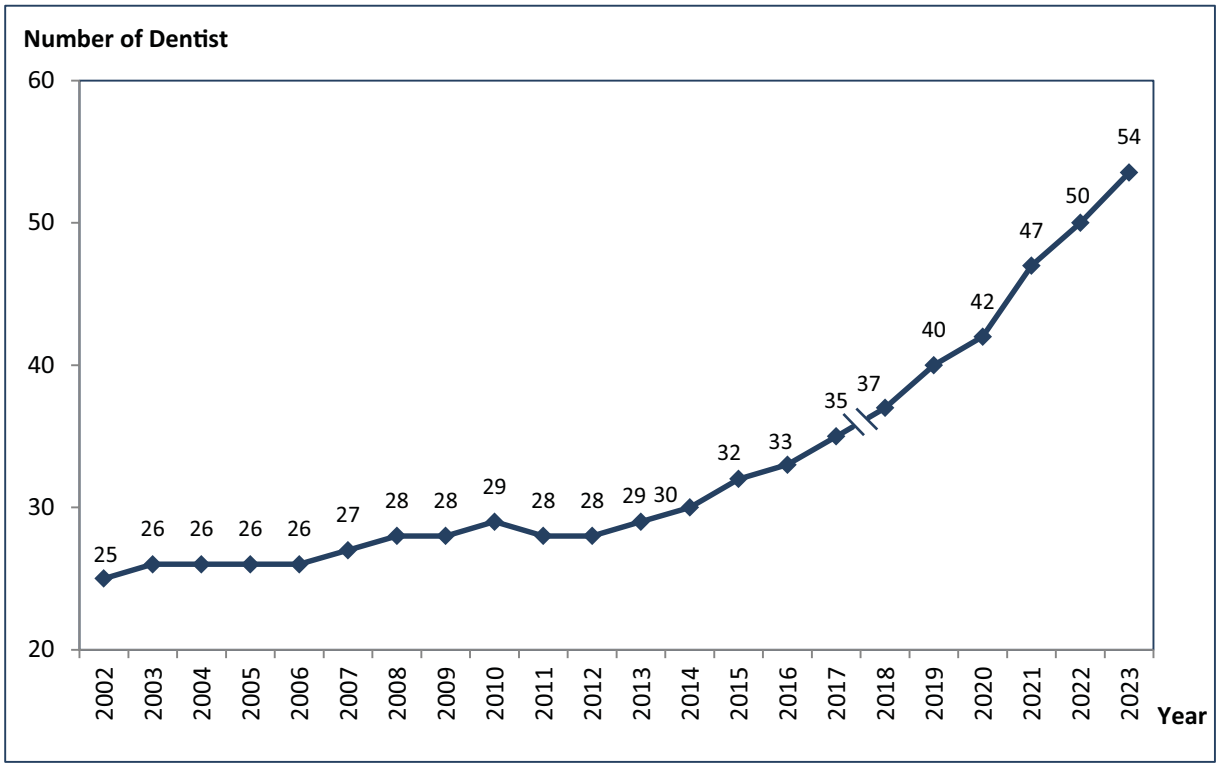
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year of 2022 or nearest.

Figure 10.15. International Comparison of Number of Surgical Group of Specialists per 100.000 Population, 2022



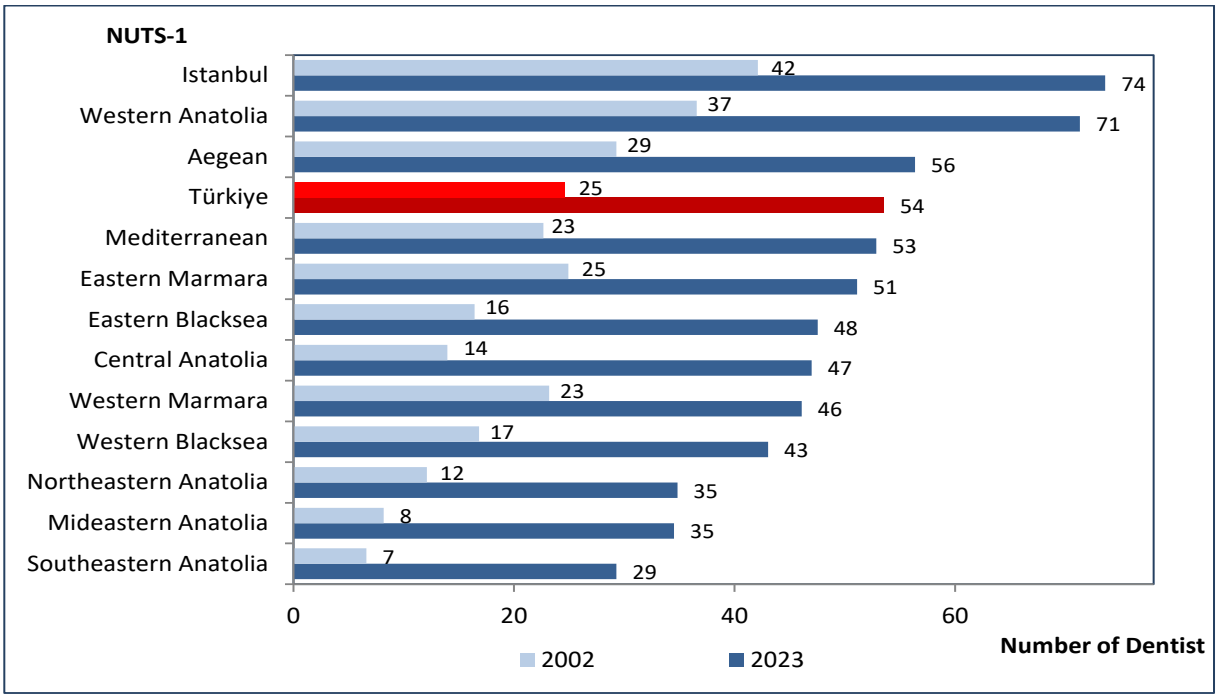
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year of 2022 or nearest.

Figure 10.16. Number of Total Dentists per 100.000 Population by Years, All Sectors



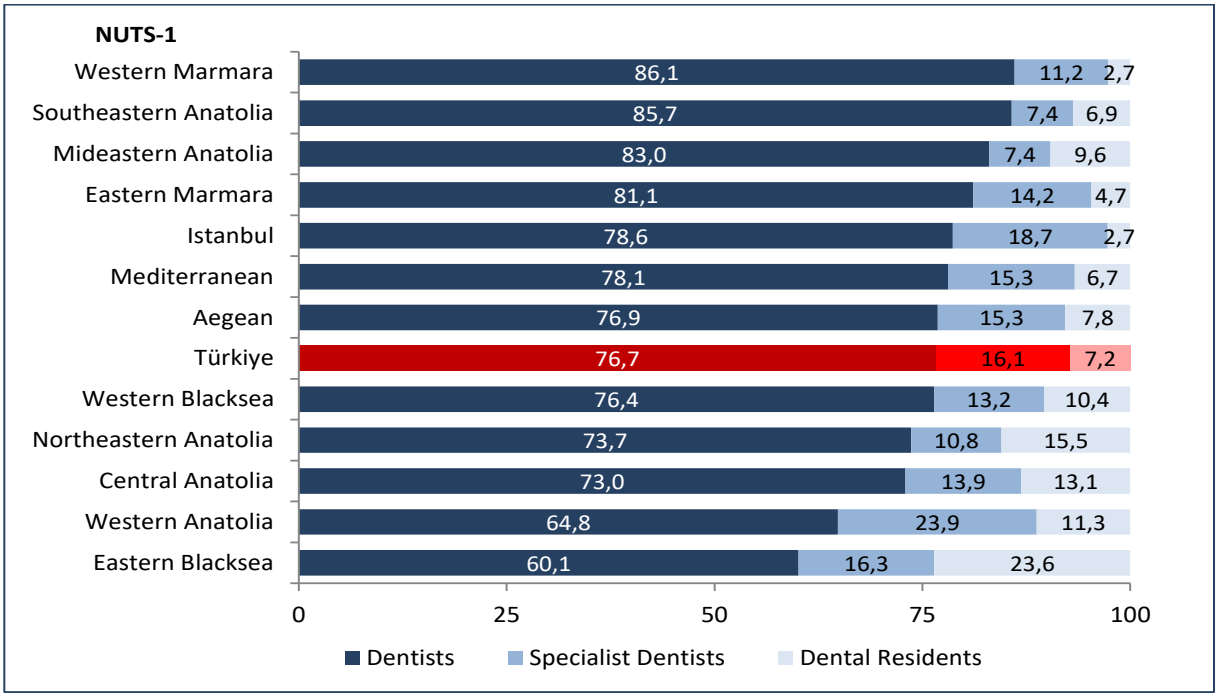
Source: General Directorate of Health Services
Note:Unlike the previous years, the number of dentists includes dental residents as of 2018. Number of dentists per 100.000 population not including dental residents is 50 for the year 2023.

Figure 10.17. Number of Total Dentists per 100.000 Population by NUTS-1, All Sectors, 2002, 2023



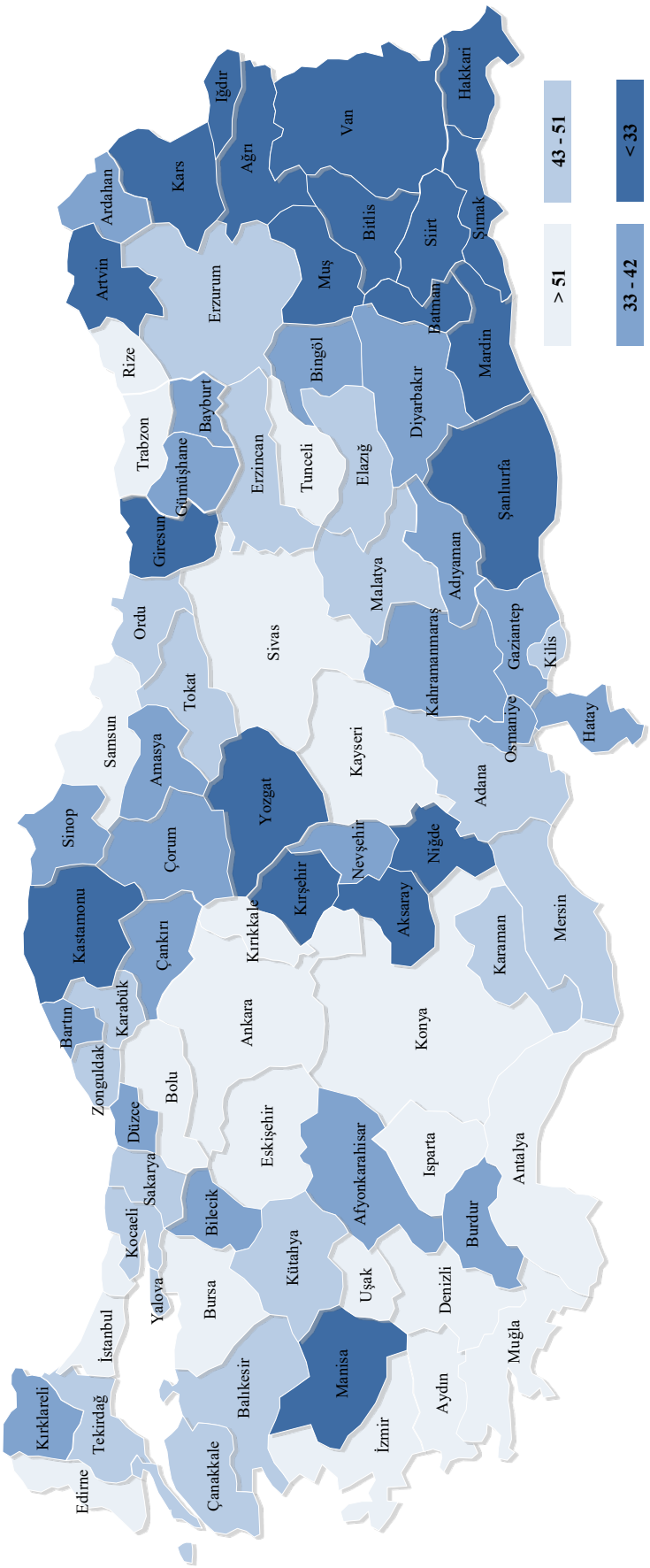
Source: General Directorate of Health Services
Note: Data for 2002 does not include dental residents.

Figure 10.18. Distribution of Dentists, Specialist Dentists and Dental Residents by NUTS-1, All Sectors, (%), 2023



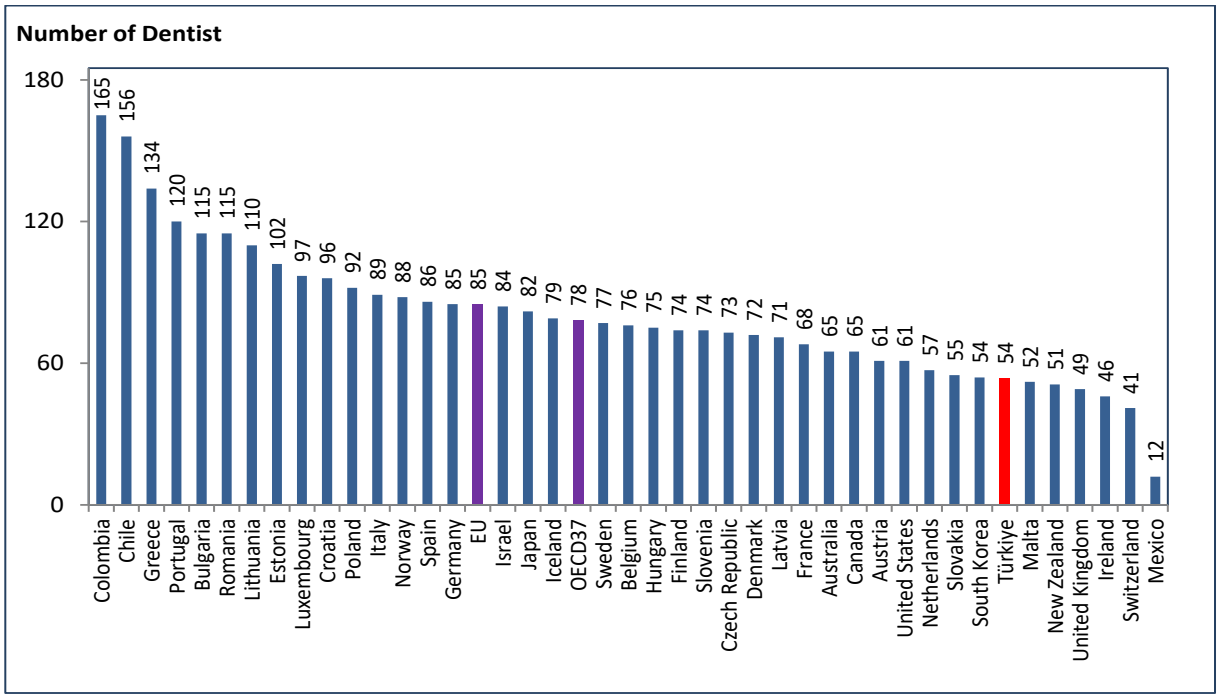
Source: General Directorate of Health Services

Map 10.4. Number of Total Dentists per 100.000 Population by Provinces, All Sectors, 2023



Source: General Directorate of Health Services

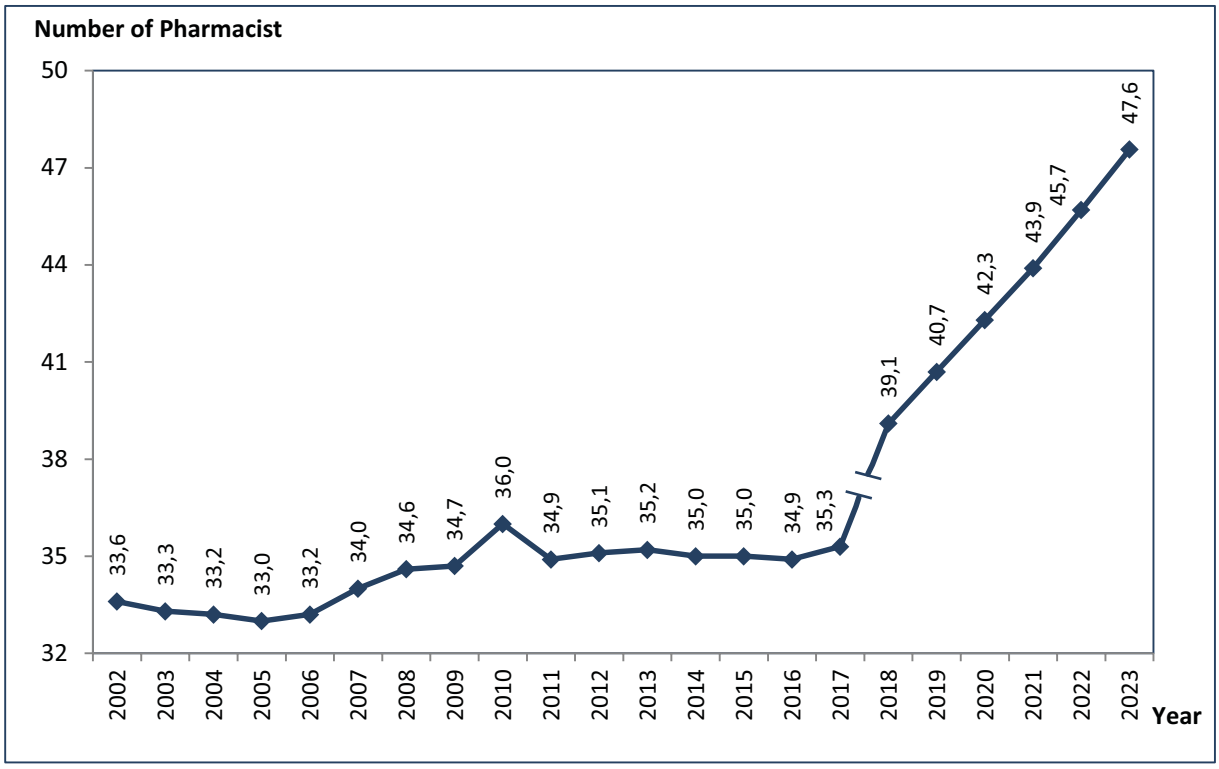
Figure 10.19. International Comparison of Number of Total Dentists per 100.000 Population, 2022



Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database

Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year of 2022 or nearest.

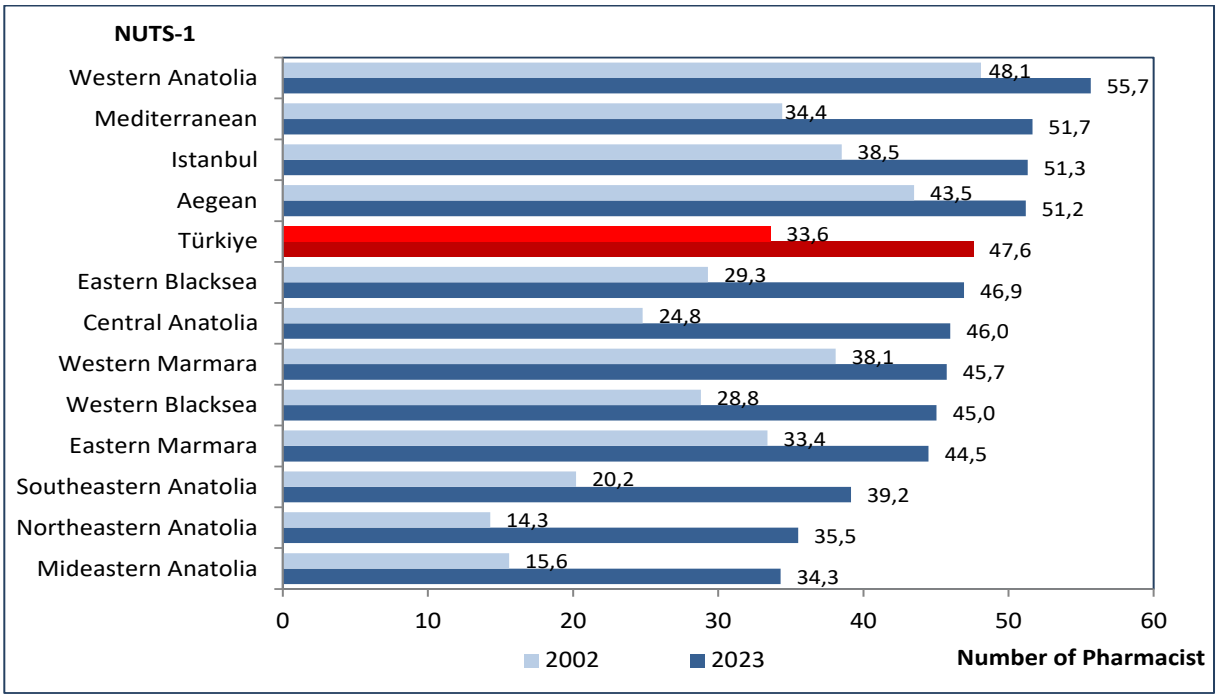
Figure 10.20. Number of Pharmacists per 100.000 Population by Years, All Sectors



Source: General Directorate of Health Services

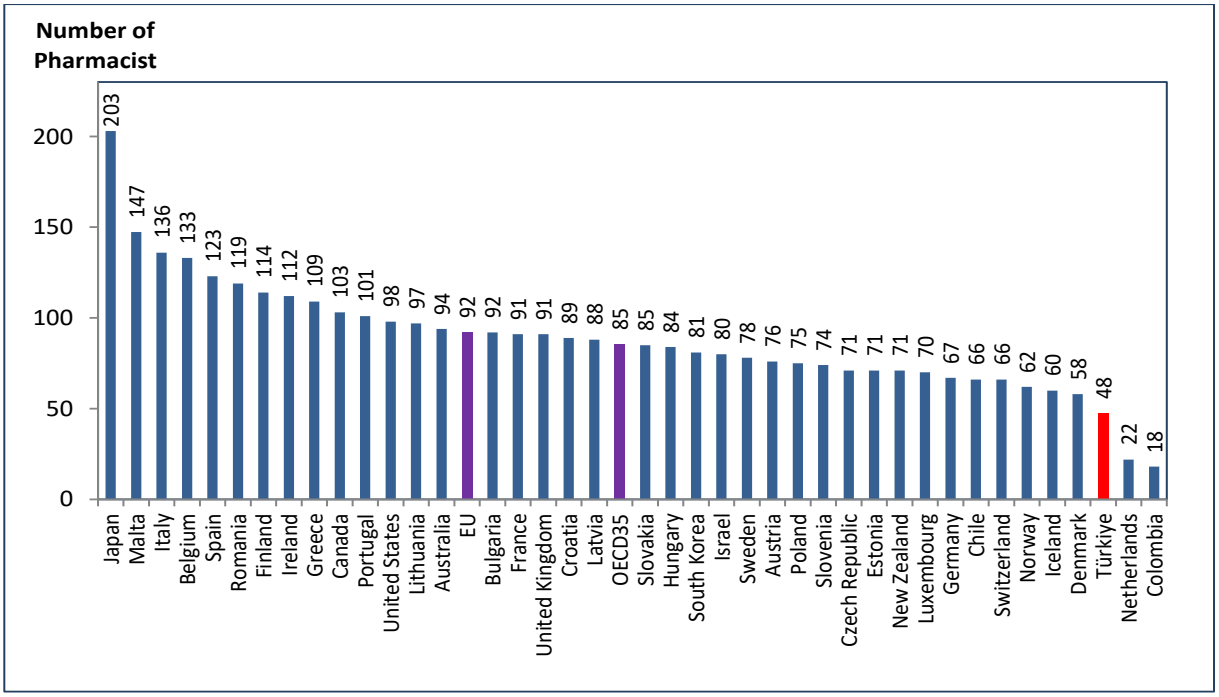
Note: Unlike the previous years, the number of pharmacists include second pharmacists and graduated intern pharmacists as of 2018. Number of pharmacists per 100.000 population not including second pharmacists and graduated intern pharmacists is 42,9 for the year 2023.

Figure 10.21. Number of Pharmacists per 100.000 Population by NUTS-1, All Sectors, 2002, 2023



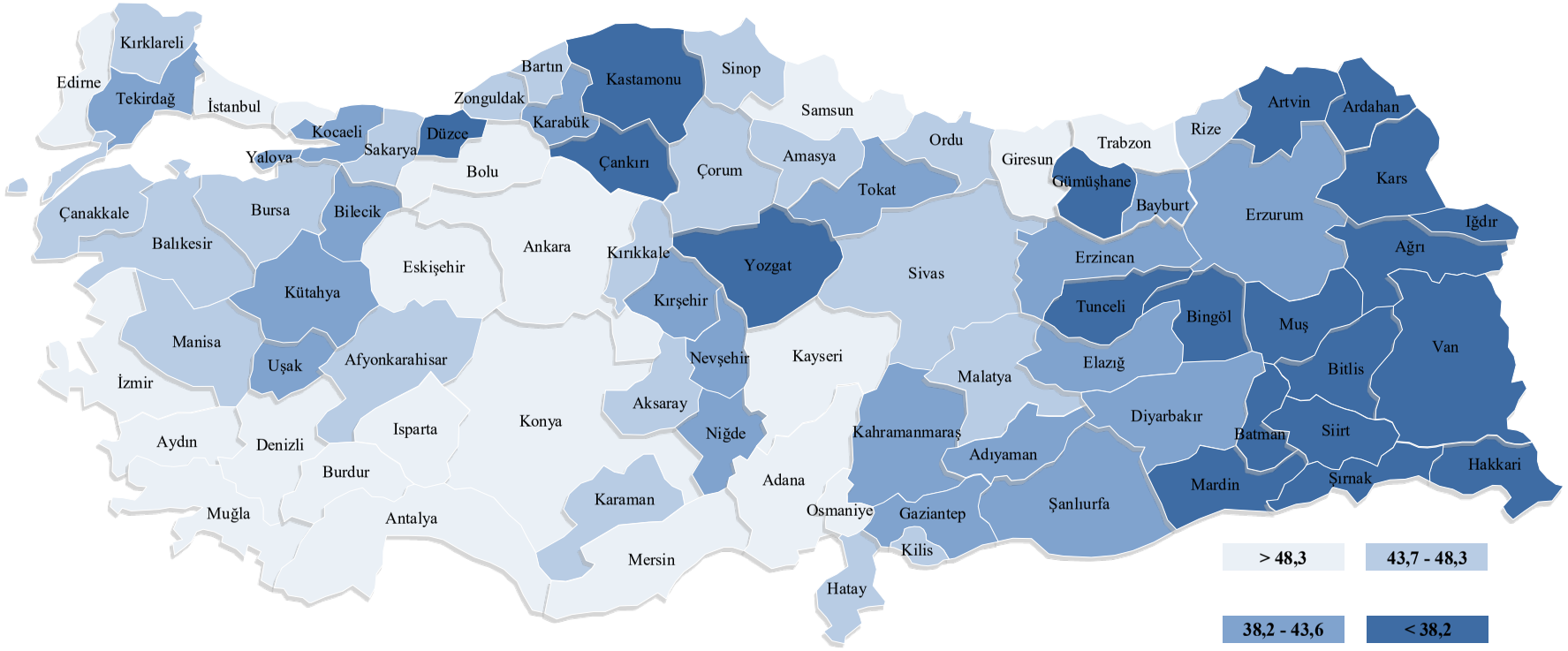
Source: General Directorate of Health Services
Note: Data for 2002 does not include second pharmacist and graduated intern pharmacist.

Figure 10.22. International Comparison of Number of Pharmacists per 100.000 Population, 2022



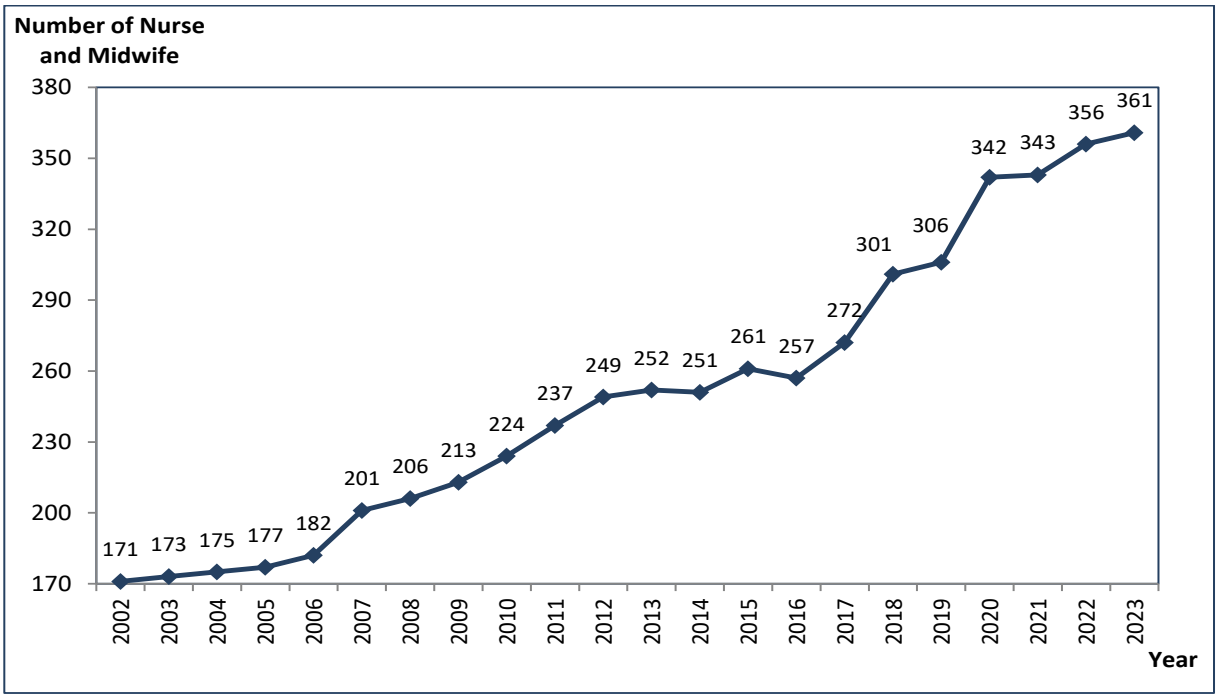
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year of 2022 or nearest.

Map 10.5. Number of Pharmacists per 100.000 Population by Provinces, All Sectors, 2023



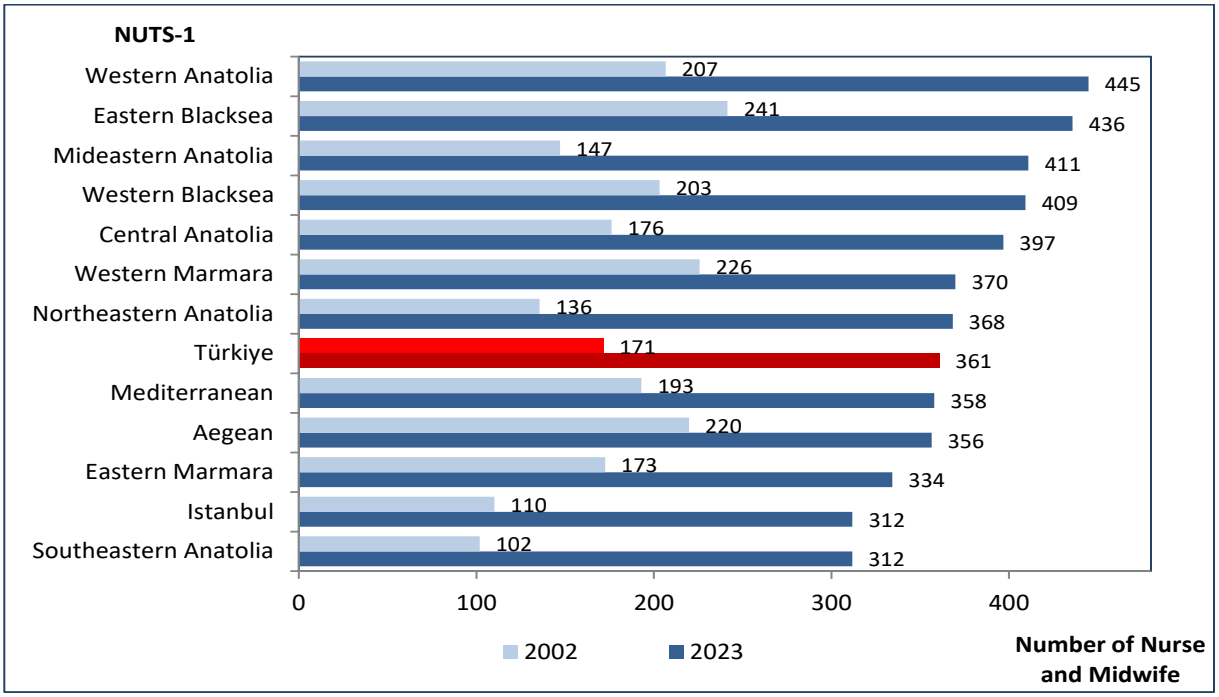
Source: General Directorate of Health Services

Figure 10.23. Number of Nurses and Midwives per 100.000 Population by Years, All Sectors



Source: General Directorate of Health Services

Figure 10.24. Number of Nurses and Midwives per 100.000 Population by NUTS-1, All Sectors, 2002, 2023

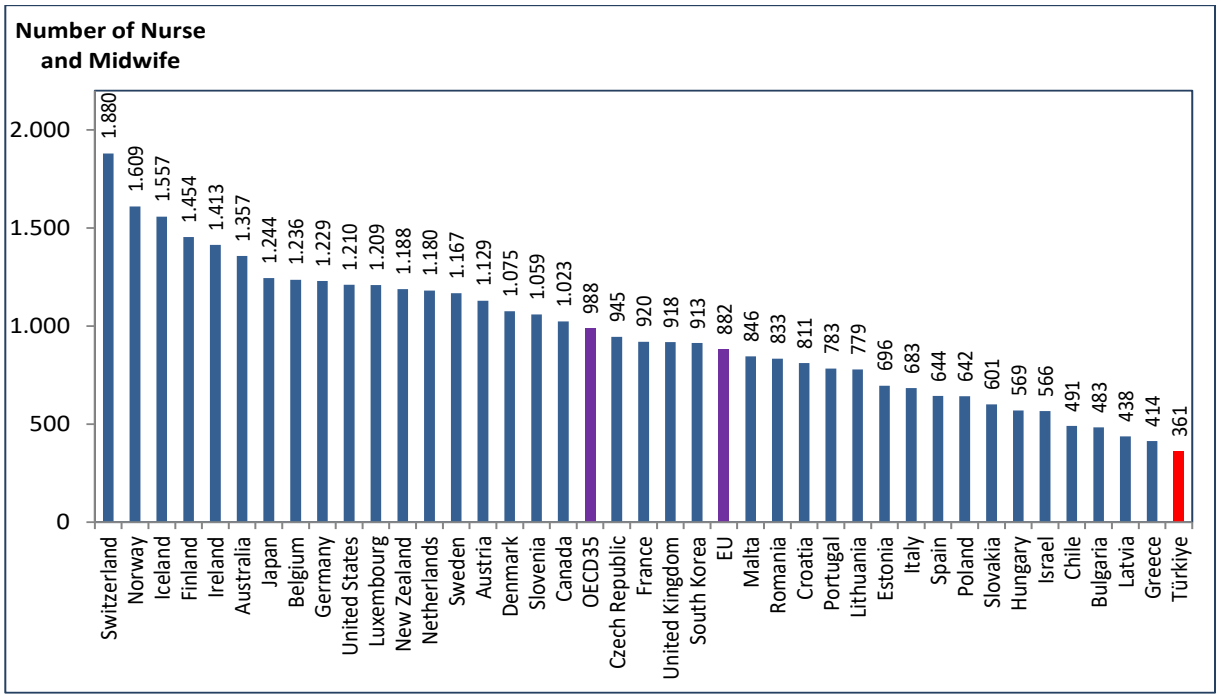


Source: General Directorate of Health Services

Map 10.6. Number of Nurses and Midwives per 100.000 Population by Provinces, All Sectors, 2023

Source: General Directorate of Health Services

Figure 10.25. International Comparison of Number of Nurses and Midwives per 100.000 Population, 2022



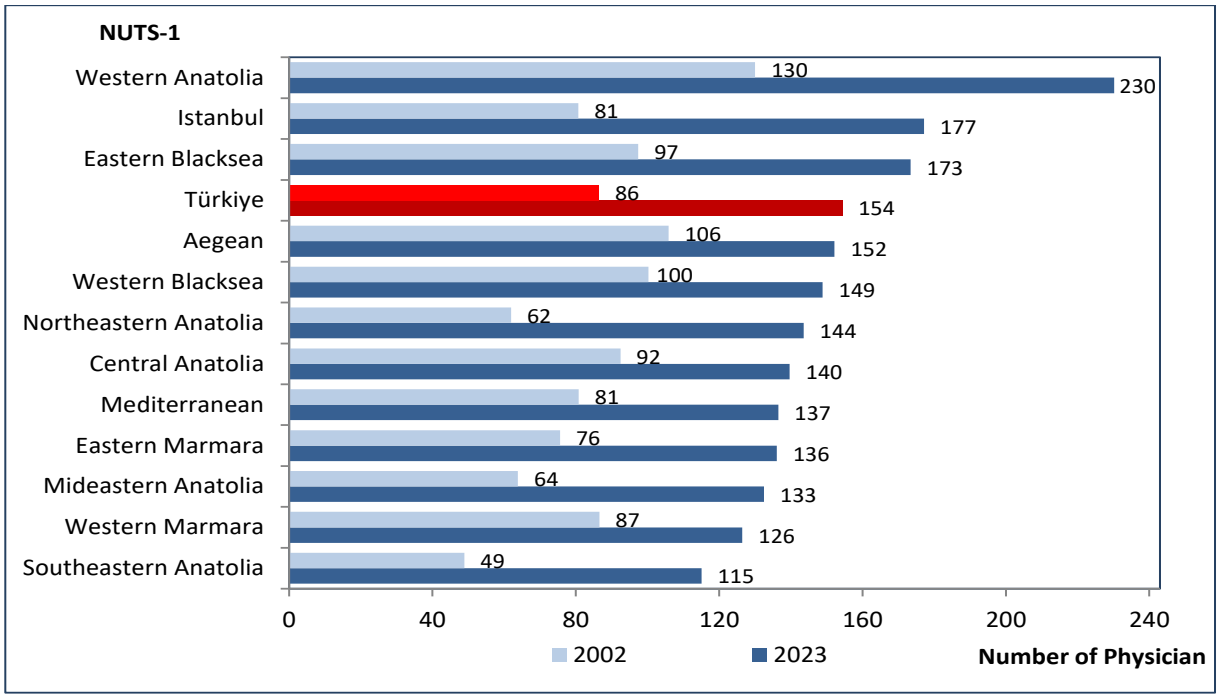
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year of 2022 or nearest.

Table 10.7. International Comparison of Number of Health Care Professionals per 100.000 Population by Years

	2002			2010			2015			2022		
	Türkiye	OECD	EU	Türkiye	OECD	EU	Türkiye	OECD	EU	Türkiye*	OECD	EU
Total Physicians	138	276	304	167	310	339	179	334	364	239	377	414
Total Dentists	25	62	65	29	67	71	32	72	76	54	78	85
Pharmacists	34	59	53	36	68	68	35	76	82	48	85	92
Nurses and Midwives	171	804	672	224	843	765	261	898	794	361	988	882

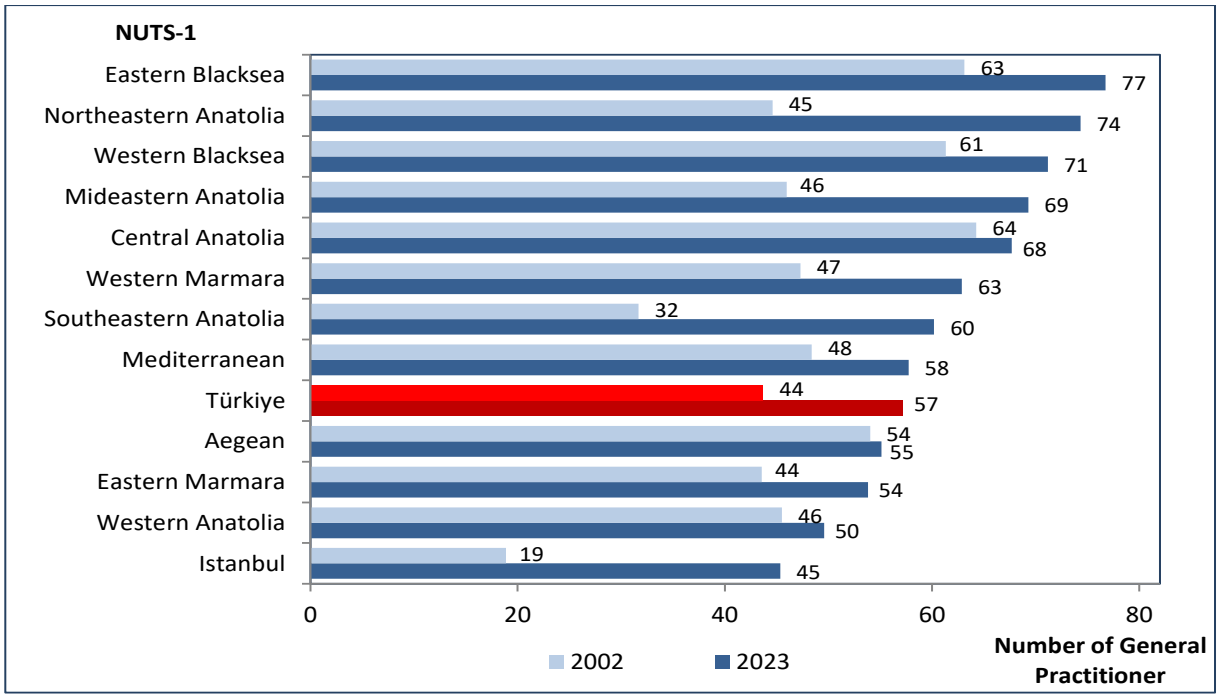
Source: General Directorate of Health Services, OECD Health Data 2024, EUROSTAT Database
** Türkiye's data belongs to the year 2023.*

Figure 10.26. Number of Total Physicians per 100.000 Population by NUTS-1, Ministry of Health, 2002, 2023



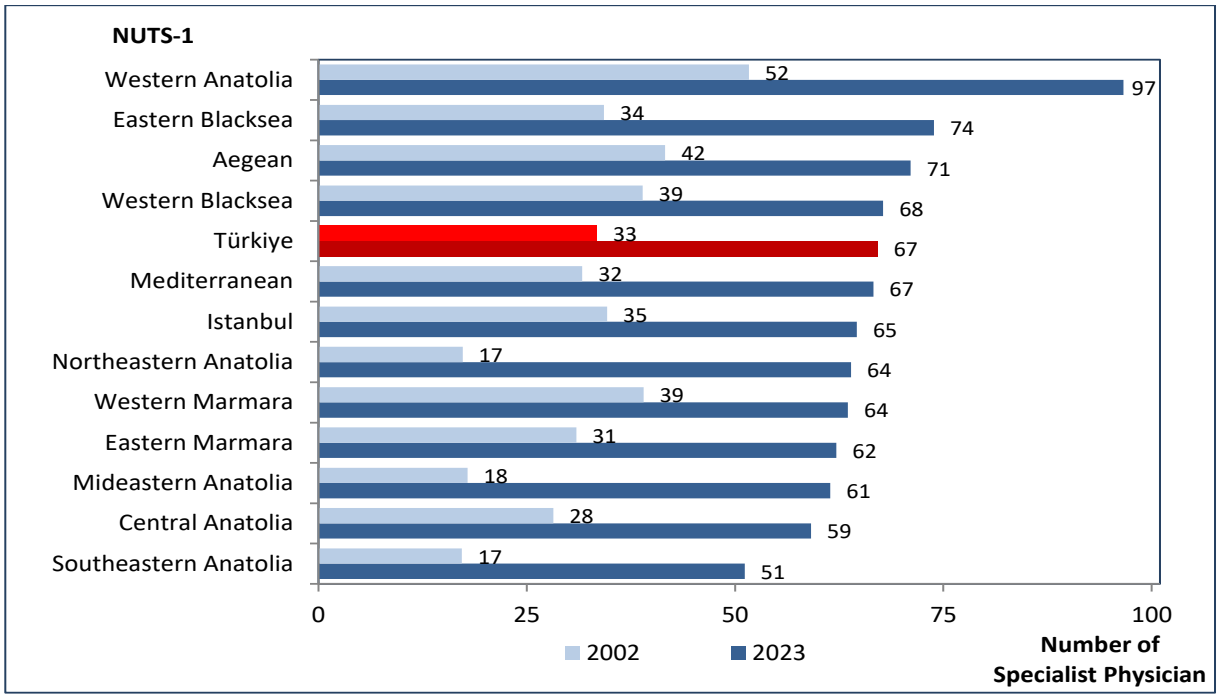
Source: General Directorate of Health Services

Figure 10.27. Number of General Practitioners per 100.000 Population by NUTS-1, Ministry of Health, 2002, 2023



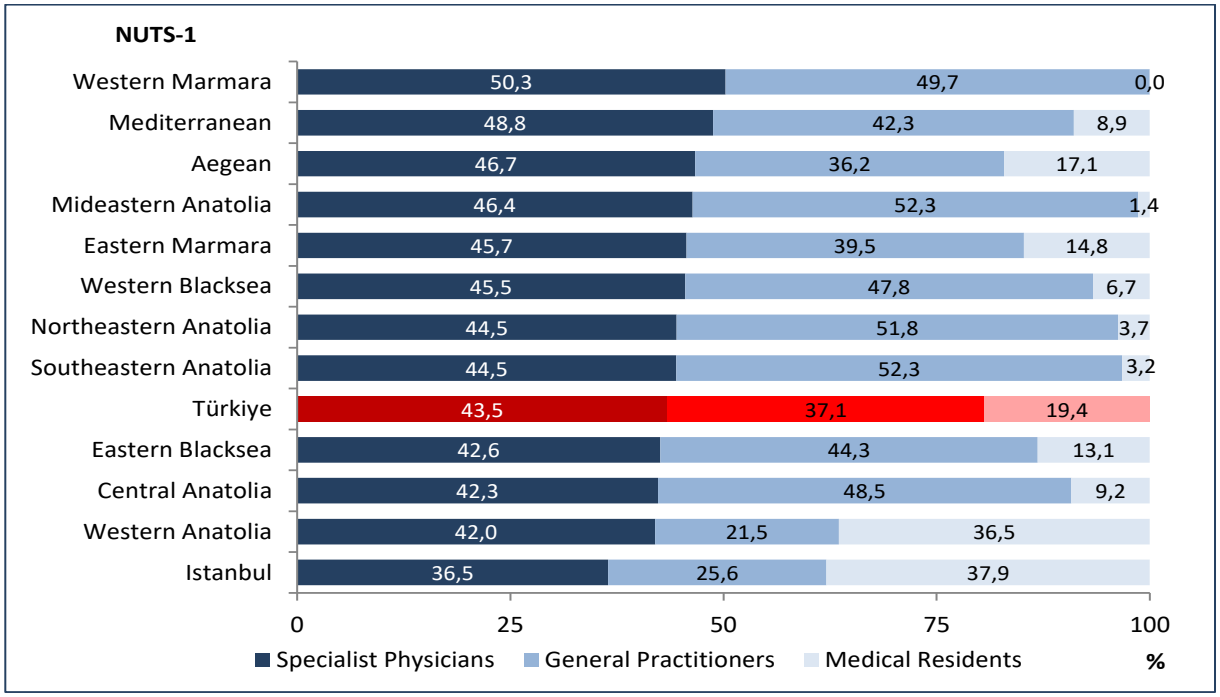
Source: General Directorate of Health Service

Figure 10.28. Number of Specialist Physicians per 100.000 Population by NUTS-1, Ministry of Health, 2002, 2023



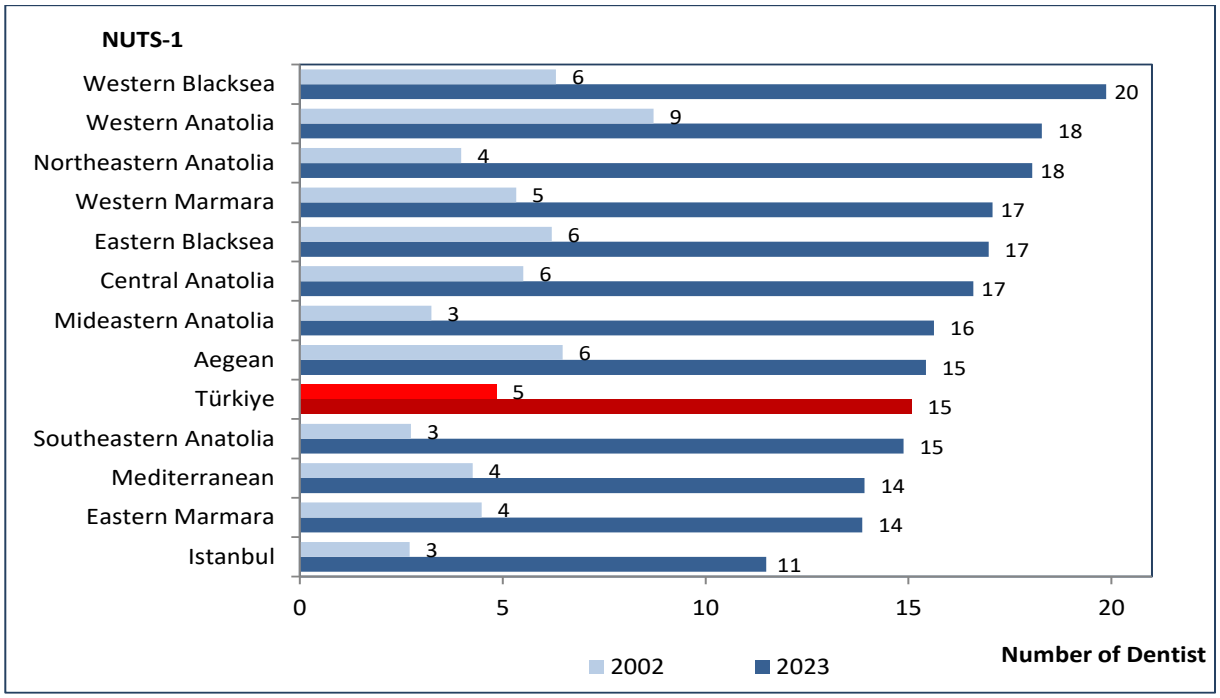
Source: General Directorate of Health Services

Figure 10.29. Distribution of Specialist Physicians, General Practitioners and Medical Residents by NUTS-1, Ministry of Health, (%), 2023



Source: General Directorate of Health Services

Figure 10.30. Number of Total Dentists per 100.000 Population by NUTS-1, Ministry of Health, 2002, 2023



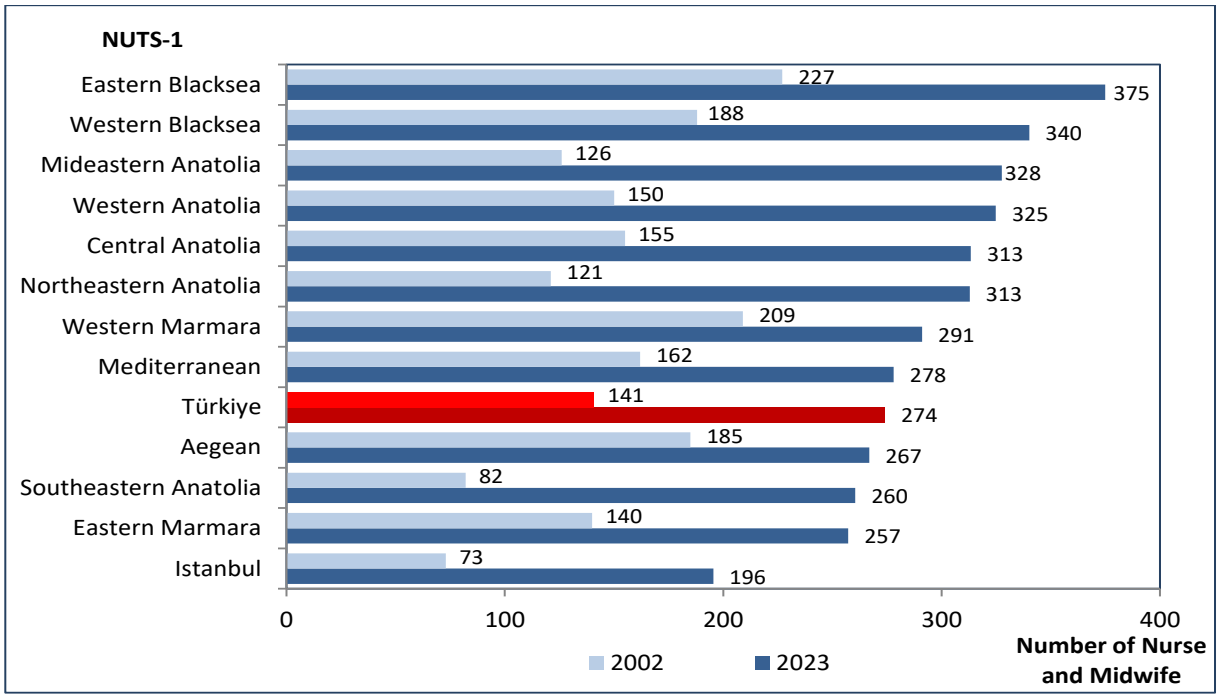
Source: General Directorate of Health Services
Note: Data for 2002 does not include dental residents.

Table 10.8. Distribution of Dentists, Specialist Dentists and Dental Residents by NUTS-1, Ministry of Health, (%), 2023

NUTS-1	Specialist Dentist	Dentist	Dental Resident
Istanbul	14,9	85,1	0,1
Western Marmara	7,1	92,9	0,0
Aegean	12,3	87,7	0,0
Eastern Marmara	12,0	88,0	0,0
Western Anatolia	20,1	79,3	0,5
Mediterranean	11,3	88,7	0,0
Central Anatolia	8,1	91,9	0,0
Western Blacksea	9,0	91,0	0,0
Eastern Blacksea	11,0	89,0	0,0
Northeastern Anatolia	6,6	93,4	0,0
Mideastern Anatolia	1,8	98,2	0,0
Southeastern Anatolia	3,8	96,2	0,0
Türkiye	11,1	88,9	0,1

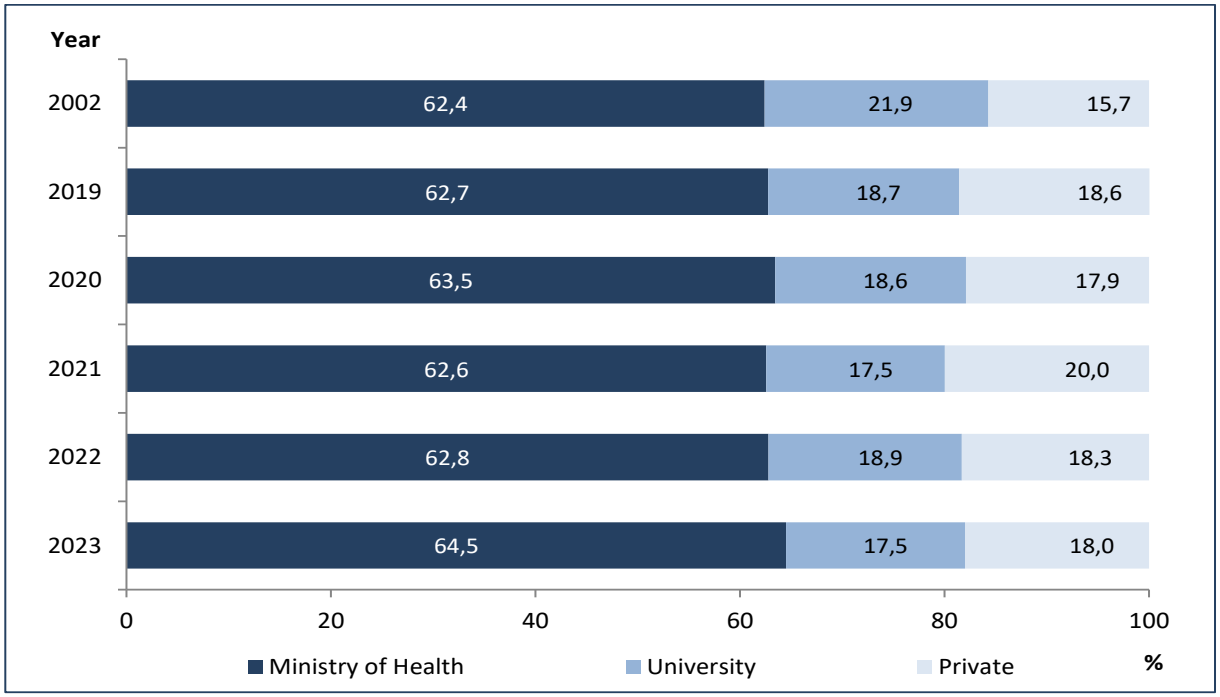
Source: General Directorate of Health Services

Figure 10.31. Number of Nurses and Midwives per 100.000 Population by NUTS-1, Ministry of Health, 2002, 2023



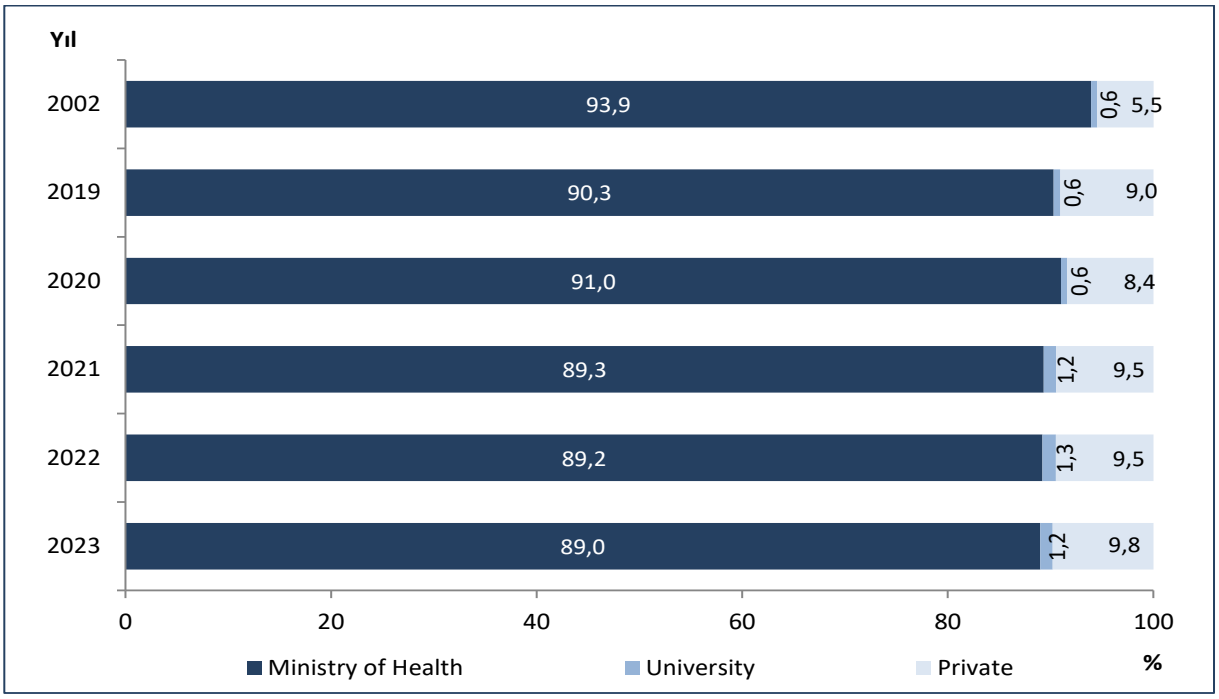
Source: General Directorate of Health Services

Figure 10.32. Distribution of Total Physicians by Years and Sectors, (%)



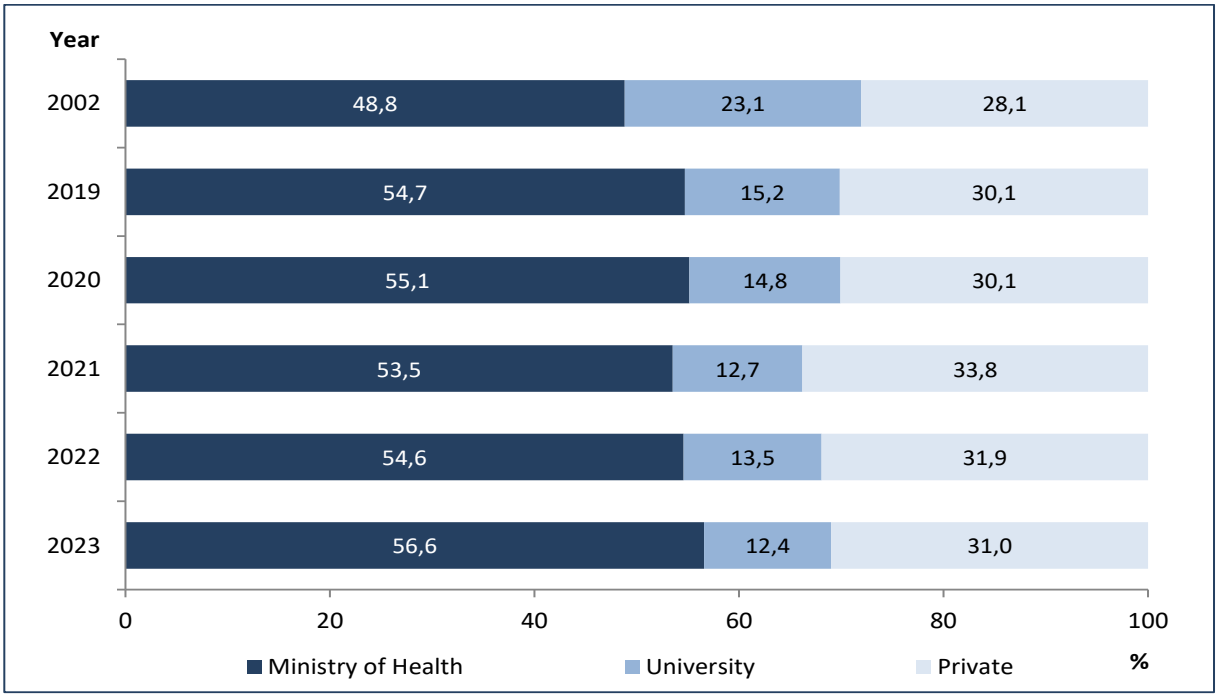
Source: General Directorate of Health Services

Figure 10.33. Distribution of General Practitioners by Years and Sectors, (%)



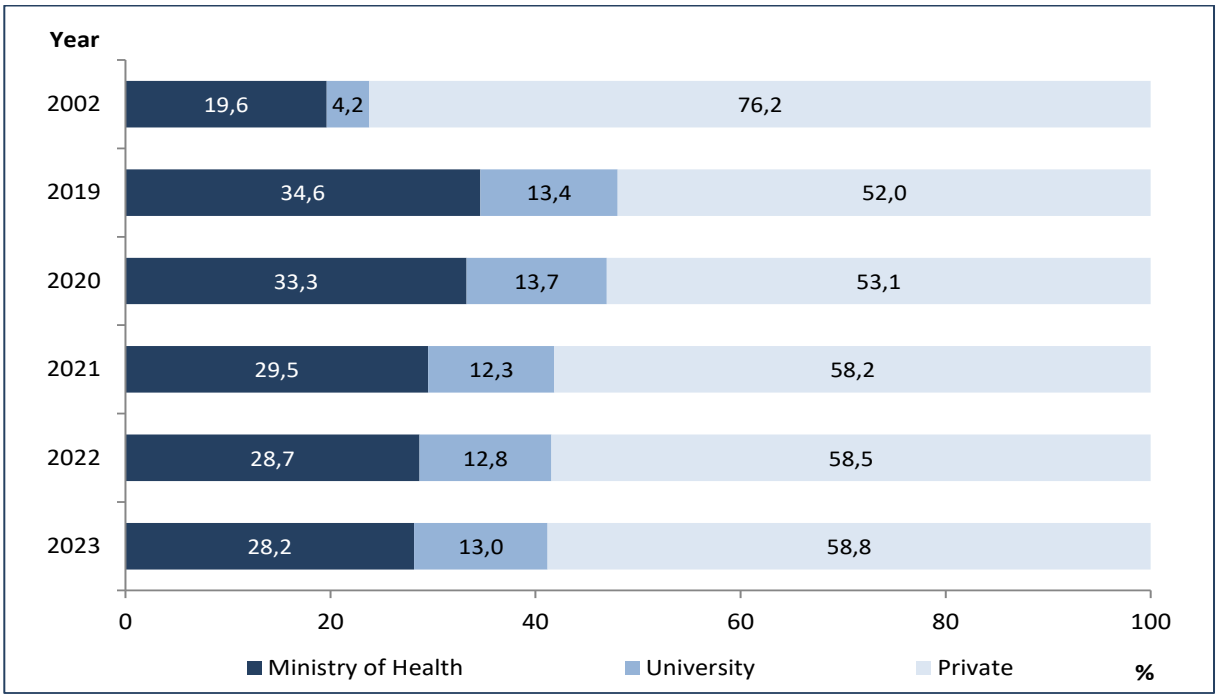
Source: General Directorate of Health Services

Figure 10.34. Distribution of Specialist Physicians by Years and Sectors, (%)



Source: General Directorate of Health Services

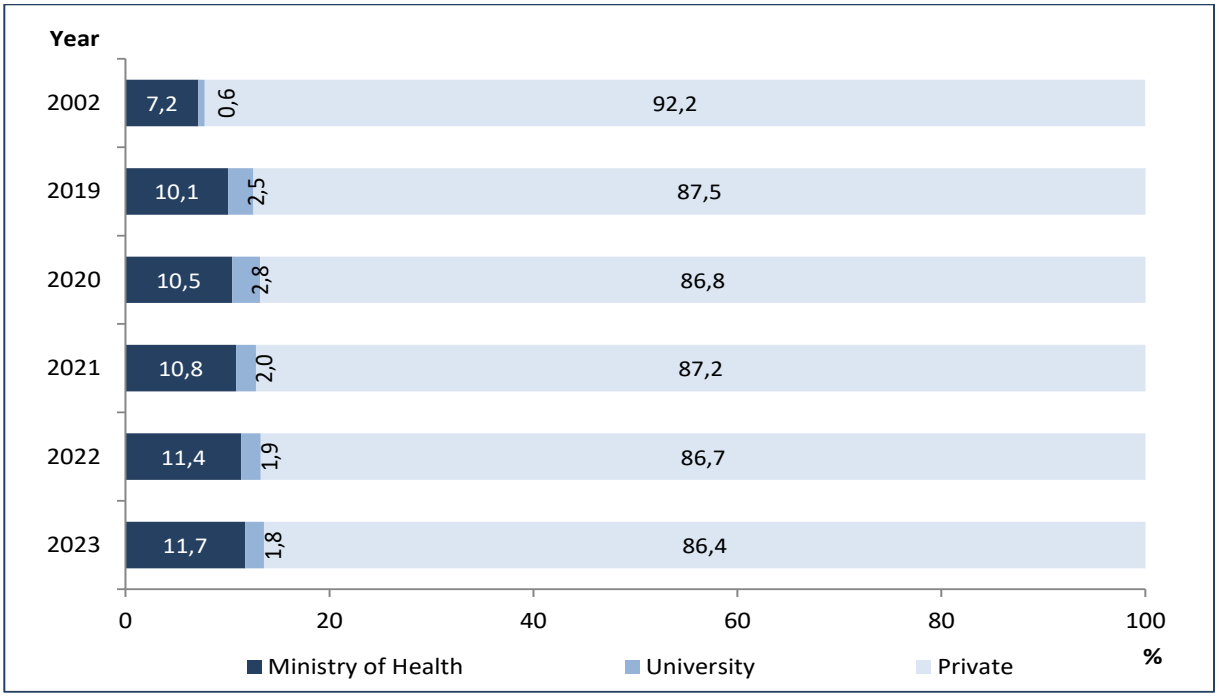
Figure 10.35. Distribution of Total Dentists by Years and Sectors, (%)



Source: General Directorate of Health Services

Not: As of 2018, the total number of dentists includes the number of assistant dentists, unlike other years. When the assistant dentist is not included, the distribution of the total number of dentists in 2023 is 30,3% for the Ministry of Health, 6,2% for the University and 63,4% for the Private.

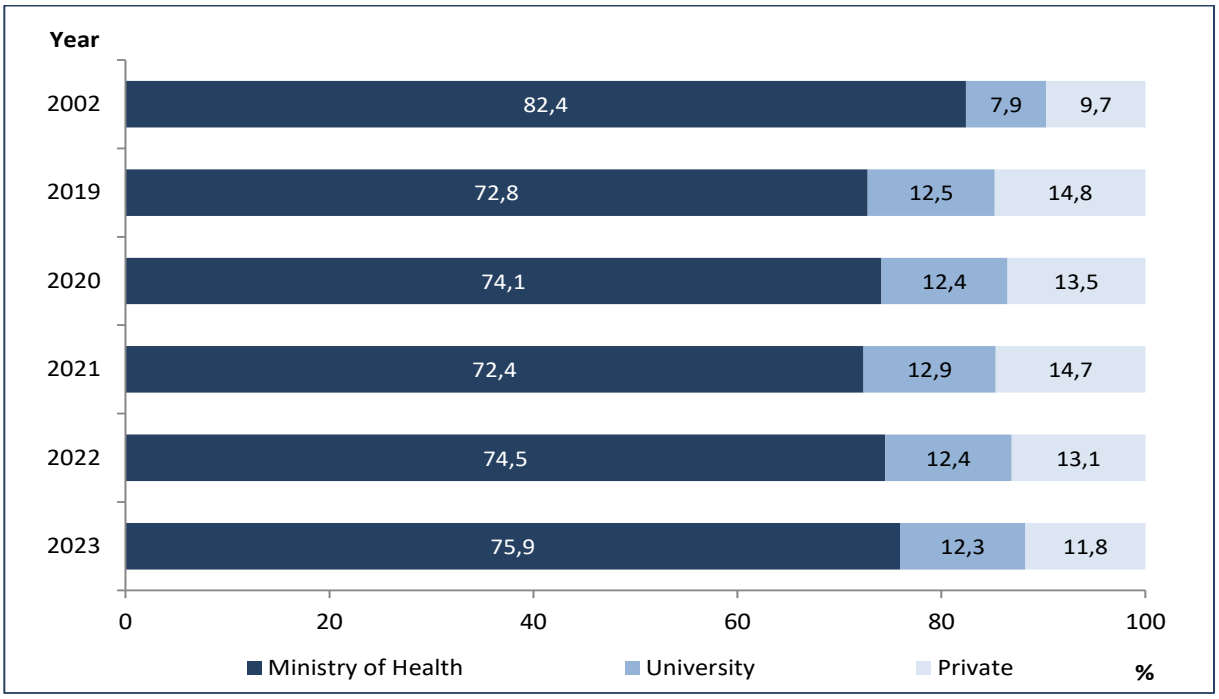
Figure 10.36. Distribution of Total Pharmacists by Years and Sectors, (%)



Source: General Directorate of Health Services

Not: As of 2018, the total number of pharmacists also includes the number of second pharmacists and assistant pharmacists working in community pharmacies, unlike other years. When the second pharmacist and assistant pharmacist are not included, the distribution of the number of pharmacists in 2023 is 13,0% for the Ministry of Health, 2,1% for the University and 84,9% for the Private.

Figure 10.37. Distribution of Nurses and Midwives by Years and Sectors, (%)



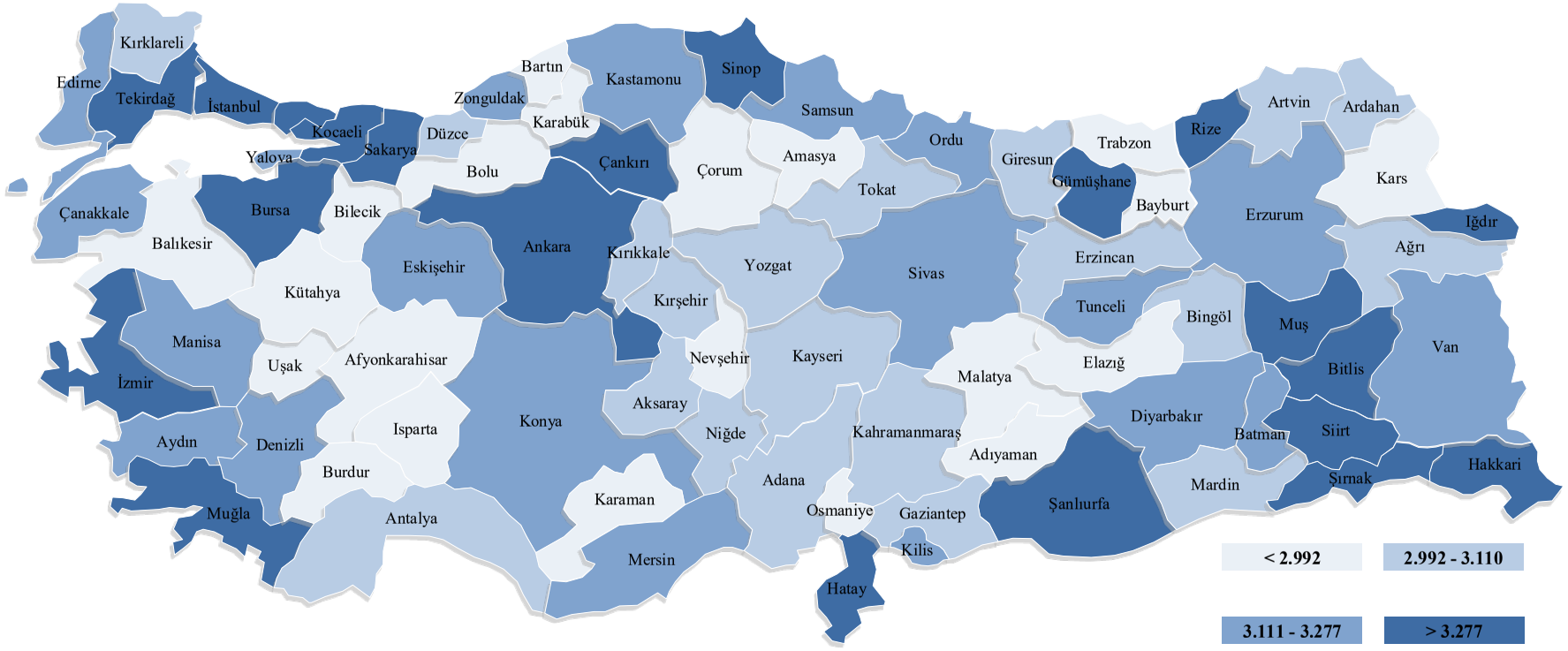
Source: General Directorate of Health Services

Table 10.9. Distribution of Ministry of Health Personnel by Service Units, 2023

	Hospitals	Family Medicine Unit	Other Facilities	Total
Specialist Physicians	52.496	3.046	1.744	57.286
General Practitioners	17.776	23.357	7.722	48.855
Medical Residents	25.621	-	-	25.621
Total Physicians	**95.893**	**26.403**	**9.466**	**131.762**
Total Dentists	6.320	-	6.554	12.874
Pharmacists	4.278	-	483	4.761
Nurses	158.721	11.346	7.700	177.767
Midwives	33.470	11.667	11.042	56.179
Other Health Personnel	124.373	1.717	62.285	188.375
Other Personnel and Procurement of Services	235.799	19.896	27.930	283.625
Total Personnel	658.854	71.029	125.460	855.343

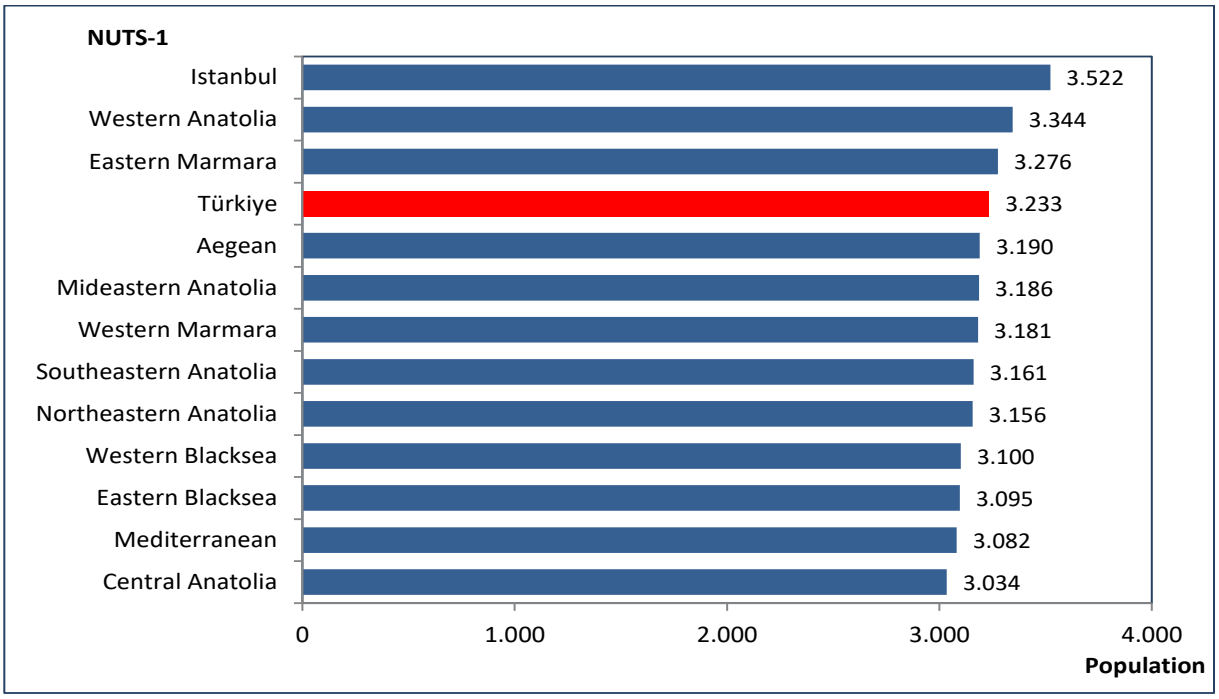
Source: General Directorate of Health Services, General Directorate of Public Health

Map 10.7. Population per Actively Working Family Medicine by Provinces, 2023



Source: General Directorate of Public Health

Figure 10.38. Population per Actively Working Family Medicine by NUTS-1, 2023



General Directorate of Public Health

Table 10.10. 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
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
2022-2023	122	21.909	117.640	14.506	17.752
2023-2024	124	22.327	121.914	13.720	18.014

Source: Council of Higher Education, Higher Education Statistics
Note: Graduate numbers belong to previous academic year.

Table 10.11. 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
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
2022-2023	90	11.186	46.076	4.607	2.599
2023-2024	91	11.254	50.283	5.670	2.704

Source: Council of Higher Education, Higher Education Statistics
Note: Graduate numbers belong to previous academic year.

Table 10.12. 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
2019-2020	37	3.883	15.880	1.759	949
2020-2021	39	4.613	18.383	2.082	1037
2021-2022	39	5.195	20.902	2.352	1106
2022-2023	45	5.595	23.892	2.707	1.204
2023-2024	47	5.436	25.215	3.162	1.264

Source: Council of Higher Education, Higher Education Statistics
Note: Graduate numbers belong to previous academic year.

Table 10.13. Some Health Indicators by Provinces, 2023

City	Specialist Physician	General Practitioner	Medical Resident	Total Physician	Total Dentist	Pharmacist	Nurse	Midwife	Other Health Personnel
Adana	2.816	1.367	1.167	5.350	1.084	1.194	6.522	1.693	7.146
Adıyaman	392	487	140	1.019	213	235	1.888	677	1.993
Afyonkarahisar	660	547	343	1.550	319	340	2.227	568	2.534
Ağrı	300	317	0	617	106	144	909	286	1.094
Amasya	263	267	18	548	128	153	1.009	344	1.339
Ankara	11.547	3.183	10.085	24.815	4.606	3.408	23.298	3.888	20.883
Antalya	3.822	1.718	1.465	7.005	2.251	1.651	6.921	1.790	8.635
Artvin	134	170	0	304	49	64	431	214	717
Aydın	1.263	761	356	2.380	603	583	3.258	1.076	3.577
Balıkesir	1.263	889	120	2.272	583	607	3.587	1.268	4.195
Bilecik	186	200	0	386	89	89	716	199	913
Bingöl	181	236	0	417	93	101	811	296	1.008
Bitlis	231	271	0	502	87	112	1.157	256	1.062
Bolu	401	255	286	942	256	167	1.187	316	1.363
Burdur	212	275	1	488	106	141	849	325	1.121
Bursa	3.453	1.825	1.481	6.759	1.707	1.448	8.007	1.804	7.909
Çanakkale	646	439	358	1.443	270	272	1.818	611	2.210
Çankırı	132	174	0	306	75	69	475	138	867
Çorum	405	397	171	973	186	231	1.628	496	1.818
Denizli	1.237	661	386	2.284	600	574	2.874	986	3.523
Diyarbakır	1.600	1.063	794	3.457	612	712	5.035	1.126	4.686
Edirne	578	328	593	1.499	233	226	1.695	412	1.566
Elazığ	783	453	236	1.472	288	248	2.507	642	2.164
Erzincan	233	242	56	531	105	105	814	218	936
Erzurum	809	549	614	1.972	357	323	2.880	682	2.566
Eskişehir	1.276	575	627	2.478	535	523	3.534	710	3.478
Gaziantep	2.029	1.304	628	3.961	754	932	5.789	1.344	5.158
Giresun	413	416	158	987	139	231	1.740	542	2.058
Gümüşhane	100	141	0	241	53	48	452	111	593
Hakkari	221	182	0	403	61	55	578	139	808
Hatay	1.296	1.126	334	2.756	540	706	4.282	1.138	3.951
Isparta	665	383	462	1.510	321	234	2.124	500	2.056
Mersin	1.959	1.093	533	3.585	855	971	4.926	1.641	5.299
İstanbul	24.601	9.147	12.893	46.641	11.526	8.035	42.114	6.709	45.500
İzmir	7.204	2.554	4.080	13.838	3.026	2.426	12.656	2.724	14.041
Kars	214	211	27	452	63	73	700	318	866
Kastamonu	300	373	24	697	112	142	1.094	295	1.439
Kayseri	1.529	891	1.042	3.462	824	767	4.579	1.118	4.660
Kırklareli	374	287	0	661	159	182	988	307	1.094
Kırşehir	218	200	87	505	80	98	685	274	1.067
Kocaeli	2.200	1.127	840	4.167	1.019	818	5.364	1.311	5.889

Source: General Directorate of Health Services

Table 10.13. Some Health Indicators by Provinces, 2023 - Continued

City	Specialist Physician	General Practitioner	Medical Resident	Total Physician	Total Dentist	Pharmacist	Nurse	Midwife	Other Health Personnel
Konya	2.514	1.529	1.526	5.569	1.263	1.143	7.520	1.616	7.400
Kütahya	485	437	273	1.195	293	249	1.925	559	2.250
Malatya	842	564	398	1.804	370	340	3.230	1.022	3.126
Manisa	1.501	943	469	2.913	459	687	3.986	1.164	4.246
Kahramanmaraş	893	731	346	1.970	368	427	3.273	899	3.457
Mardin	572	665	11	1.248	253	337	1.859	571	2.248
Muğla	1.253	713	313	2.279	662	580	2.585	877	3.499
Muş	203	273	0	476	62	88	895	204	913
Nevşehir	250	244	0	494	134	137	870	276	1.278
Niğde	254	263	15	532	116	156	895	338	1.213
Ordu	697	571	111	1.379	355	358	2.217	657	2.734
Rize	384	282	203	869	243	155	1.116	273	1.285
Sakarya	1.004	722	461	2.187	496	503	2.682	851	2.773
Samsun	1.799	905	775	3.479	714	708	4.859	1.167	5.273
Siirt	208	239	0	447	76	119	849	238	1.014
Sinop	163	203	0	366	81	102	754	232	933
Sivas	595	507	433	1.535	341	290	2.471	676	2.522
Tekirdağ	1.055	661	212	1.928	510	455	2.723	676	3.042
Tokat	546	459	103	1.108	261	261	2.071	558	2.296
Trabzon	1.043	602	635	2.280	460	427	3.428	733	3.664
Tunceli	75	124	0	199	46	26	269	155	436
Şanlıurfa	1.181	1.231	225	2.637	479	885	4.568	1.082	4.707
Uşak	382	248	14	644	208	164	1.071	480	1.183
Van	863	681	284	1.828	338	367	3.212	644	3.106
Yozgat	311	359	69	739	129	152	1.303	391	1.625
Zonguldak	566	416	299	1.281	278	269	2.014	481	1.934
Aksaray	331	329	34	694	131	198	1.178	328	1.263
Bayburt	72	96	0	168	34	34	249	69	371
Karaman	241	203	12	456	113	118	736	248	861
Kırıkkale	280	221	77	578	210	125	939	271	1.519
Batman	471	412	0	883	185	239	1.736	458	1.898
Şırnak	270	377	0	647	114	151	944	240	1.080
Bartın	157	153	0	310	72	92	552	188	626
Ardahan	72	87	0	159	32	29	209	90	341
Iğdır	106	145	0	251	59	63	424	150	588
Yalova	303	209	0	512	156	132	671	180	1.107
Karabük	236	206	121	563	129	104	770	240	1.003
Kilis	144	158	0	302	69	75	708	226	626
Osmaniye	373	389	0	762	210	281	1.450	508	1.874
Düzce	392	258	267	917	136	146	968	242	1.121
Türkiye	101.233	54.899	48.091	204.223	45.718	40.610	248.287	59.750	266.217

Source: General Directorate of Health Services

Explanations for Chapter 10

☑ Before 2018, Personnel data were obtained from the Active Employees Database. 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 10.6.

☑ In accordance with the protocol signed between the Ministry of Health and the university hospitals, Ministry of Health and university health care personnel data have updated as of 2018, according to the institution where the personnel actively worked.

☑ The numbers of the SSI staff in years 2002 were included in the number of the Ministry of Health staff.

☑ The numbers of the health personnel working in the institutions and organizations affiliated to the Ministry of National Defence are not included in the numbers of personnel before 2012.

☑ 4-point Likert 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.

☑ In the classification of the areas of specialization listed below, in order to make the comparisons of the country to be statistically significant, the standards required by international organizations are taken as basis. Data on these main branches are requested from countries every year by EUROSTAT and are also published in international reports.

☑ **General Practitioners (Family Medicine+Medical Resident Included):** 9.001 Family Medicine and Medical Resident are included in the number of General Practitioners.

☑ **Specialist Physicians+Medical Resident (Family Medicine+Medical Resident Not Included):** The number of Specialist Physicians and Medical Resident does not include 9.001 Family Medicine and Medical Resident.

☑ **General Paediatricians:** It refers to the sum of Paediatric Diseases and Developmental Paediatrics Specialist and Medical Resident.

☑ **Obstetrician and Gynaecologist Specialist:** It refers to the sum of Obstetrician and Gynaecologist, Paediatric Genetic Diseases and Perinatology Specialist and Medical Resident.

☑ **Psychiatrists Specialist:** It refers to the sum of Mental Illness and Behavioural Disorders, Child and Adolescent Mental Illness and Behavioural Disorders Specialist and Medical Resident.

☑ **Medical Group of Specialists:** It refers to the sum of Internal Medicine, Cardiology, Endocrinology, Gastroenterology, Pulmonology, Oncology, Immunology, Neurology, Oto-Rhino-Laringology, Radiology, Microbiology, Hematology, Dermatology, Pathology, and Occupational Medicine Specialist and Medical Resident.

☑ **Surgical Group of Specialists:** It refers to the sum of General Surgery, Neurological Surgery, Plastic Surgery, Ophthalmology, Orthopedics, Thoracic Surgery, Intensive Care and Anaesthesiology, Urology, Accident and Emergency Medicine Specialist and Medical Resident.

☑ **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

Health Economics ve 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	
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 $	1.229.163	61.711		3.215		64.926	
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 ₺	3.761.166	154.998	4,1	10.236	0,3	165.234	4,4
	Million US $	797.728	32.875		2.171		35.045	
	Million PPP US $	2.380.979	98.121		6.480		104.600	
2019	Million ₺	4.317.810	188.237	4,4	12.794	0,3	201.031	4,7
	Million US $	760.359	33.148		2.253		35.401	
	Million PPP US $	2.483.005	108.248		7.357		115.605	
2020	Million ₺	5.048.568	233.062	4,6	16.870	0,3	249.932	5,0
	Million US $	717.141	33.106		2.396		35.502	
	Million PPP US $	2.496.967	115.270		8.344		123.614	
2021	Million ₺	7.256.142	330.928	4,6	23.013	0,3	353.941	4,9
	Million US $	807.924	36.847		2.562		39.409	
	Million PPP US $	2.931.789	133.709		9.298		143.007	
2022	Million ₺	15.011.776	555.944	3,7	50.891	0,3	606.835	4,0
	Million US $	905.814	33.546		3.071		36.617	
	Million PPP US $	3.810.190	141.106		12.917		154.023	
2023	Million ₺	26.545.722	1.134.894	4,3	109.343	0,4	1.244.237	4,7
	Million US $	1.130.009	48.311		4.655		52.965	
	Million PPP US $	4.361.022	186.444		17.963		204.408	

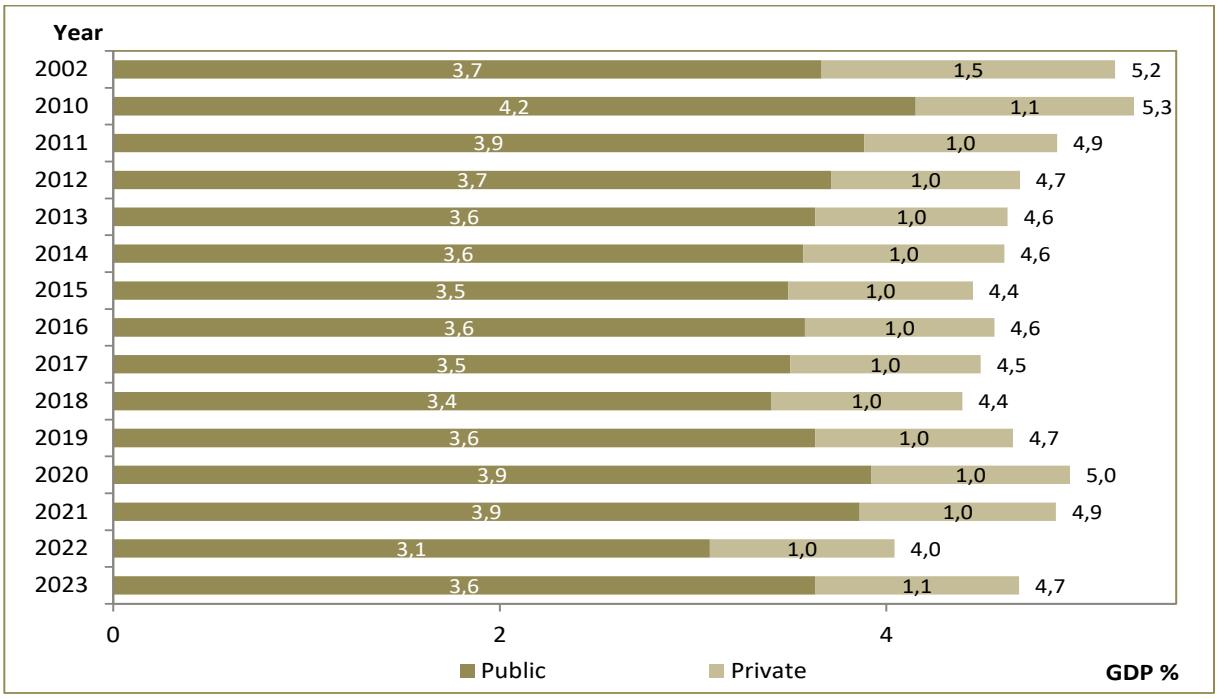
Source: TURKSTAT, OECD Health Data 2024

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	3,5	443	0,1	13.270	3,7
	Million US $	238.145	8.436		291		8.727	
	Million PPP US $	677.953	24.015		829		24.844	
2010	Million ₺	1.167.664	45.726	3,9	2.756	0,2	48.482	4,2
	Million US $	777.461	30.445		1.835		32.280	
	Million PPP US $	1.229.163	48.134		2.901		51.035	
2011	Million ₺	1.404.928	51.728	3,7	2.852	0,2	54.580	3,9
	Million US $	837.924	30.851		1.701		32.552	
	Million PPP US $	1.417.005	52.172		2.876		55.049	
2012	Million ₺	1.581.479	55.648	3,5	3.137	0,2	58.785	3,7
	Million US $	877.676	30.883		1.741		32.624	
	Million PPP US $	1.513.424	53.253		3.002		56.255	
2013	Million ₺	1.823.427	62.447	3,4	3.781	0,2	66.228	3,6
	Million US $	958.125	32.813		1.987		34.800	
	Million PPP US $	1.651.069	56.544		3.424		59.968	
2014	Million ₺	2.054.898	68.974	3,4	4.407	0,2	73.382	3,6
	Million US $	939.923	31.549		2.016		33.565	
	Million PPP US $	1.796.555	60.303		3.853		64.156	
2015	Million ₺	2.350.941	75.622	3,2	6.499	0,3	82.121	3,5
	Million US $	867.071	27.891		2.397		30.288	
	Million PPP US $	1.976.144	63.566		5.463		69.029	
2016	Million ₺	2.626.560	88.279	3,4	5.733	0,2	94.012	3,6
	Million US $	869.241	29.215		1.897		31.112	
	Million PPP US $	2.088.486	70.194		4.558		74.753	
2017	Million ₺	3.133.704	101.786	3,2	7.958	0,3	109.744	3,5
	Million US $	859.055	27.903		2.181		30.084	
	Million PPP US $	2.258.990	73.374		5.736		79.111	
2018	Million ₺	3.761.166	119.941	3,2	8.080	0,2	128.021	3,4
	Million US $	797.728	25.439		1.714		27.153	
	Million PPP US $	2.380.979	75.928		5.115		81.043	
2019	Million ₺	4.317.810	146.232	3,4	10.586	0,2	156.819	3,6
	Million US $	760.359	25.751		1.864		27.616	
	Million PPP US $	2.483.005	84.093		6.088		90.180	
2020	Million ₺	5.048.568	183.759	3,6	14.304	0,3	198.062	3,9
	Million US $	717.141	26.103		2.032		28.134	
	Million PPP US $	2.496.967	90.885		7.074		97.960	
2021	Million ₺	7.256.142	260.777	3,6	19.442	0,3	280.220	3,9
	Million US $	807.924	29.036		2.165		31.201	
	Million PPP US $	2.931.789	105.365		7.856		113.221	
2022	Million ₺	15.011.776	417.840	2,8	45.676	0,3	463.516	3,1
	Million US $	905.814	25.213		2.756		27.969	
	Million PPP US $	3.810.190	106.054		11.593		117.647	
2023	Million ₺	26.545.722	861.651	3,2	102.703	0,4	964.355	3,6
	Million US $	1.130.009	36.679		4.372		41.051	
	Million PPP US $	4.361.022	141.555		16.872		158.427	

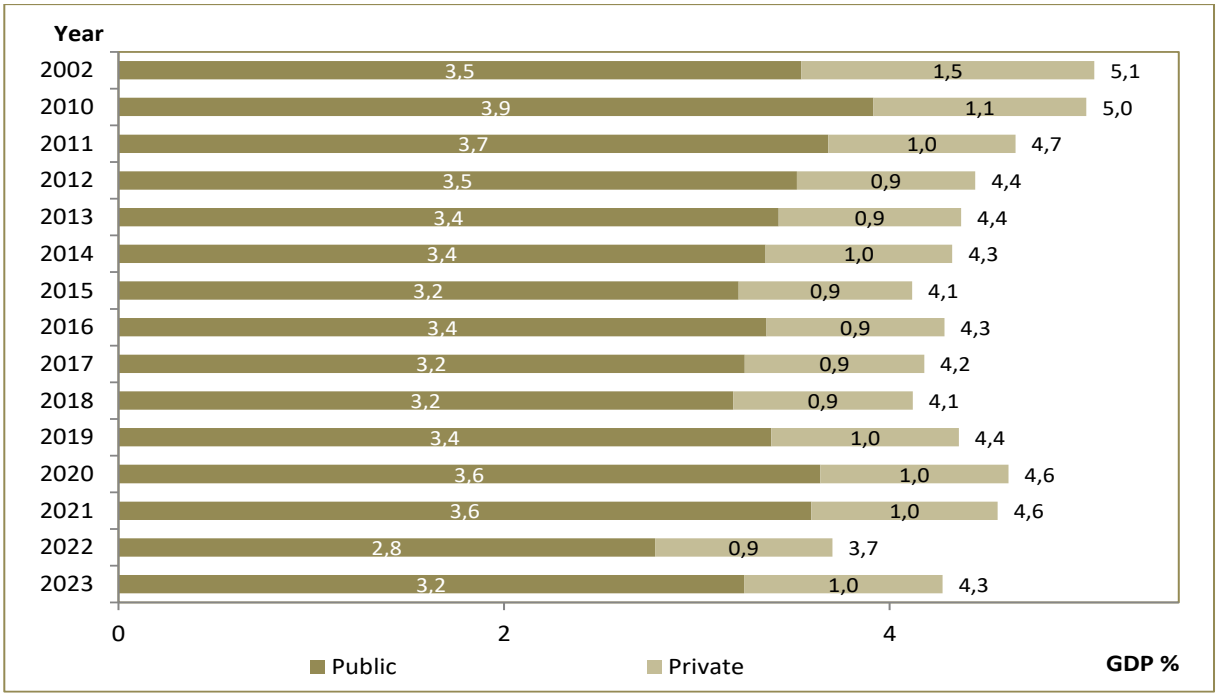
Source: TURKSTAT, OECD Health Data 2024

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



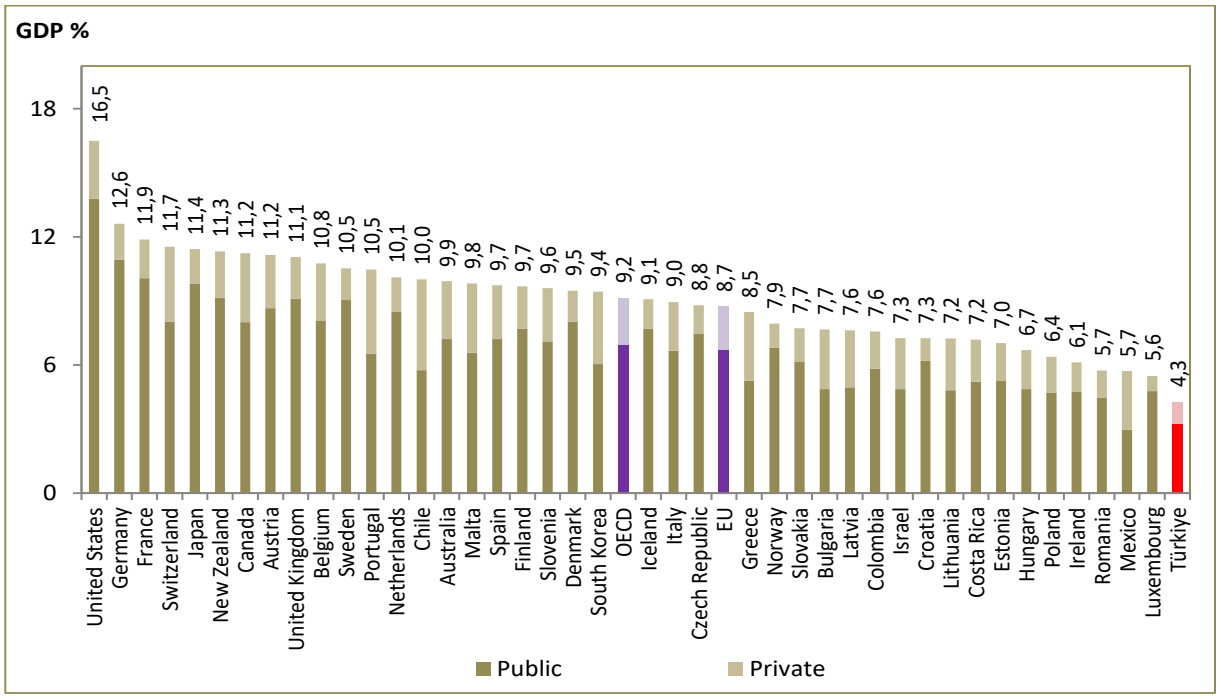
Source: TURKSTAT

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



Source: TURKSTAT

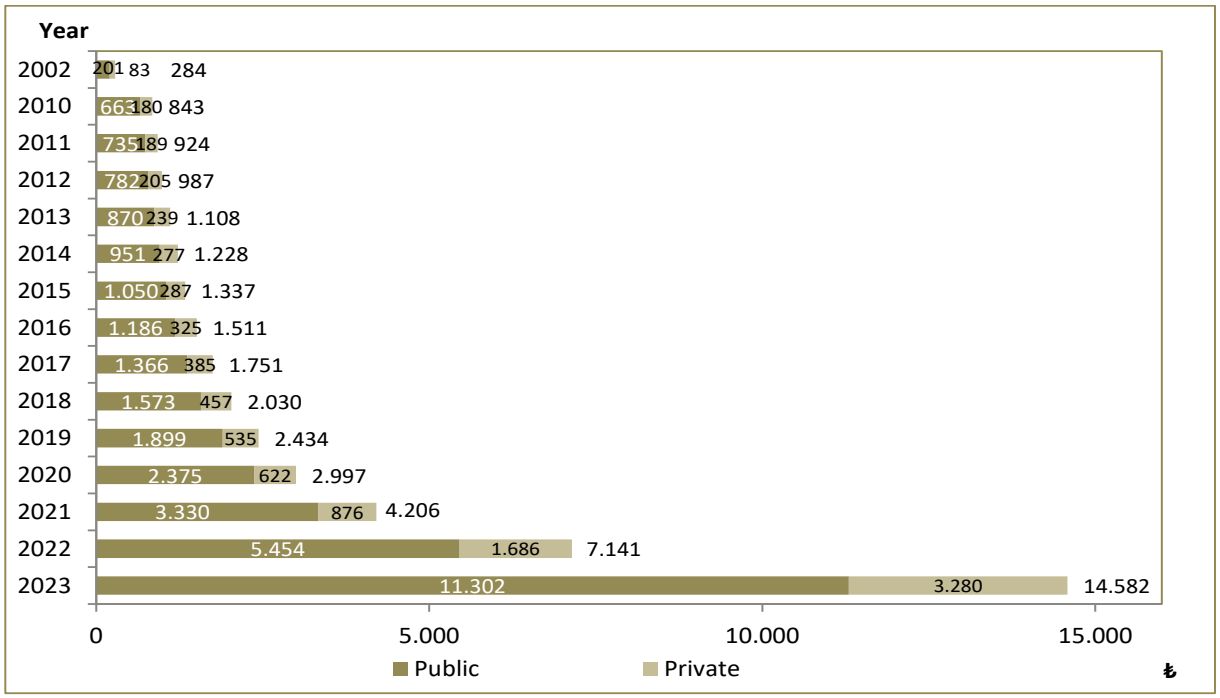
Figure 11.3. International Comparison of Current Health Expenditure as a Share of GDP, (%), 2022



Source: TURKSTAT, OECD Health Data 2024

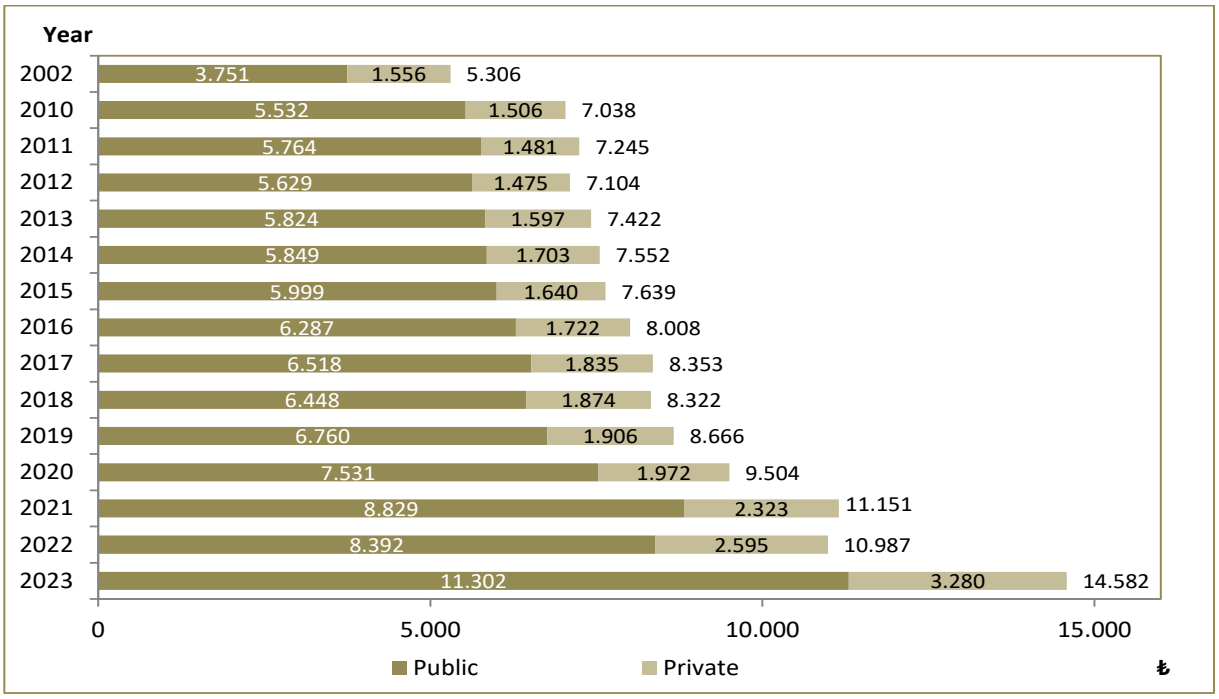
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022.

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



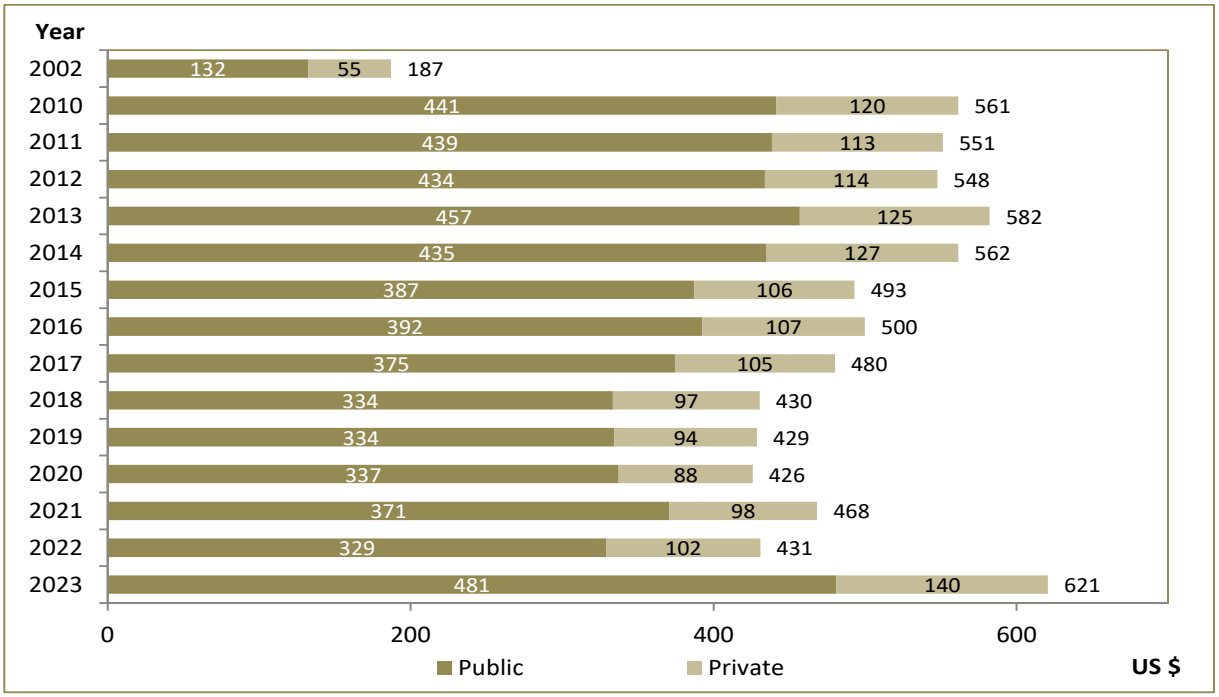
Source: TURKSTAT

Figure 11.5. Public and Private Health Expenditure per Capita at 2023 Price Level by Years, Real, in ₺



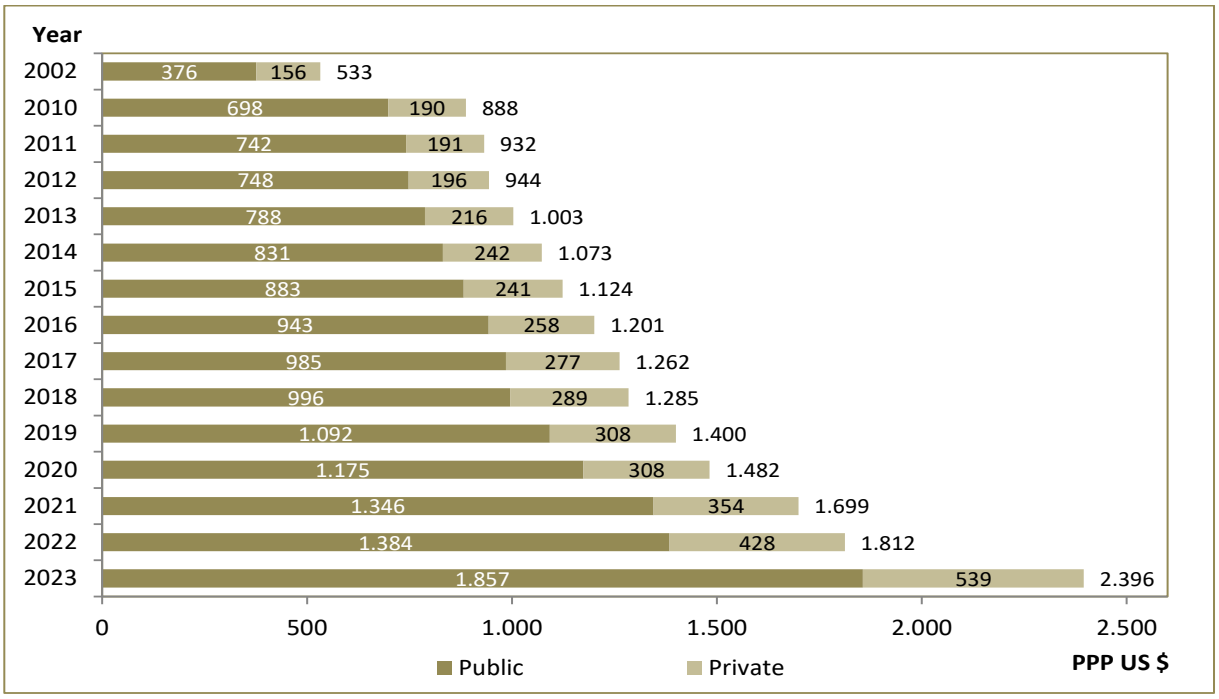
Source: TURKSTAT

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



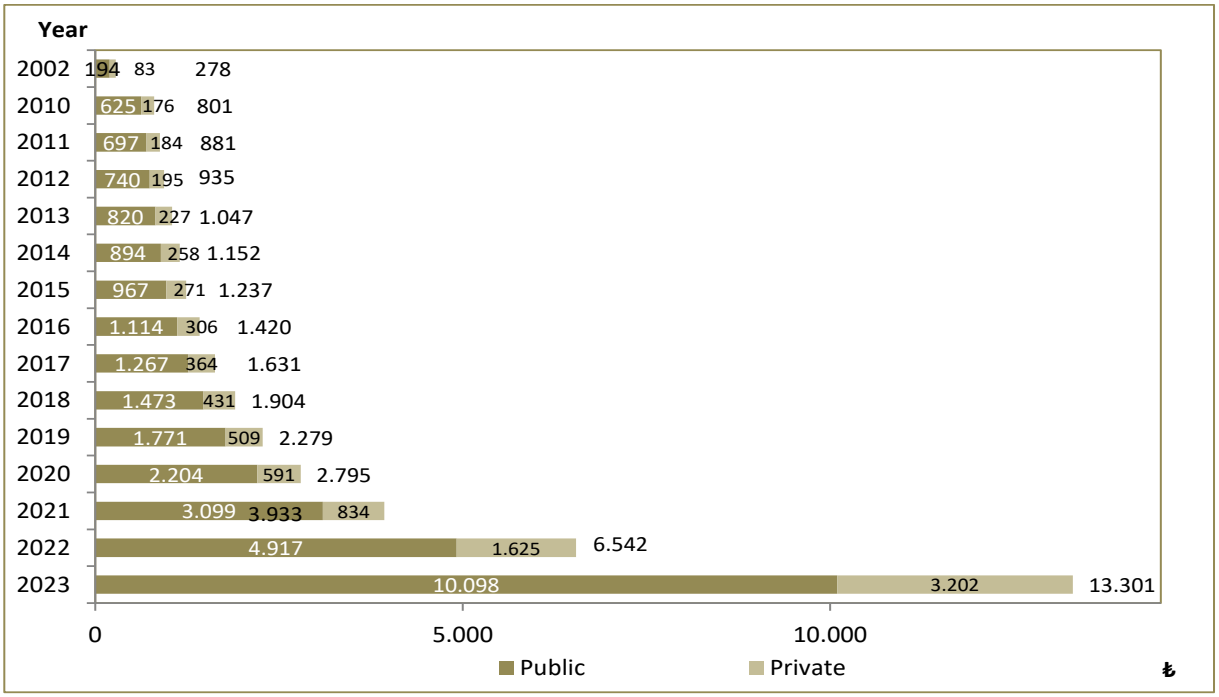
Source: TURKSTAT

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



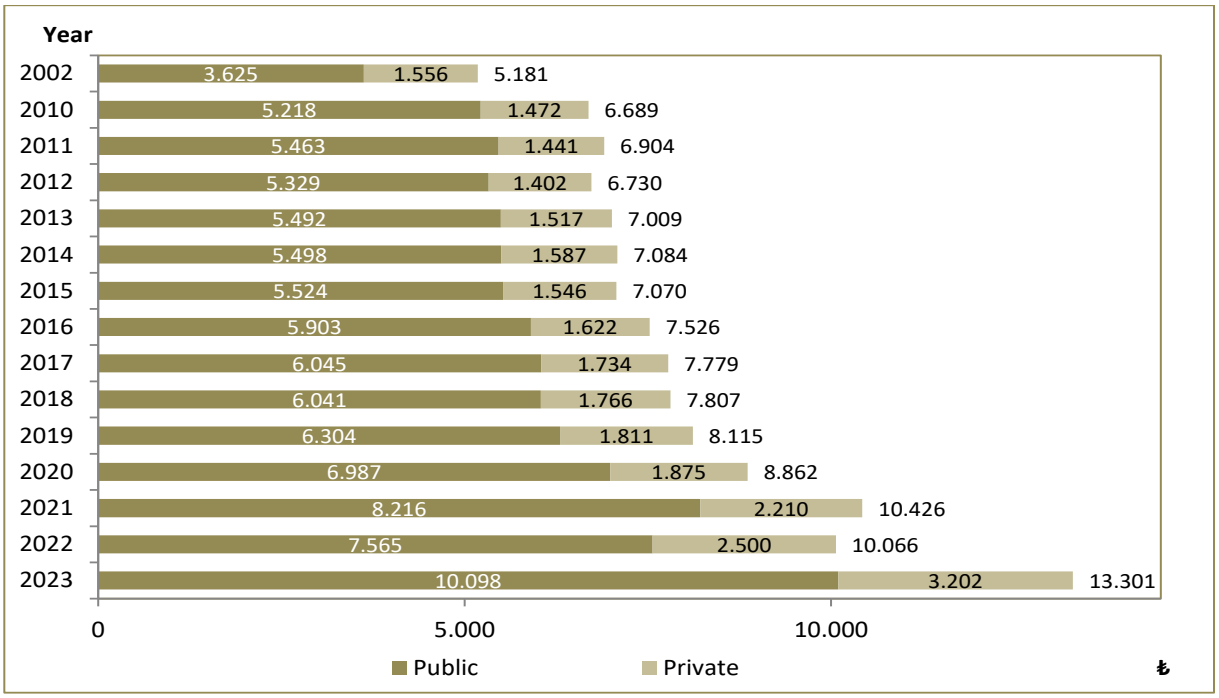
Source: TURKSTAT, OECD Health Data 2024

Figure 11.8. Public and Private Current Health Expenditure per Capita by Years, Nominal, in ₺



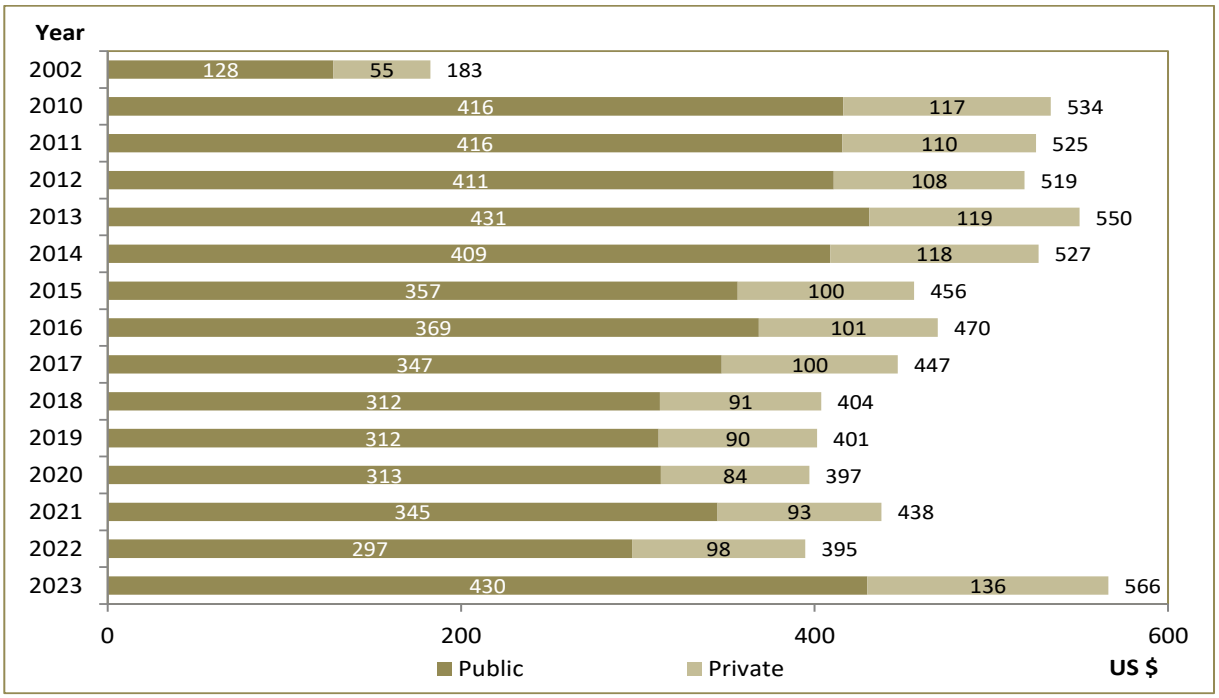
Source: TURKSTAT

Figure 11.9. Public and Private Current Health Expenditure per Capita at 2023 Price Level by Years, Real, in ₺



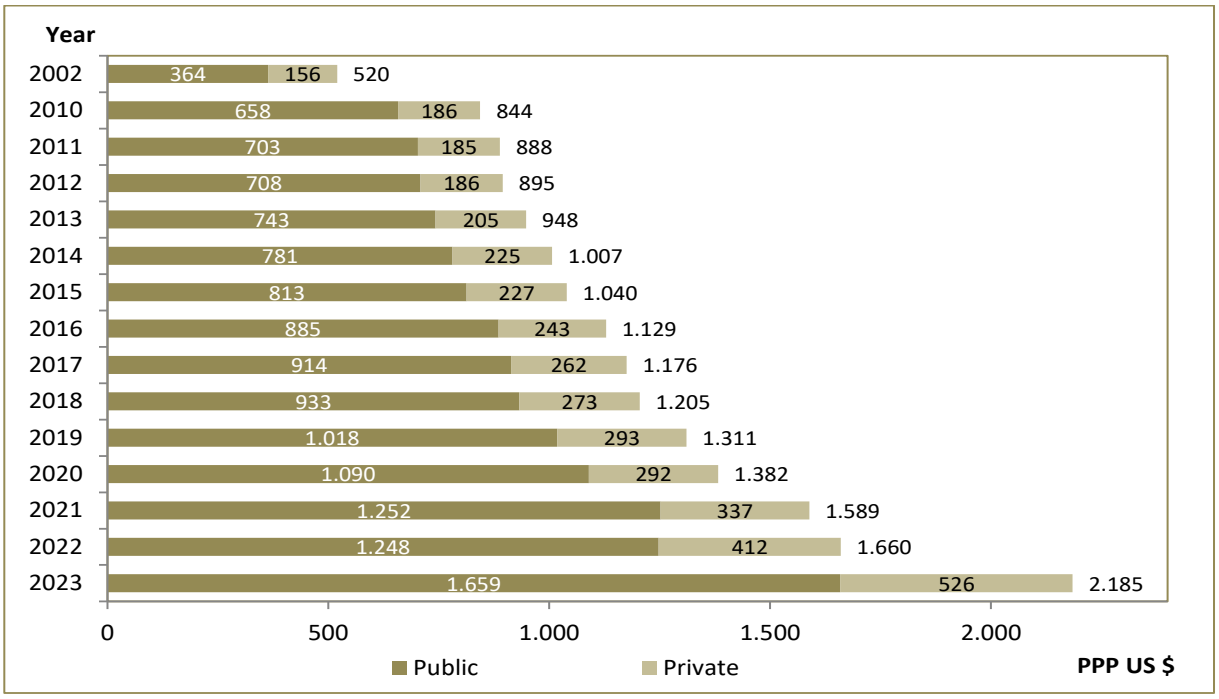
Source: TURKSTAT

Figure 11.10. Public and Private Current Health Expenditure per Capita by Years, in US $



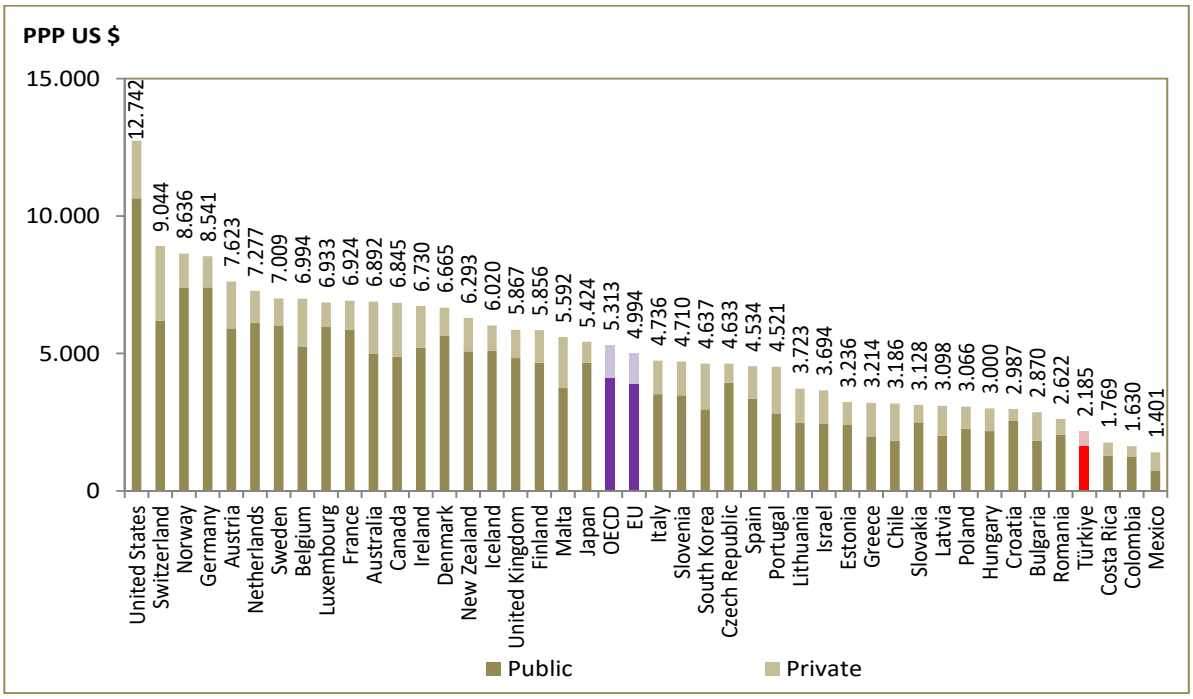
Source: TURKSTAT

Figure 11.11. Public and Private Current Health Expenditure per Capita by Years, PPP US $



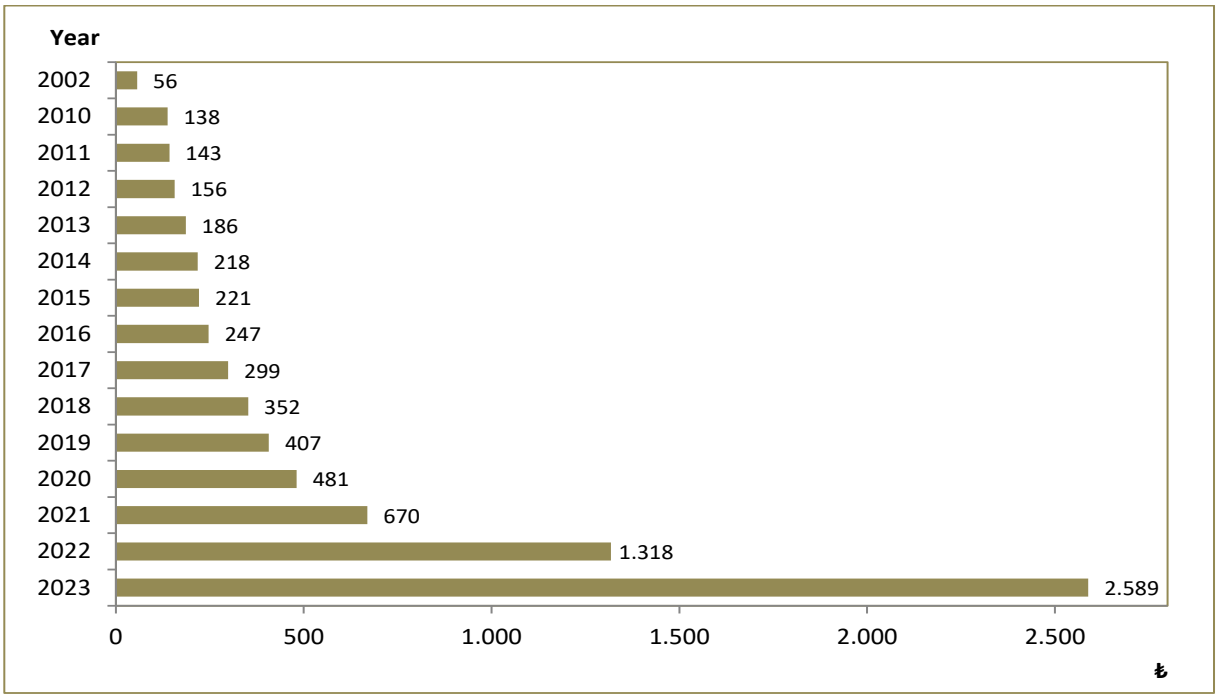
Source: TURKSTAT, OECD Health Data 2024

Figure 11.12. International Comparison of Current Health Expenditure per Capita, PPP US $, 2022



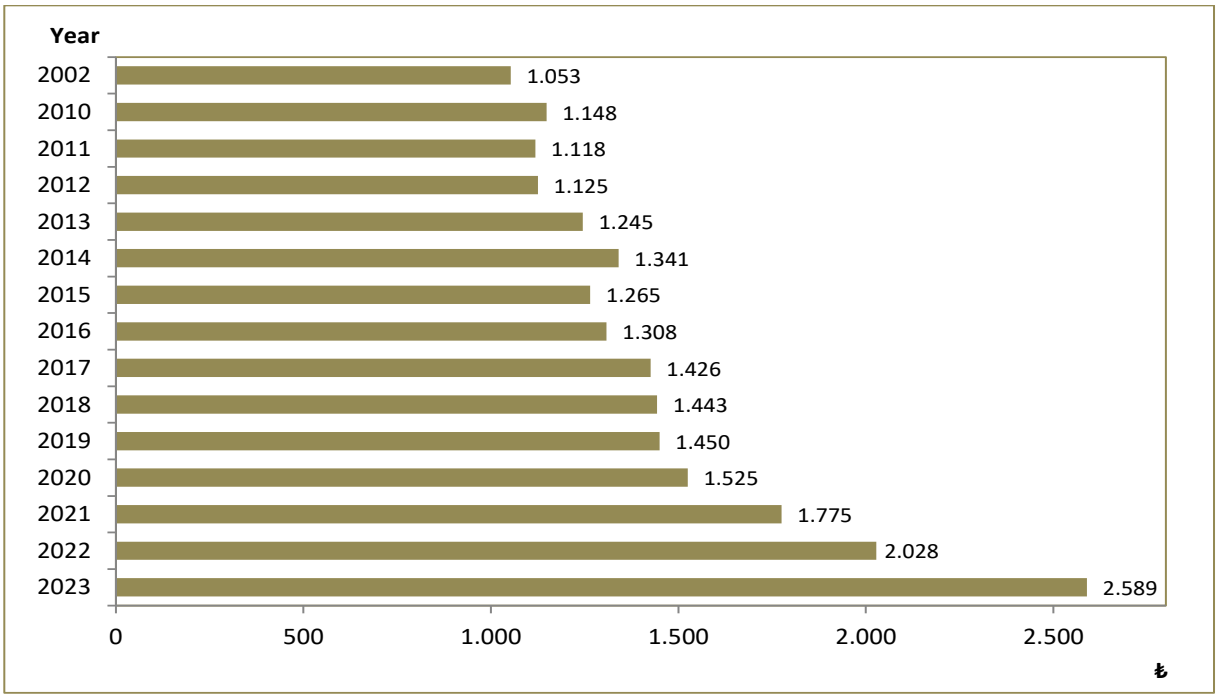
Source: TURKSTAT, OECD Health Data 2024
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Figure 11.13. Out-of-Pocket Health Expenditure per Capita by Years, Nominal, in ₺



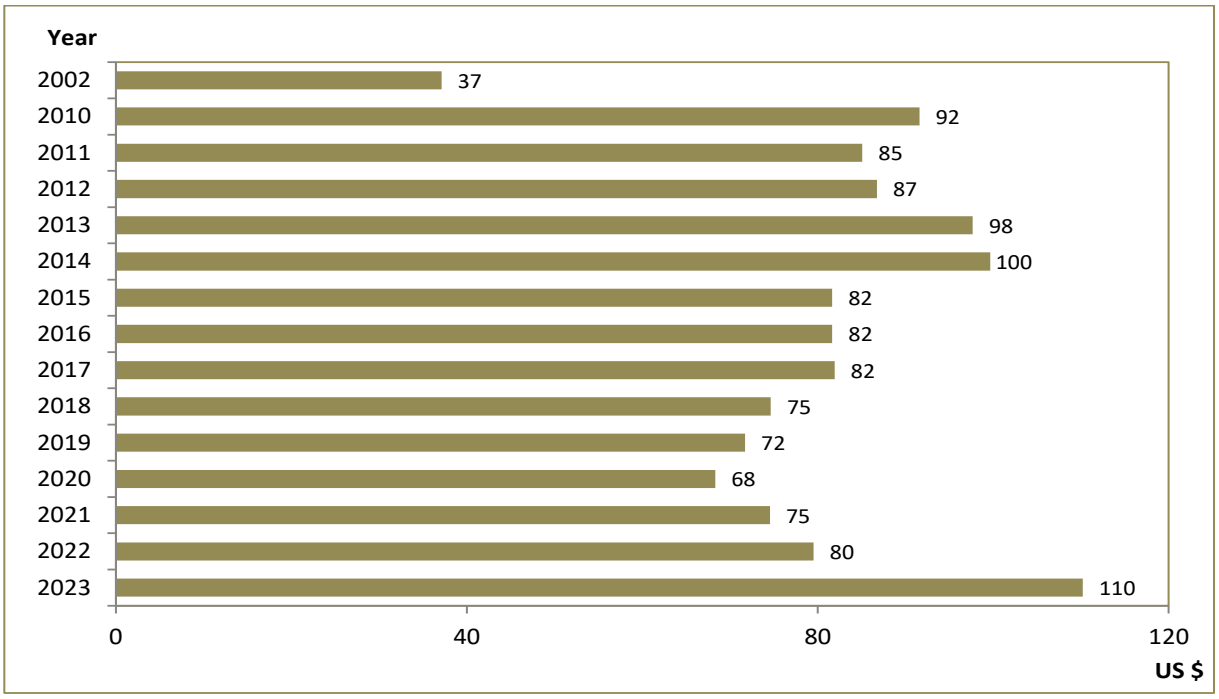
Source: TURKSTAT

Figure 11.14. Out-of-Pocket Health Expenditure per Capita at 2023 Price Level, Real, in ₺



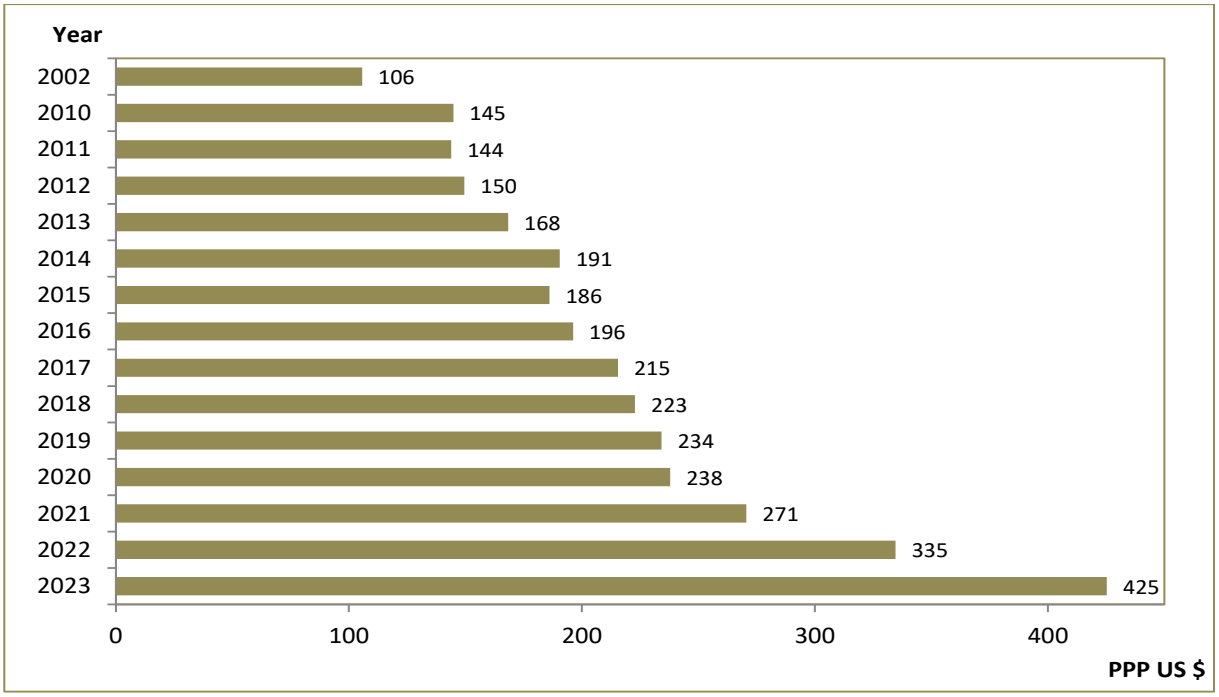
Source: TURKSTAT

Figure 11.15. Out-of-Pocket Health Expenditure per Capita by Years, in US $



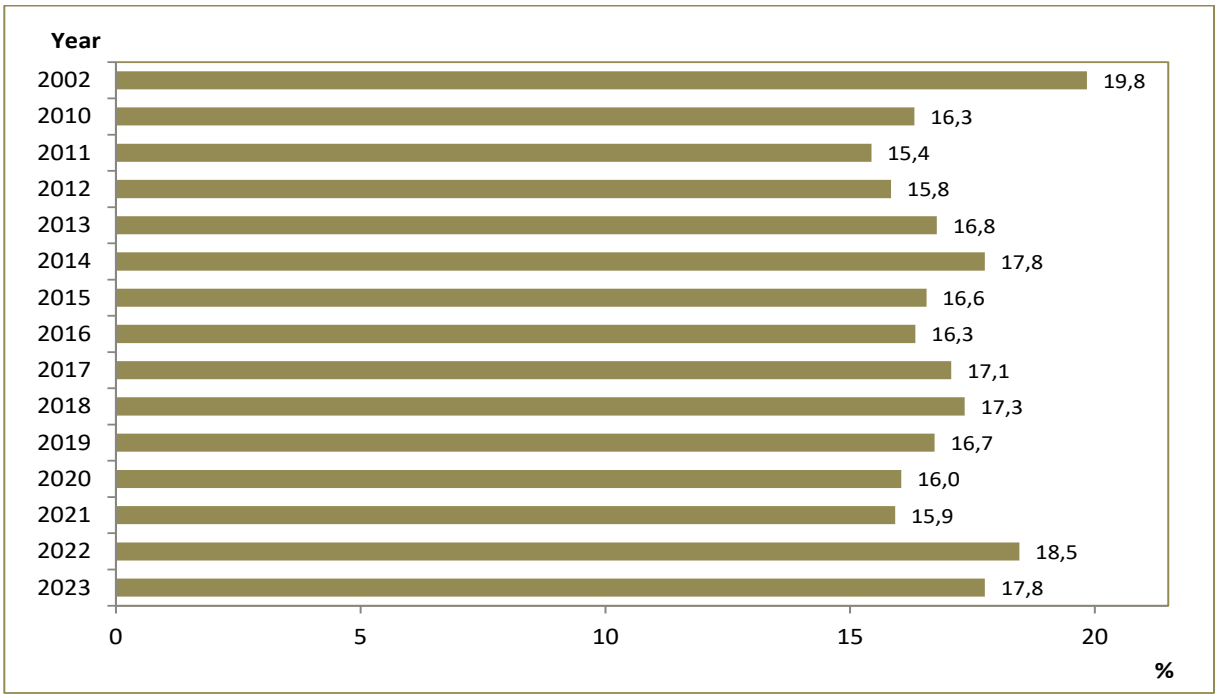
Source: TURKSTAT

Figure 11.16. Out-of-Pocket Health Expenditure per Capita by Years, PPP US $



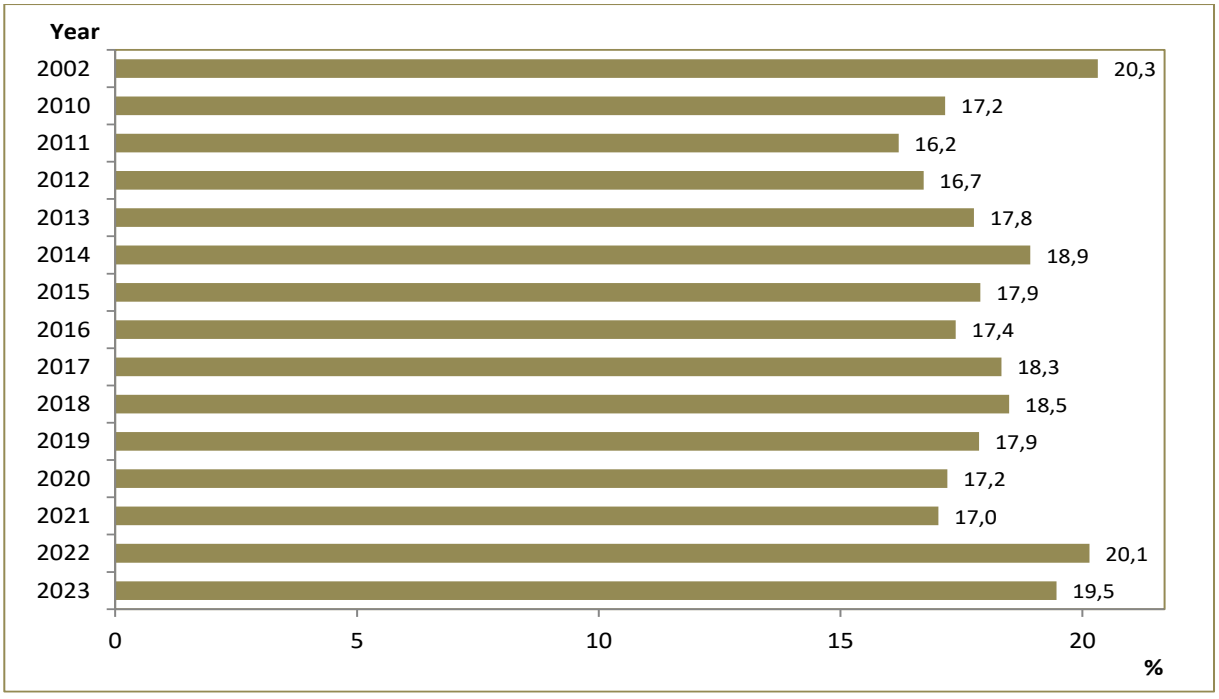
Source: TURKSTAT, OECD Health Data 2024

Figure 11.17. Out-of-Pocket Health Expenditure as a Share of Total Health Expenditure by Years, (%)



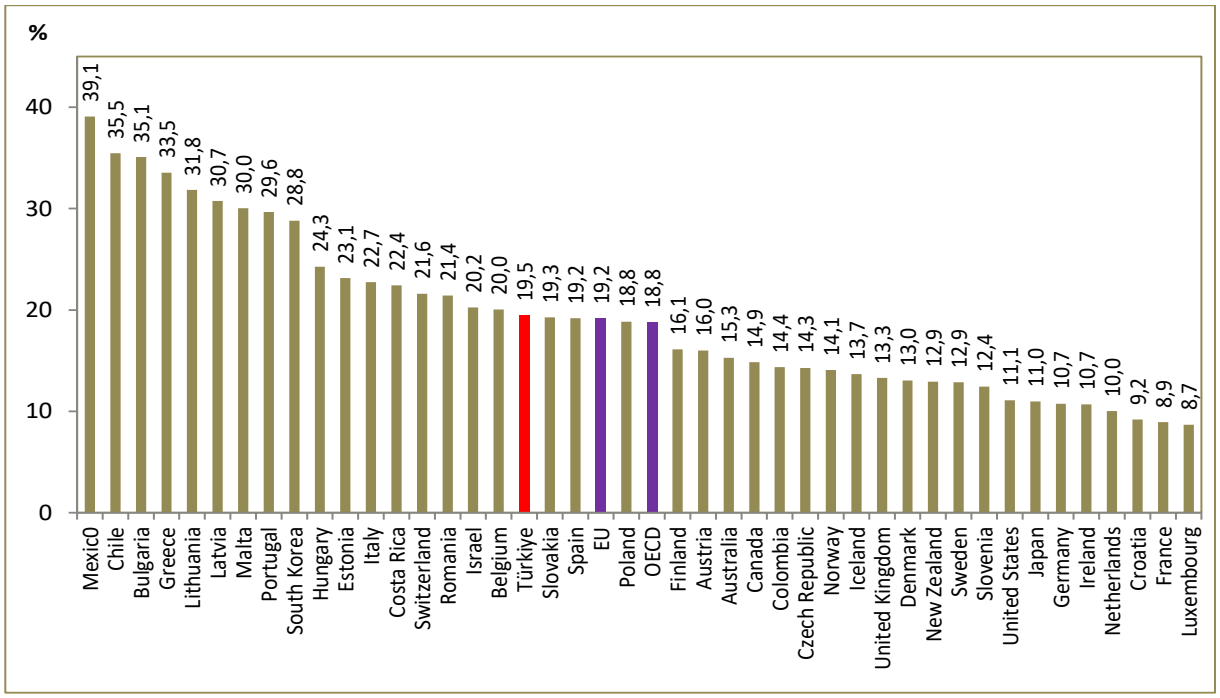
Source: TURKSTAT

Figure 11.18. Out-of-Pocket Current Health Expenditure as a Share of Total Current Health Expenditure by Years, (%)



Source: TURKSTAT

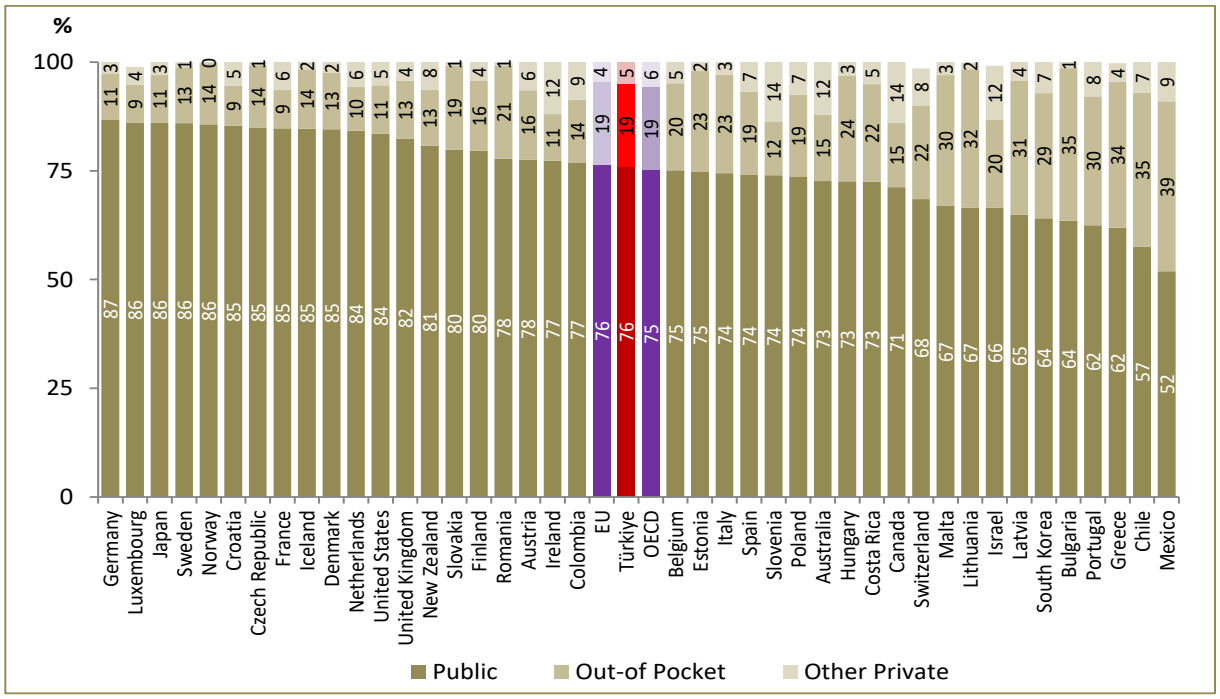
Figure 11.19. International Comparison of Out-of-Pocket Current Health Expenditure as a Share of Current Health Expenditure, (%), 2022



Source: TURKSTAT, OECD Health Data 2024

Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

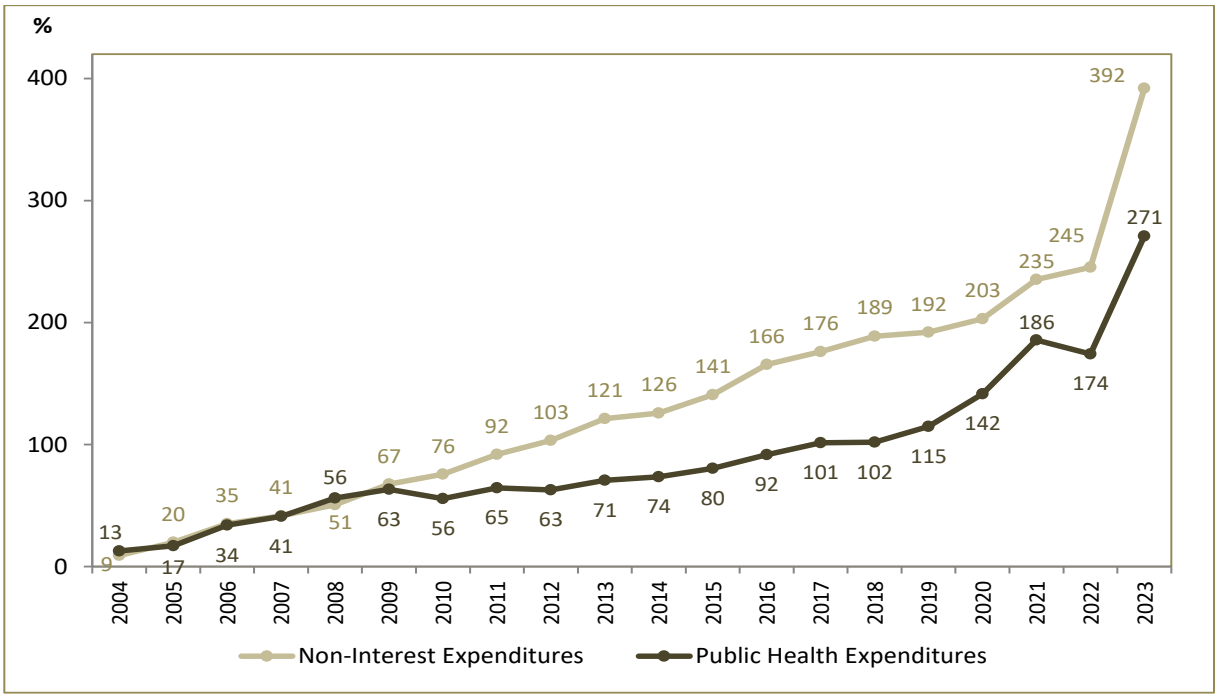
Figure 11.20. International Comparison of Distribution of Current Health Expenditure by Financing Type, (%), 2022



Source: TURKSTAT, OECD Health Data 2024

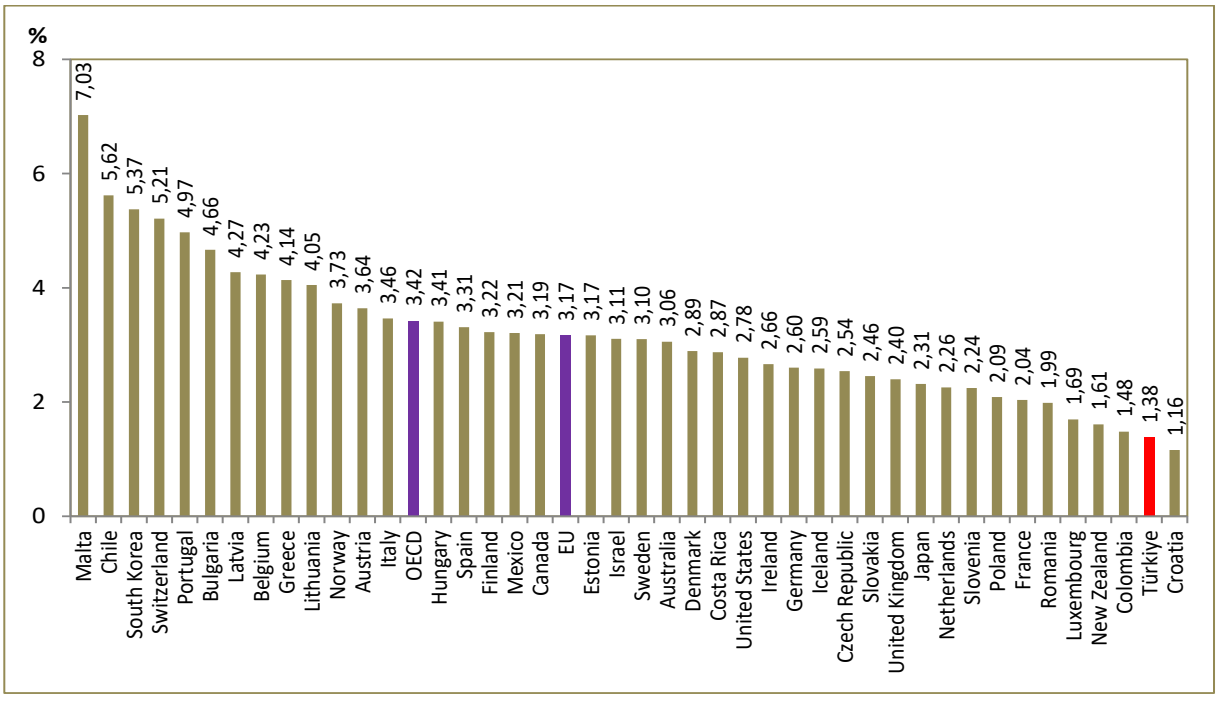
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest. Some countries' total does not give 100% due to having some other financing types.

Figure 11.21. Rates of Increase of Non-Interest Expenditures and Public Health Expenditures by Years, (%)



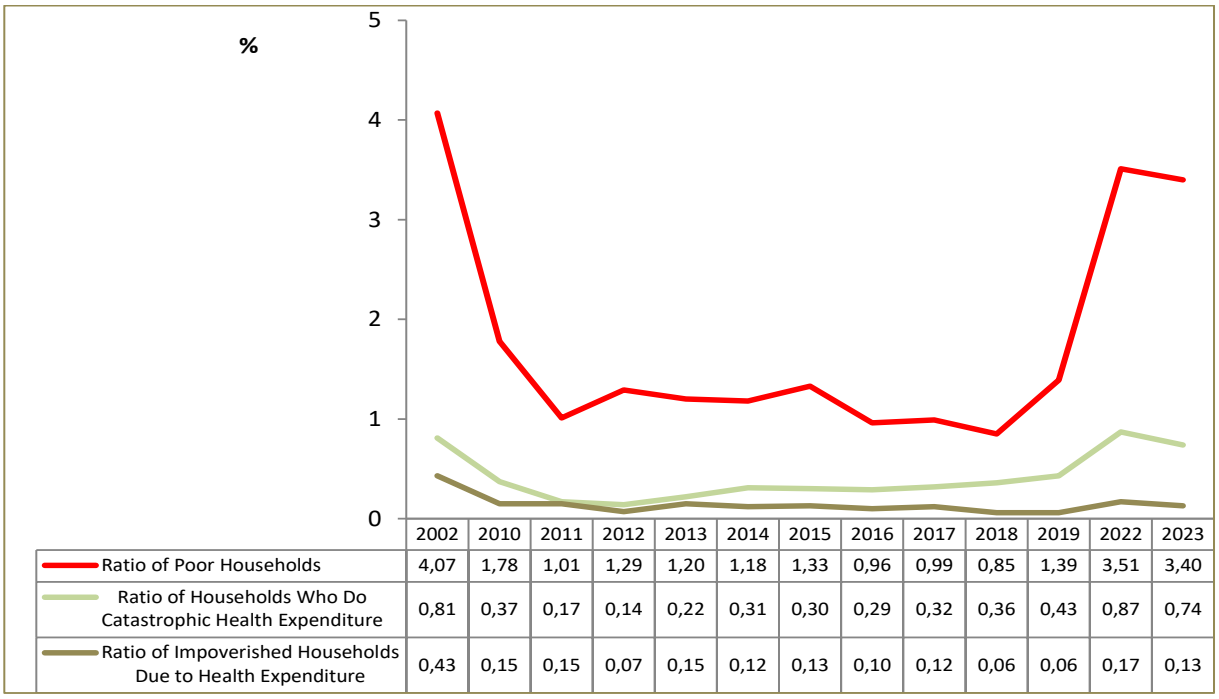
Source: TURKSTAT, Presidency of Türkiye Directorate of Strategy and Budgeting
Note: Rates of increase were calculated based on the year 2003.

Figure 11.22. International Comparison of Ratio of Out-of-Pocket Current Health Expenditure in Household Final Consumption Expenditure, (%), 2022



Source: TURKSTAT, OECD Health Data 2024
Note: Türkiye's data belongs to the year 2023. Countries' data belong to the year 2022 or nearest.

Figure 11.23. Catastrophic Health Expenditure by Years, (%)



	2002	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2022	2023
Ratio of Poor Households	4,07	1,78	1,01	1,29	1,20	1,18	1,33	0,96	0,99	0,85	1,39	3,51	3,40
Ratio of Households Who Do Catastrophic Health Expenditure	0,81	0,37	0,17	0,14	0,22	0,31	0,30	0,29	0,32	0,36	0,43	0,87	0,74
Ratio of Impoverished Households Due to Health Expenditure	0,43	0,15	0,15	0,07	0,15	0,12	0,13	0,10	0,12	0,06	0,06	0,17	0,13

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.

☑ **Household Final Consumption Expenditure:** It refers to the expenditures made on all final goods and services in a certain period. According to the expenditure method, the relevant value is obtained through GDP calculation. The main components of this method are final consumption of households, final consumption of the government, fixed capital investments and net exports. In order to comply with international standards, final consumption of non-profit institutions serving households is not included in household final consumption expenditures.

☑ **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 defence, 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. In the Health Statistics Year Books, PPP based indicators are calculated according to the actual individual consumption method.

Year	Mid-year Population	US $	PPP US $ (Based on Actual Individual Consumption)	CPI	GDP (in ₺)
2002	66.003.000	1,521	0,534	18,655	362.109.647.626
2003	66.795.000	1,492	0,695	14,889	472.171.775.307
2004	67.599.000	1,432	0,758	13,710	582.852.798.817
2005	68.435.000	1,348	0,827	12,674	680.275.847.307
2006	69.295.000	1,441	0,872	11,564	795.757.108.825
2007	70.158.000	1,300	0,904	10,633	887.714.413.790
2008	71.052.000	1,281	0,912	9,627	1.002.756.496.348
2009	72.039.000	1,545	0,942	9,061	1.006.372.481.605
2010	73.142.000	1,502	0,950	8,346	1.167.664.479.155
2011	74.224.000	1,677	0,991	7,839	1.404.927.614.908
2012	75.176.000	1,802	1,045	7,199	1.581.479.250.872
2013	76.148.000	1,903	1,104	6,697	1.823.427.315.107
2014	77.182.000	2,186	1,144	6,152	2.054.897.827.653
2015	78.218.000	2,711	1,190	5,714	2.350.941.343.285
2016	79.278.000	3,022	1,258	5,302	2.626.559.709.633
2017	80.313.000	3,648	1,387	4,770	3.133.704.267.365
2018	81.407.000	4,715	1,580	4,100	3.761.165.557.278
2019	82.579.000	5,679	1,739	3,560	4.317.809.823.926
2020	83.385.000	7,040	2,022	3,171	5.048.567.944.965
2021	84.147.000	8,981	2,475	2,651	7.256.141.737.216
2022	84.980.000	16,573	3,940	1,539	15.011.775.978.537
2023	85.326.000	23,492	6,087	1,000	26.545.721.796.819

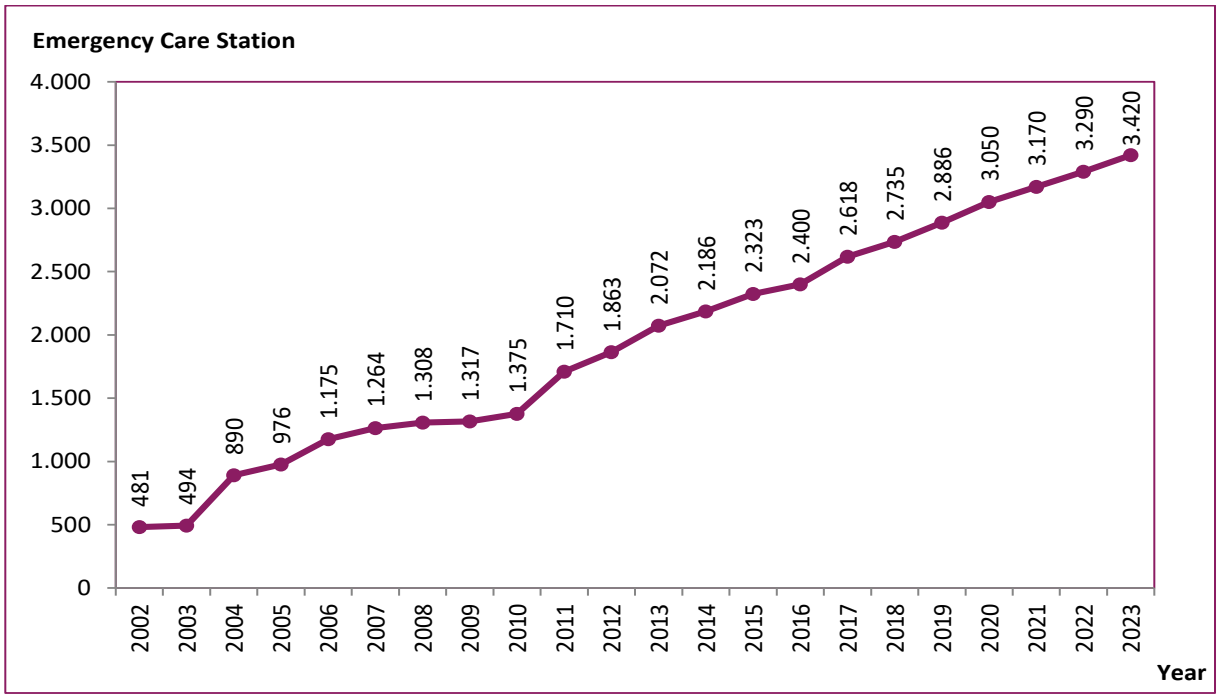
Source: TURKSTAT, OECD Health Data 2024



CHAPTER 12

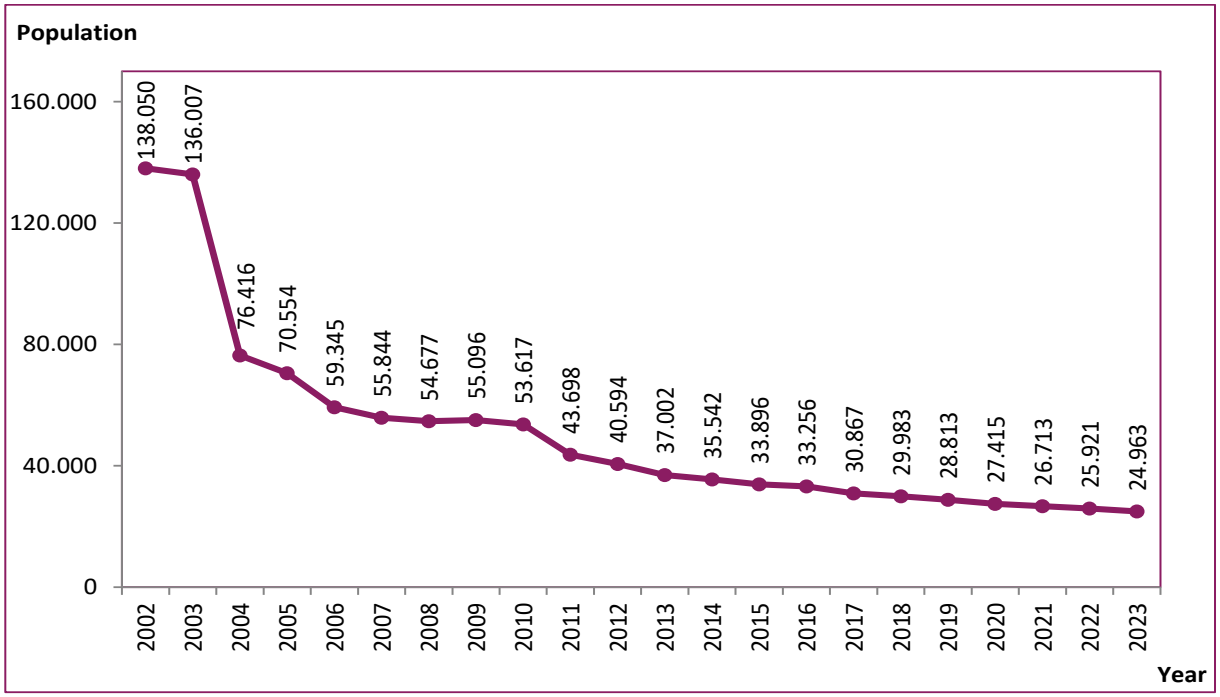
Emergency Health Services

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



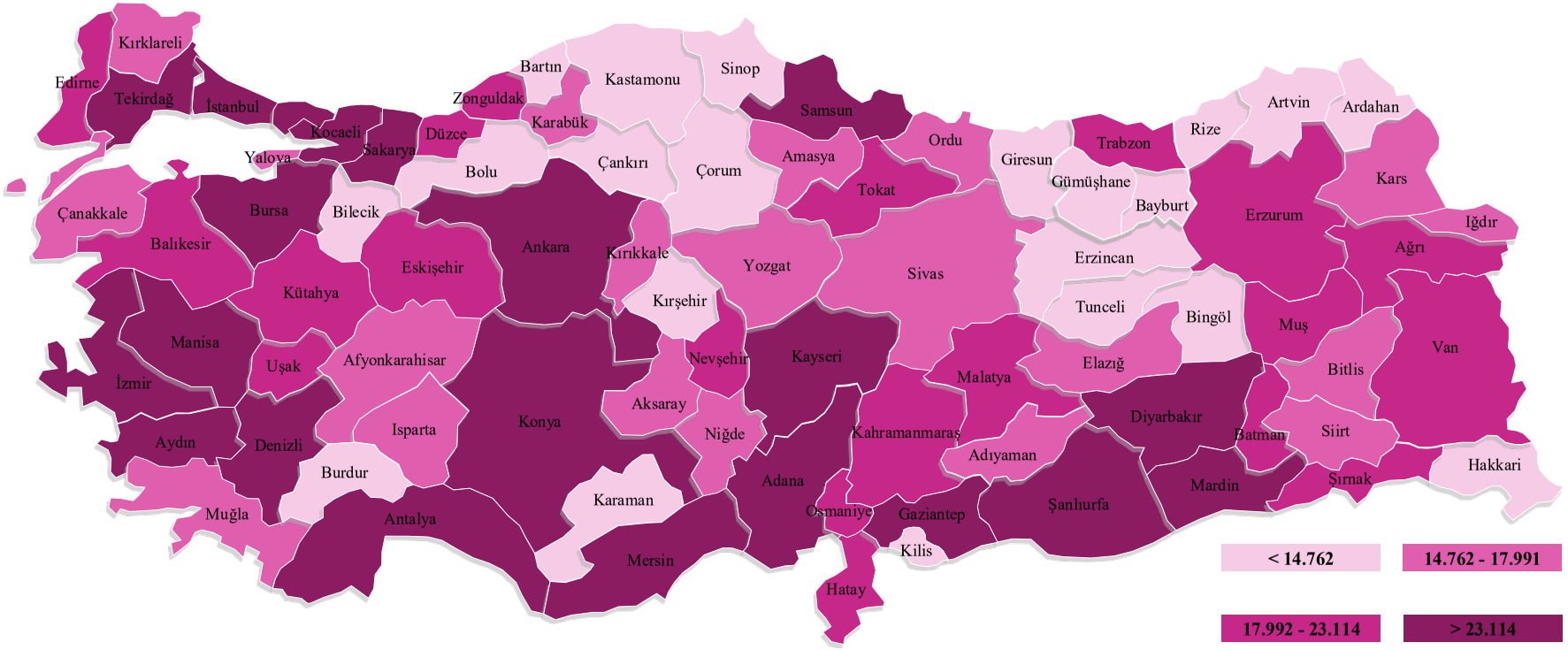
Source: General Directorate of Emergency Health Services

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



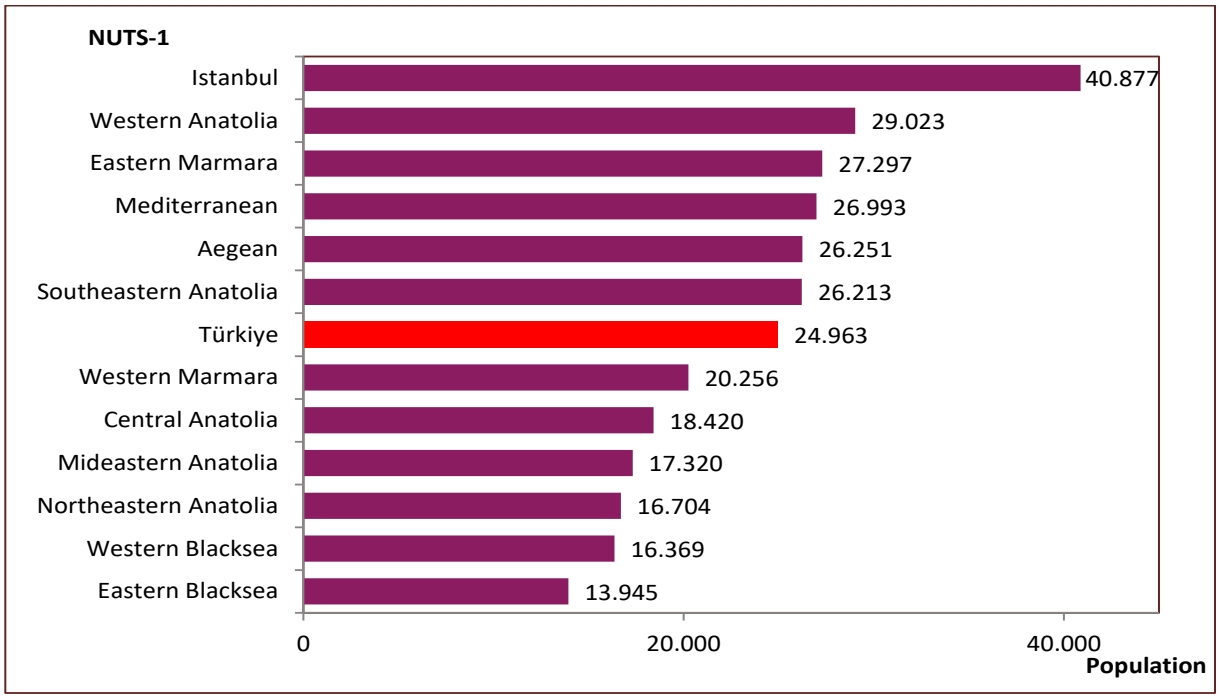
Source: General Directorate of Emergency Health Services

Map 12.1. Population per Emergency Care Station by Provinces, Ministry of Health, 2023



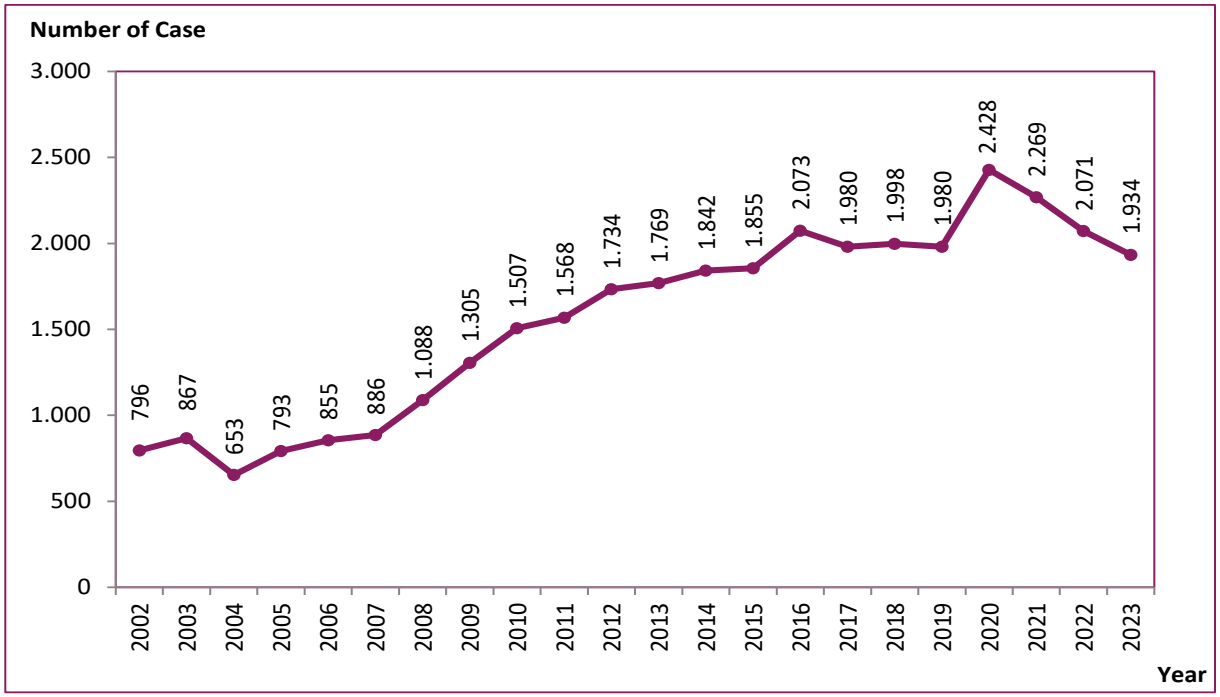
Source: General Directorate of Emergency Health Services

Figure 12.3. Population per Emergency Care Station by NUTS-1, Ministry of Health, 2023



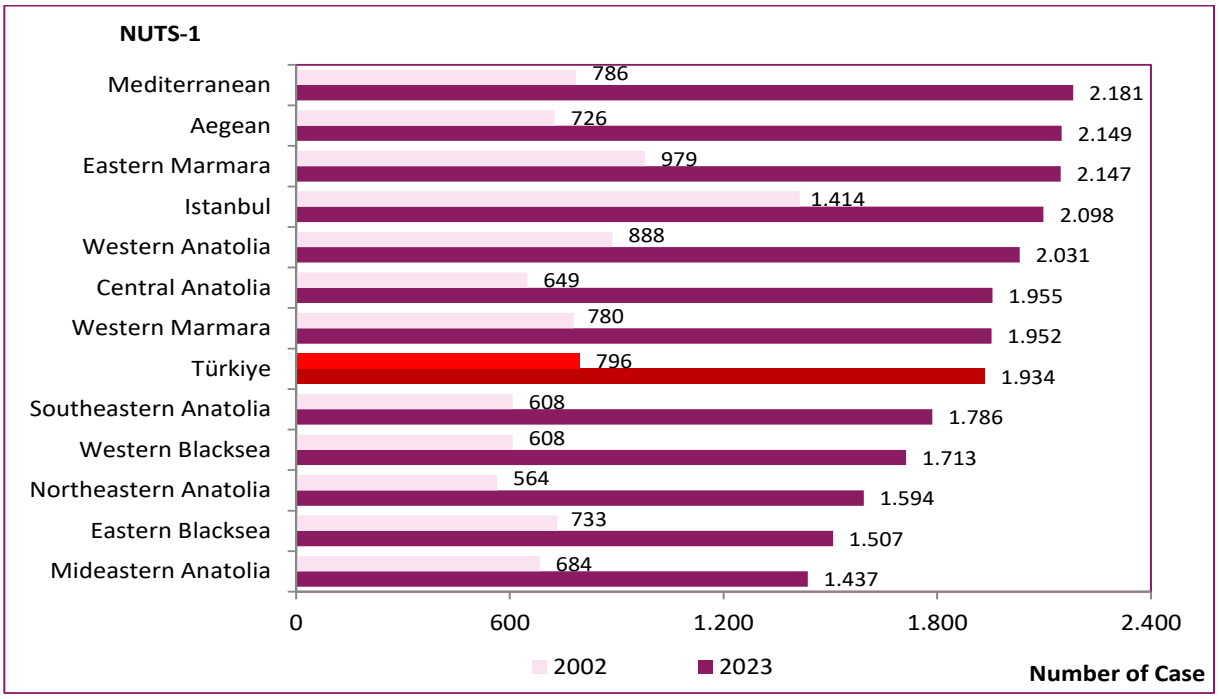
Source: General Directorate of Emergency Health Services

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



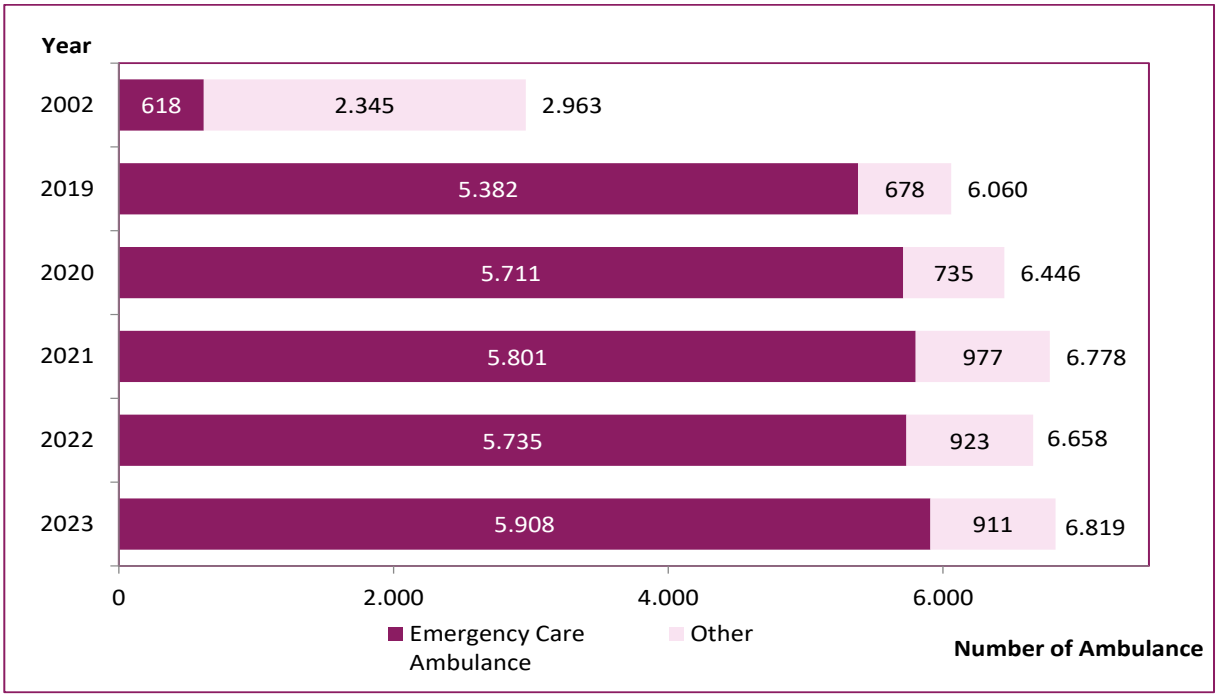
Source: General Directorate of Emergency Health Services

Figure 12.5. Number of Case per Emergency Care Station by NUTS-1, Ministry of Health, 2002, 2023



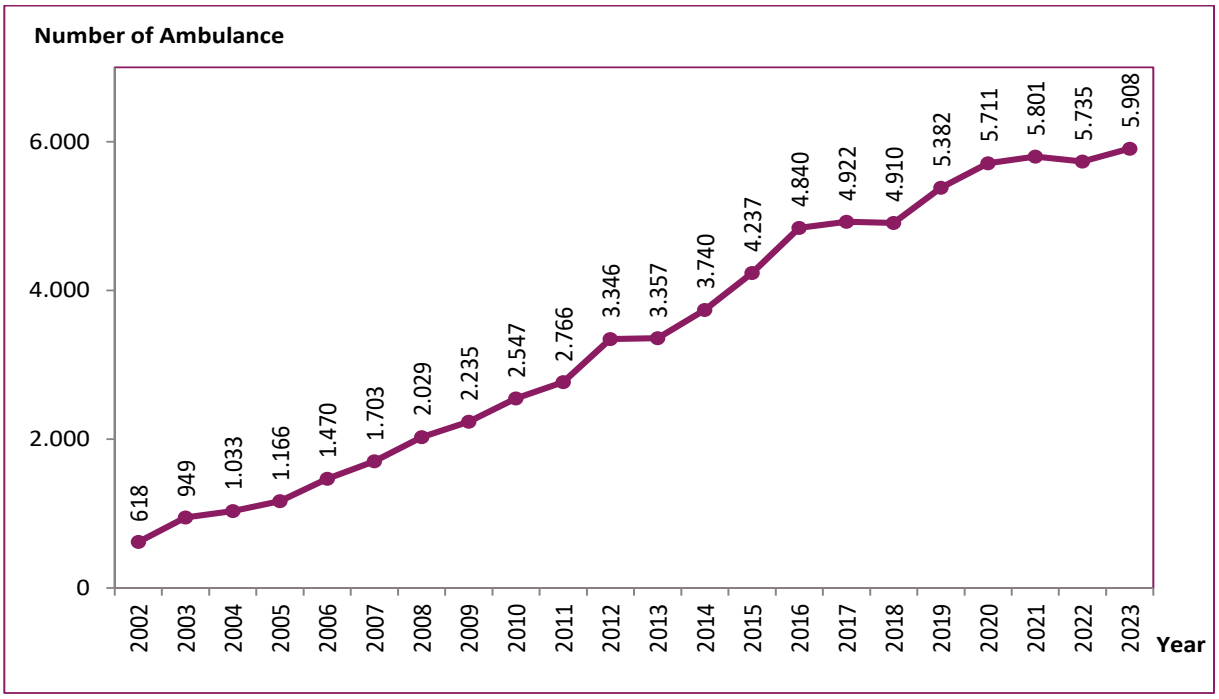
Source: General Directorate of Emergency Health Services

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



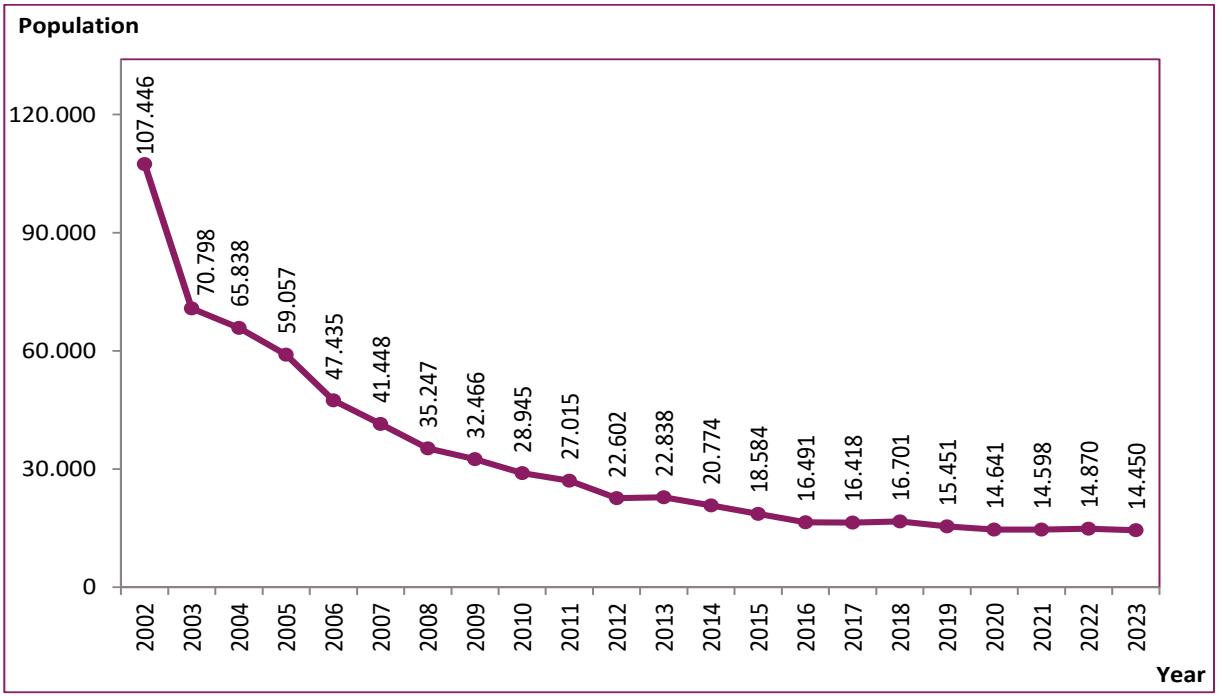
Source: General Directorate of Emergency Health Services

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



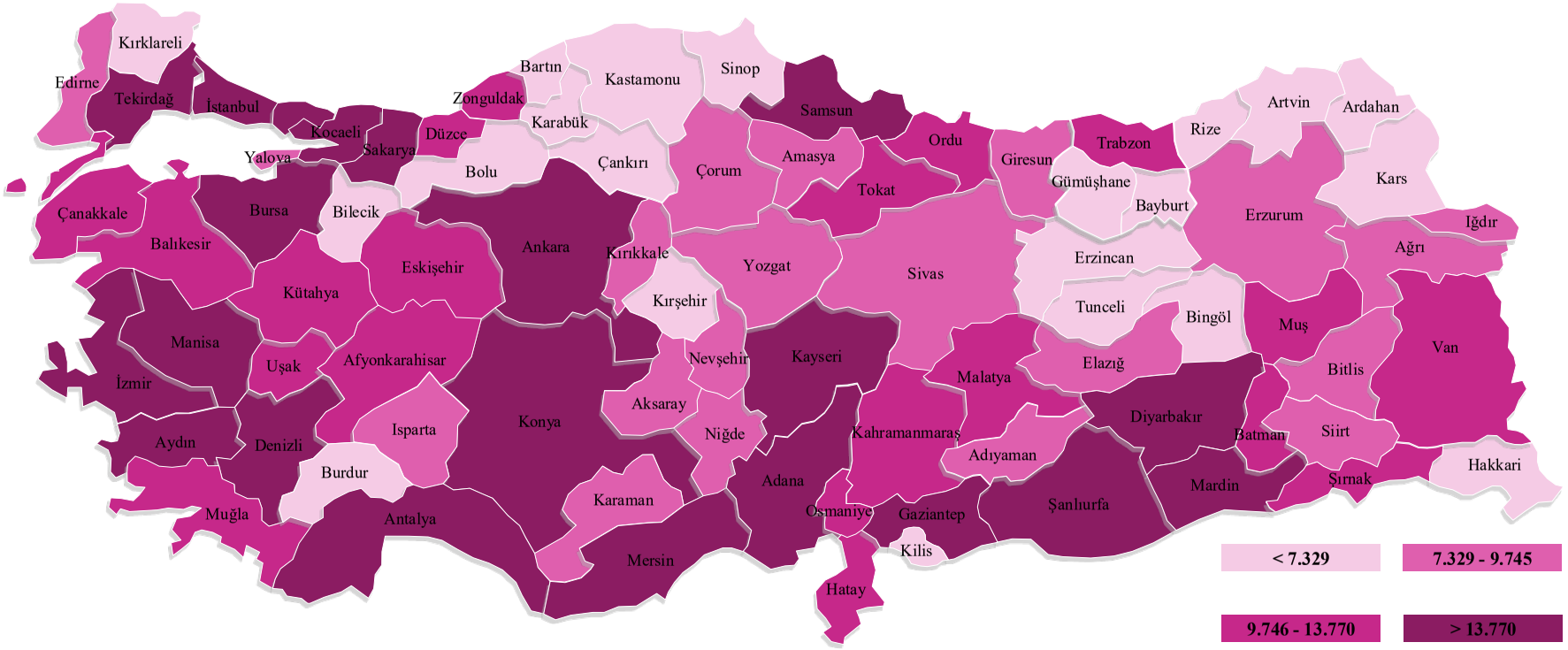
Source: General Directorate of Emergency Health Services

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



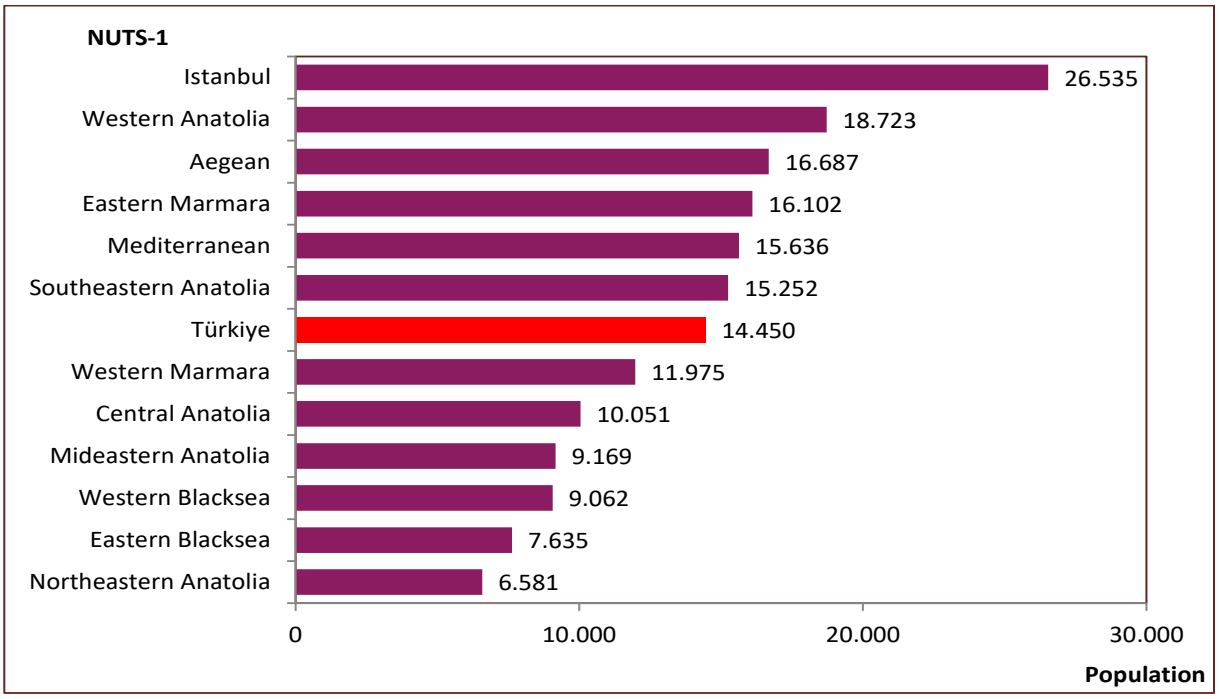
Source: General Directorate of Emergency Health Services

Map 12.2. Population per Emergency Care Ambulance by Provinces, Ministry of Health, 2023



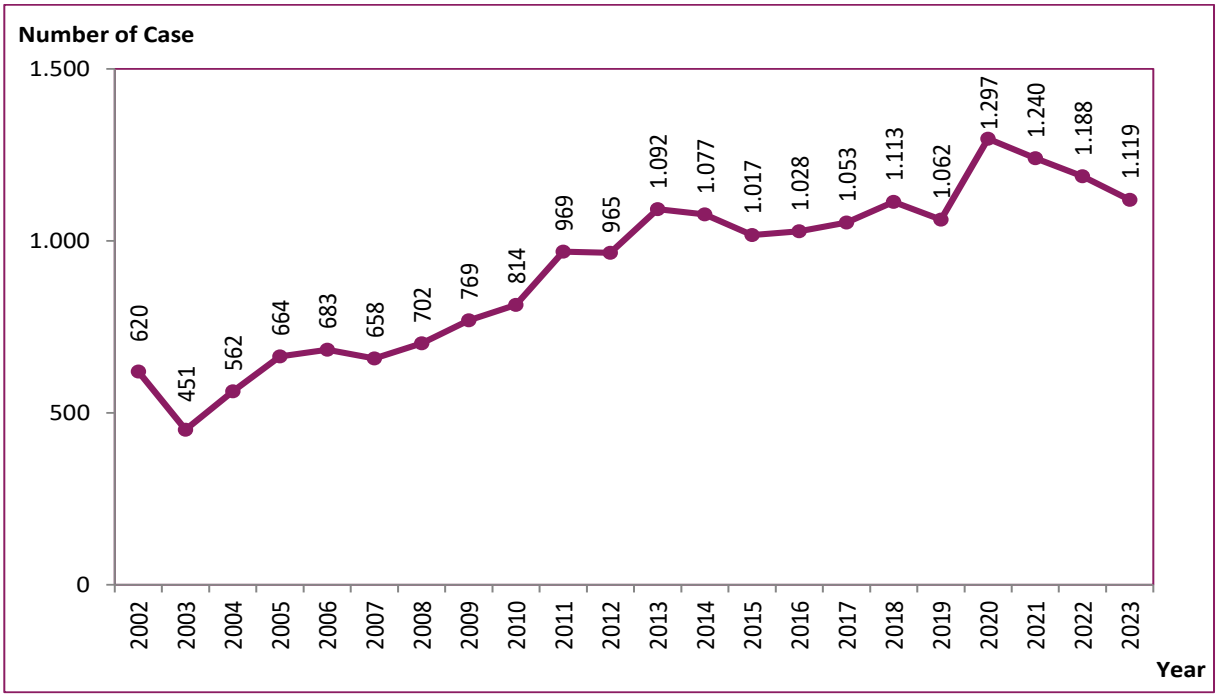
Source: General Directorate of Emergency Health Services

Figure 12.9. Population per Emergency Care Ambulance by NUTS-1, Ministry of Health, 2023



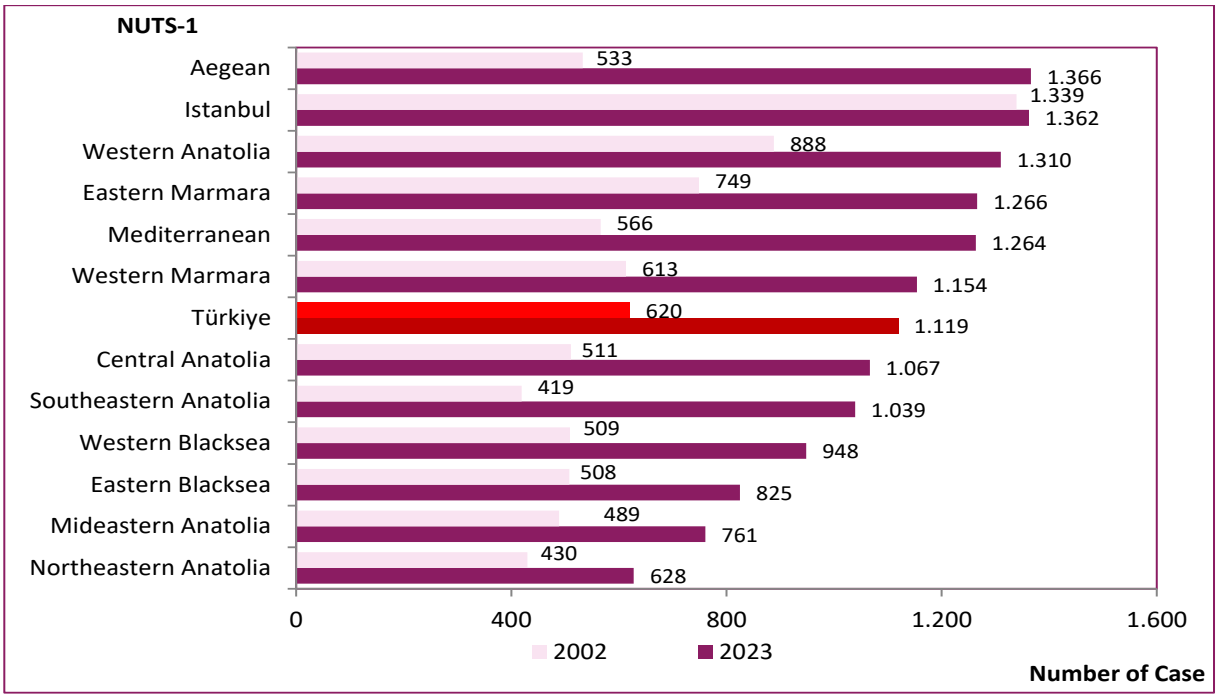
Source: General Directorate of Emergency Health Services

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, 2023



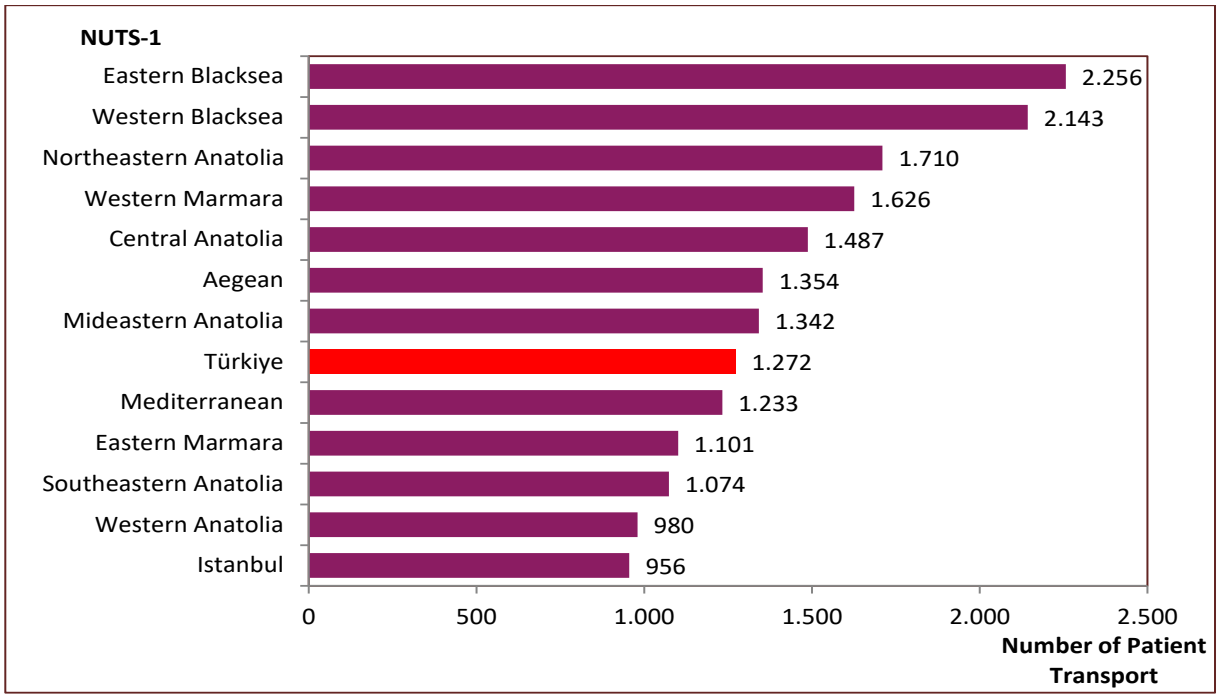
Source: General Directorate of Emergency Health Services

Table 12.1. Number of Vehicles and Patients Transported by Years and Ambulance Types, Ministry of Health

	Number of Vehicle			Number of Transferred Patients		
	2021	2022	2023	2021	2022	2023
Snow-Pallet Ambulance	237	235	231	619	806	216
Intensive Care & Bariatric Ambulance	92	92	92	9.080	7.028	8.538
Ambulance with 4 Stretchers	62	62	62	2.289	3.076	4.870
Motorcycle Ambulance	61	59	56	11.040	14.295	10.635
Newborn Ambulance	50	49	49	24.488	27.822	26.269
Snow Track Ambulance	21	21	21	20	95	24
Helicopter Ambulance	12	7	13	2.980	2.398	2.739
Air Ambulance	3	3	2	1.204	1.407	1.695
Sea Ambulance	6	6	6	3.954	4.050	3.620

Source: General Directorate of Emergency Health Services

Figure 12.12. Number of Total Patient Transport per 100.000 Population by NUTS-1, Ministry of Health, 2023



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, (%), Ministry of Health, 2023

Rank	Reason	within the city	Rank	Reason	out of the city
1	Requirement of Leading Privatized Physician	33,15	1	Requirement of Leading Privatized Physician	32,55
2	Requirement of Specialist Physician	32,80	2	Requirement of Specialist Physician	22,44
3	Requirement of Intensive Care	11,75	3	Requirement of Intensive Care	15,95
4	Requirement of Medical Equipment	8,14	4	Requirement of Medical Equipment	8,95
5	No Space	7,58	5	No Space	5,96
6	Referral to a Higher Level Intensive Care	1,87	6	Referral to a Higher Level Intensive Care	4,70
7	Patient Demand	1,65	7	Patient Demand	3,53
8	Requirement of Subspecialty Specialist Physicians	0,74	8	Requirement of Subspecialty Specialist Physicians	1,54
9	Referral to a Same Level Intensive Care	0,70	9	Referral to Advanced Center (Newborn Transport)	1,43
10	Dispatch to Service	0,54	10	Requirement of Burn Unit	0,85

Source: General Directorate of Emergency Health Services

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

NUTS-1	2019	2020	2021	2022	2023
Istanbul	18,2	12,1	13,6	15,6	16,0
Western Anatolia	17,8	15,1	15,5	16,1	15,9
Southeastern Anatolia	11,8	8,1	9,4	10,7	11,8
Aegean	11,3	7,9	9,2	10,2	11,6
Türkiye	12,0	8,5	9,4	10,3	11,1
Mideastern Anatolia	12,1	7,9	8,5	9,1	10,7
Mediterranean	10,2	8,0	8,6	9,4	10,2
Western Marmara	10,3	7,6	7,9	8,5	9,5
Northeastern Anatolia	13,3	8,1	9,0	8,7	9,1
Eastern Marmara	9,0	7,0	7,3	7,9	9,0
Eastern Blacksea	8,7	5,9	6,9	7,2	7,4
Western Blacksea	7,5	4,4	5,1	6,0	6,8
Central Anatolia	7,6	5,0	5,5	6,0	6,6

Source: General Directorate of Emergency Health Services

Table 12.4. Some Health Indicators by Provinces, Ministry of Health, 2023

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	69	32.903	106	21.418	13,6
Adıyaman	40	15.124	64	9.453	9,3
Afyonkarahisar	42	17.889	72	10.435	7,3
Ağrı	24	21.302	54	9.467	8,2
Amasya	23	14.762	41	8.281	7,9
Ankara	176	32.974	280	20.727	20,5
Antalya	72	37.448	118	22.850	10,3
Artvin	26	6.629	51	3.380	6,8
Aydın	49	23.708	74	15.699	8,9
Balıkesir	67	19.008	94	13.548	8,5
Bilecik	17	13.415	36	6.335	5,5
Bingöl	20	14.283	41	6.967	7,2
Bitlis	22	16.352	40	8.994	10,5
Bolu	25	12.992	45	7.218	9,0
Burdur	24	11.561	46	6.032	5,1
Bursa	89	36.119	150	21.430	13,5
Çanakkale	35	16.300	54	10.565	10,4
Çankırı	19	10.816	47	4.372	4,0
Çorum	37	14.280	62	8.522	7,1
Denizli	38	27.871	65	16.294	6,9
Diyarbakır	69	26.350	109	16.680	12,3
Edirne	22	19.087	48	8.748	7,9
Elazığ	36	16.789	63	9.594	8,0
Erzincan	22	11.064	53	4.592	11,7
Erzurum	33	22.727	79	9.494	8,7
Eskişehir	43	21.289	72	12.714	4,6
Gaziantep	64	33.815	106	20.416	13,3
Giresun	33	13.991	63	7.329	7,9
Gümüşhane	17	8.738	42	3.537	9,0
Hakkari	27	10.653	60	4.794	10,7
Hatay	68	22.715	121	12.766	9,4
Isparta	25	17.991	54	8.329	6,7
Mersin	66	29.370	116	16.710	10,0
İstanbul	383	40.877	590	26.535	16,0
İzmir	116	38.617	169	26.506	16,8
Kars	17	16.373	46	6.051	10,1
Kastamonu	38	10.237	65	5.984	7,0
Kayseri	56	25.816	90	16.063	5,4
Kırklareli	24	15.715	53	7.116	7,3
Kırşehir	19	13.009	41	6.029	7,3
Kocaeli	55	38.235	90	23.366	6,7

Source: General Directorate of Emergency Health Services

Table 12.4. Some Health Indicators by Provinces, Ministry of Health, 2023- 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	95	24.424	133	17.445	6,7
Kütahya	29	19.851	46	12.515	6,9
Malatya	39	19.044	66	11.253	12,1
Manisa	60	24.595	99	14.906	8,7
Kahramanmaraş	49	22.788	85	13.137	8,8
Mardin	34	26.143	54	16.461	10,0
Muğla	63	16.932	96	11.112	11,0
Muş	18	22.216	37	10.808	9,6
Nevşehir	17	18.588	34	9.294	10,2
Niğde	24	15.712	45	8.380	6,9
Ordu	50	15.516	76	10.208	8,5
Rize	26	13.481	53	6.613	6,0
Sakarya	47	23.364	68	16.149	7,7
Samsun	53	25.991	84	16.399	6,2
Siirt	20	17.371	42	8.272	8,9
Sinop	25	9.189	48	4.786	6,6
Sivas	40	16.260	71	9.161	7,8
Tekirdağ	40	29.176	69	16.914	11,8
Tokat	31	19.579	52	11.672	7,2
Trabzon	44	18.735	73	11.292	6,5
Tunceli	13	6.871	34	2.627	9,5
Şanlıurfa	64	34.593	111	19.946	12,1
Uşak	20	18.850	35	10.771	6,1
Van	50	22.552	84	13.424	12,9
Yozgat	26	16.181	53	7.938	4,9
Zonguldak	31	19.080	52	11.375	8,5
Aksaray	26	16.866	45	9.745	7,8
Bayburt	8	10.756	36	2.390	6,2
Karaman	18	14.664	35	7.542	4,8
Kırıkkale	19	15.039	37	7.723	6,2
Batman	28	23.114	47	13.770	9,3
Şırnak	26	21.952	46	12.408	15,0
Bartın	15	13.816	31	6.685	5,5
Ardahan	14	6.630	37	2.509	7,3
Iğdır	12	17.478	25	8.390	9,0
Yalova	17	17.928	32	9.524	5,6
Karabük	17	15.014	40	6.381	7,2
Kilis	14	11.084	38	4.084	10,2
Osmaniye	29	19.230	48	11.618	6,6
Düzce	22	18.630	41	9.997	5,7
Türkiye	3.420	24.963	5.908	14.450	11,1

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 of General Directorate of Public Health and 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 with English, Arabic, Russian, French and German language options. 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. Additionally, they can manually add personal health data, such as blood pressure, blood sugar, and weight to the system. Also, parents can access their children's health data through their own accounts. This way, processes related to family health are managed in a more integrated manner. 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. During the pandemic, it also provides services with opportunities such as monitoring PCR results, informing citizens about vaccination rights and vaccination card, and querying the flu vaccination risk group and administrative permission document.

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, patients are prevented from receiving radiation and approximately 2 billion Turkish Liras of public savings are achieved.

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. In this context, situations that require instant intervention, such as the density of emergency clinics and bed occupancy rates of each hospital, can be monitored through SINA. The number of daily visits to physicians, the number of requests for imaging and laboratory tests, prescribing behaviors, and the effectiveness of receiving the health services people get from the Centralized Physician Appointment System can be monitored via SINA. In addition to keeping health records, decision support is provided in improving health policies by reporting critical parameters such as incidence, prevalence, mortality rate and readmission of chronic diseases, cancer and operations that are important to follow-up. It also allows the monitoring of monthly performance data of physicians, pediatric vaccination calendars and data that are critical and strategic for public health, such as pregnancy follow-ups. As a local business intelligence platform, SINA enables live monitoring and reporting of digital records of all healthcare providers.

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, analysis of family medicine, 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. In this respect, with the data transferred to the SİNA application thanks to the integration, the reporting of the number of personnel has been provided according to the working style, title-branch and personnel movement. 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. In this respect, studies have been started since 2015 with different sources. Currently, the application has been developed in accordance with certain standards, and new applications are still being analyzed and developed.

REPUBLIC OF TÜRKİYE
MINISTRY OF HEALTH
GENERAL DIRECTORATE OF
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Ministry of Health Publicaton No: 1302

ISBN: 978-975-590-921-9