HEALTH STATISTICS YEARBOOK



2019

GENERAL DIRECTORATE OF HEALTH INFORMATION SYSTEMS

THE MINISTRY of HEALTH of TURKEY

HEALTH STATISTICS YEARBOOK

2019

In Health Statistics Yearbook 2019, statistics were calculated according to international standard definition.

Ankara 2021

THE MINISTRY of HEALTH of TURKEY

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2019

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ISBN : 978-975-590-793-2

Ministry of Health Publication No : 1186

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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
İstanbul	**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
COPD : Chronic Obstructive Pulmonary Disease
CPI : Consumer Price Index
CPV : Conjugated Pneumococcal Vaccination
CT : Computerized Tomography
DALY : Disability Adjusted Life Years
DaPT : Diphtheria aceluler Pertussis Tetanus Vaccination
DDD : Daily Defined Dose
ECHO : Echocardiography
EHIS : European Health Interview Survey
EKIP : Integrated Corporate Transaction Platform
EU : European Union
EUROSTAT : Office of European Statistics
FAO : Food and Agriculture Organization
FMIS : Family Medicine Information System
GBD : Global Burden of Disease
GDP : Gross Domestic Product
GLOBOCAN : Global Cancer Observatory
GNI : Gross National Income
gr : Gram
HALE : Health Adjusted Life Expectancy
HBV : Hepatitis B Vaccination
HbA1c : Hemoglobin A1c or Glycolized Hemoglobin
HDL : High Density Lipoproteins
HFA : Health for All
Hib : Haemophilus Influenza Type B Vaccination
HSYS : Public Health Management System
IARC : International Agency for Research on Cancer
ICD-10 : International Classification of Diseases
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
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 : The Organization for Economic Cooperation and Development
PAL : Physical Activity Level
PIS : Prescription Information System
PPP : Purchasing Power Parity
SII : Social Insurance Institution
SINA : Statistics And Cause Analysis in Health
SPTS : Health Personnel Tracking System
SSI : Social Security Institution
TDHS : Turkey Demographic and Health Survey
₺ : Turkish Lira
TURKSTAT : Turkish Statistical Institute
UNICEF : United Nations Children's Fund
UN IGME : United Nations Inter-Agency Group for Child Mortality Estimation
UNPD : United Nations Population Division
UNU : United Nations University
WHO : World Health Organization
YLD : Years Lived with Disability

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General Explanations on Health Statistics Yearbook 2019

While the values of the indicators in the Health Statistics Yearbook 2019 were calculated, international definitions and standards have been used and were revised in accordance with these definitions and standards. Please find the information in detail in the fact sheet at the end of the chapters.

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

1. Online database of the World Health Organization Headquarters in Geneva, "Global Health Observatory" (http://www.who.int/gho/en/), which contains data on 194 countries. In order to make comparisons between countries, projected data for countries are included.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan.

2. **Upper Middle Income Countries (Countries with GNI per capita between $4.046 and $12.535):** Albania, American Samoa, Argentina, Armenia, Azerbaijan, Belarus, Belize, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, China, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, Equatorial Guinea, Fiji, Gabon, Georgia, Grenada, Guatemala, Guyana, Indonesia, Iran, Iraq, Jamaica, Jordan, Kazakhstan, Kosovo, Lebanon, Libya, Malaysia, Maldives, Marshall Islands, Mexico, Montenegro, Namibia, North Macedonia, Paraguay, Peru, Russian Federation, Samoa, Serbia, South Africa, St. Lucia, St. Vincent and the Grenadines, Suriname, Thailand, Tonga, Turkey, Turkmenistan, Tuvalu, Venezuela.

3. **High-Income Countries (Countries with GNI per capita of bigger than $12.535):** Andorra, Antigua and Barbuda, Aruba, Australia, Austria, Bahamas, Bahrain, Barbados, Belgium, Bermuda, British Virgin Islands, Brunei Darussalam, Canada, Cayman Islands, Channel Islands, Chile, Croatia, Curacao, Cyprus, Czech Republic, Denmark, Estonia, Faeroe Islands, Finland, France, French Polynesia, Germany, Gibraltar, Greece, Greenland, Guam, Hong Kong SAR, China, Hungary, Iceland, Ireland, Isle of Man, Israel, Italy, Japan, South Korea, Kuwait, Latvia, Liechtenstein, Lithuania, Luxembourg, Macao SAR, China, Malta, Mauritius, Monaco, Nauru, Netherlands, New Caledonia, New Zealand, Northern Mariana Islands, Norway, Oman, Palau, Panama, Poland, Portugal, Puerto Rico, Qatar, Romania, San Marino, Saudi Arabia, Seychelles, Singapore, Sint Maarten (Dutch part), Slovakia, Slovenia, Spain, St. Kitts and Nevis, St. Martin (French part), Sweden, Switzerland, Taiwan, China, Trinidad and Tobago, Turks and Caicos Islands, United Arab Emirates, United Kingdom, United States, Uruguay, Virgin Islands (U.S.).

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

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

Note: World Bank divides the countries into 4 groups namely high, upper-middle, lower-middle and low income. The countries are grouped based on their gross national income per capita by using Atlas Method. As of 01 July 2020 fiscal year and 2019 calendar year, the countries are defined below.

Income Groups	Low	Lower-Middle	Middle-Upper	High
GNI (per capita) (US $)	≤1.035	1.036 – 4.045	4.046- 12.535	> 12.535

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

Telemedicine /Teleradiology System

The Telemedicine System of the Ministry of Health is a system that allows access to images of radiological examinations on the web platform 24/7, reporting these images, making teleconsultation between radiologists, evaluating medical images and reports in terms of quality and sharing them with citizens via the e-Nabız.

Statistics and Cause Analysis in Health (SİNA)

Statistics and Causal Analyzes in Health (SİNA) 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. SİNA 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, SİNA allows live monitoring and reporting of digital records of all healthcare service providers. SİNA used by both the central administration and provincial, district and hospital managers and physicians continues to spread rapidly throughout the country.

Spatial Business Intelligence (MİZ)

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

Integrated Corporate Transaction Platform (EKİP)

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. EKİP 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 Health Facilities Management. It is the system in which licensing processes, physician staff, working physicians, physician initiation procedures, health institution site lists, health institution equipment, inspection procedures, operating licenses are followed in the private institutions. The last component is Portal. It is the system that the Ministry of Health serves as the Corporate Social Communication Network. It is a platform where personal information can be managed and in-house social networks can be created, people can view their personal information, create groups with social media features, share, and participate in online training. Physicians can share cases, view the number of examinations, appointments and operations, and service scores.

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.



CHAPTER 1

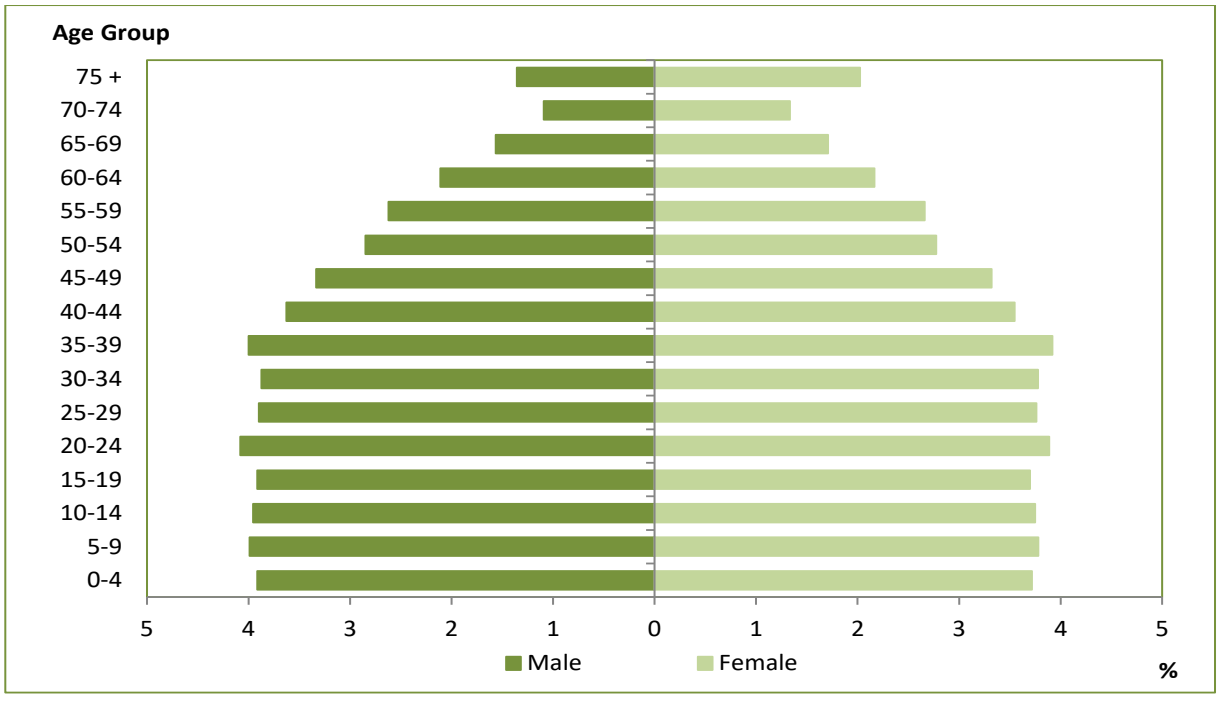
General Demographic Indicators

Figure 1.1. Population Pyramid, (%), 2000, 2019



Source: TURKSTAT

Figure 1.2. Population Pyramid by Sex, (%), 2019



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	2016	2017	2018	2019
Total Population	56.473.035	67.803.927	79.814.871	80.810.525	82.003.882	83.154.997
Rural Population Ratio (%)	48,7	40,8	12,1	11,8	12,1	11,5
Urban Population Ratio (%)	51,3	59,2	87,9	88,2	87,9	88,5
0-14 Aged Population Ratio (%)	35,0	29,8	23,7	23,6	23,4	23,1
65 and Over Aged Population Ratio (%)	4,3	5,7	8,3	8,5	8,8	9,1
Child Dependency Ratio (Aged 0-14) (%)	57,6	46,3	34,9	34,7	34,5	34,1
Elderly Dependency Ratio (Aged 65 and Over) (%)	7,1	8,8	12,3	12,6	12,9	13,4
Total Age Dependency Ratio (%)	64,7	55,1	47,2	47,2	47,4	47,5
Annual Population Growth Rate (‰)	21,7	18,3	13,5	12,4	14,7	13,9
Crude Birth Rate (‰)	24,1	21,6	16,6	16,2	15,4	14,3
Crude Death Rate (‰)	7,1	7,3	5,3	5,3	5,2	5,3
Total Fertility Rate	2,9	2,5	2,1	2,1	2,0	1,9

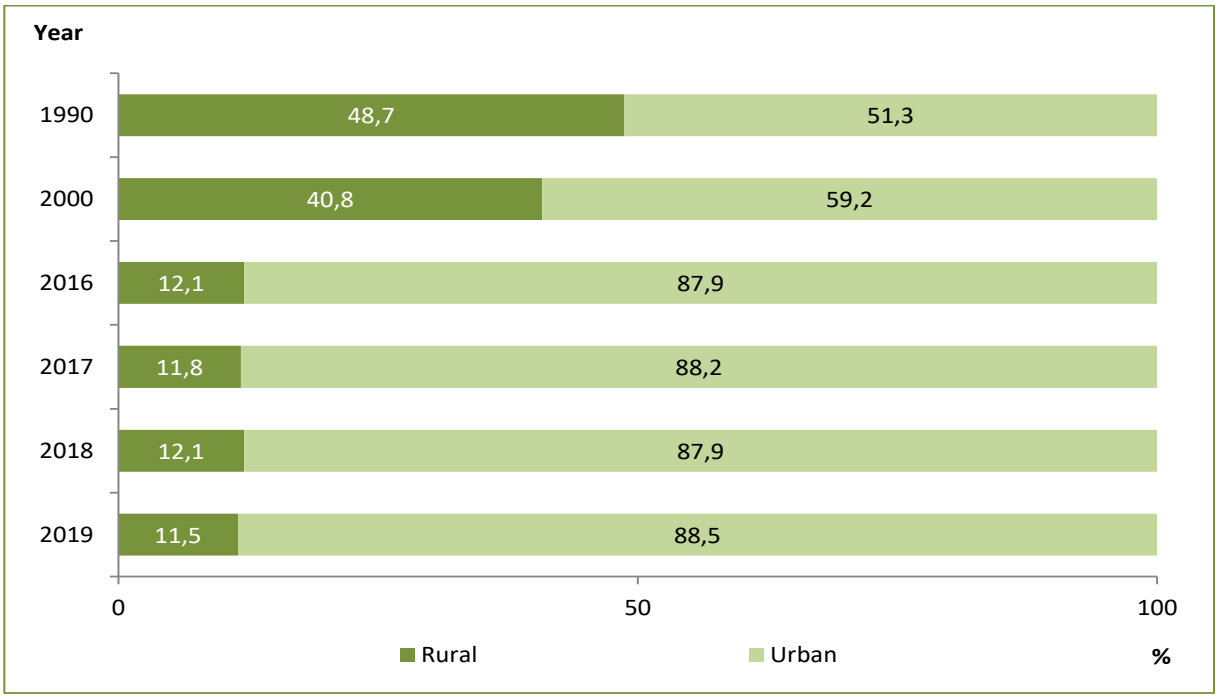
Source: TURKSTAT
Note: Youth Dependency Ratio changed to the "Child Dependency Ratio".

Table 1.2. Population by Age Groups, 2000, 2019

Age Group	2000	2019
0-4	6.584.822	6.345.136
5-9	6.756.617	6.461.039
10-14	6.878.656	6.406.170
15-19	7.209.475	6.331.594
20-24	6.690.146	6.624.078
25-29	5.895.255	6.367.311
30-34	5.009.655	6.363.017
35-39	4.854.387	6.584.843
40-44	4.068.756	5.967.384
45-49	3.368.769	5.533.559
50-54	2.717.349	4.675.373
55-59	2.058.422	4.389.997
60-64	1.829.288	3.554.769
65-69	1.645.517	2.722.672
70-74	1.172.643	2.016.913
75 +	1.040.789	2.811.142
Unknown	23.381	-
Turkey	67.803.927	83.154.997

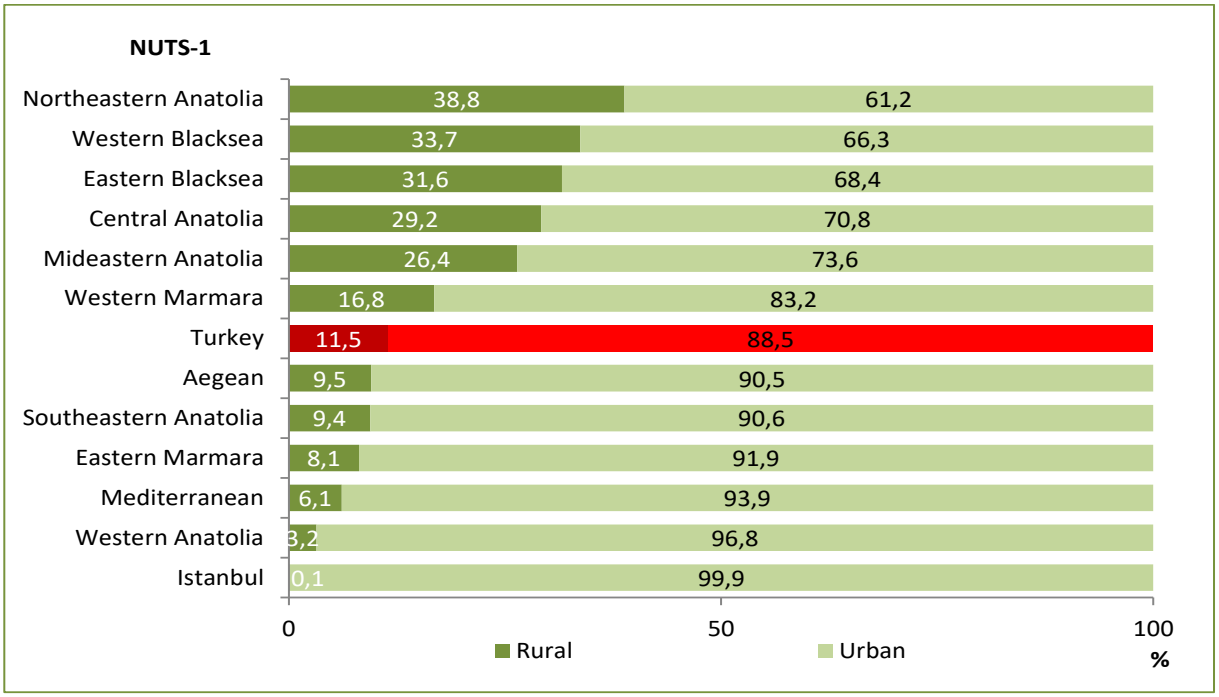
Source: TURKSTAT

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



Source: TURKSTAT

Figure 1.4. Rural and Urban Population Ratio by NUTS-1, (%), 2019

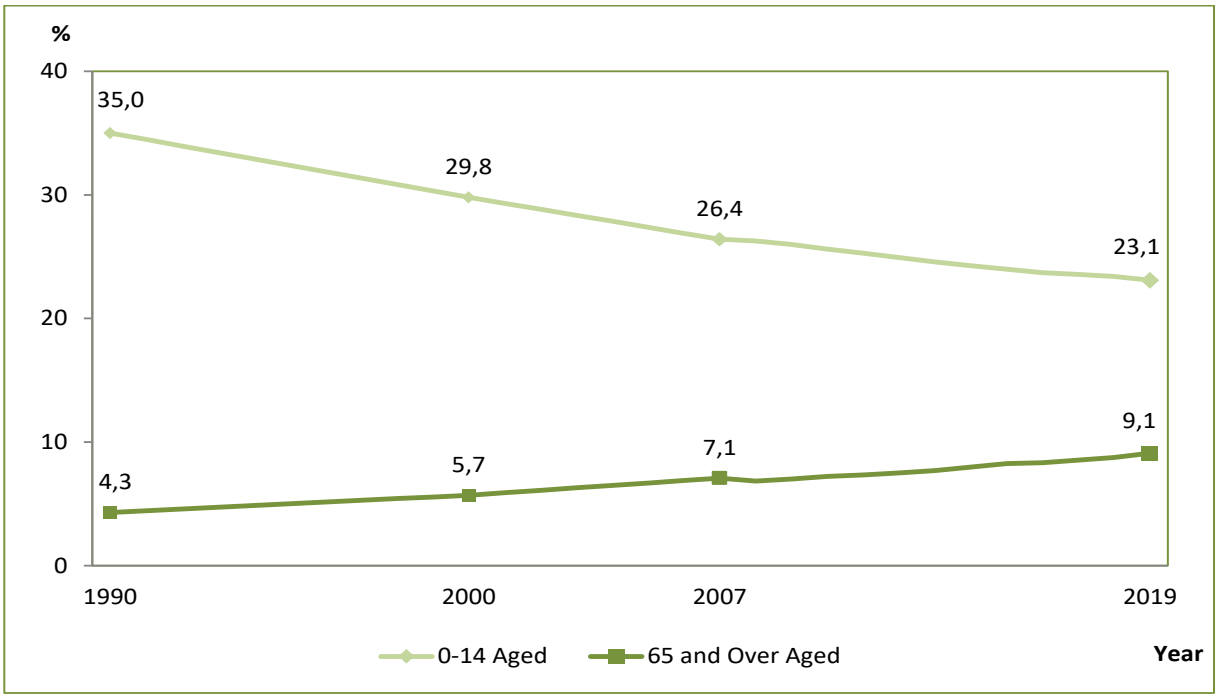


Source: TURKSTAT

Map 1.1.Urban Population Ratio by Provinces, (%), 2019

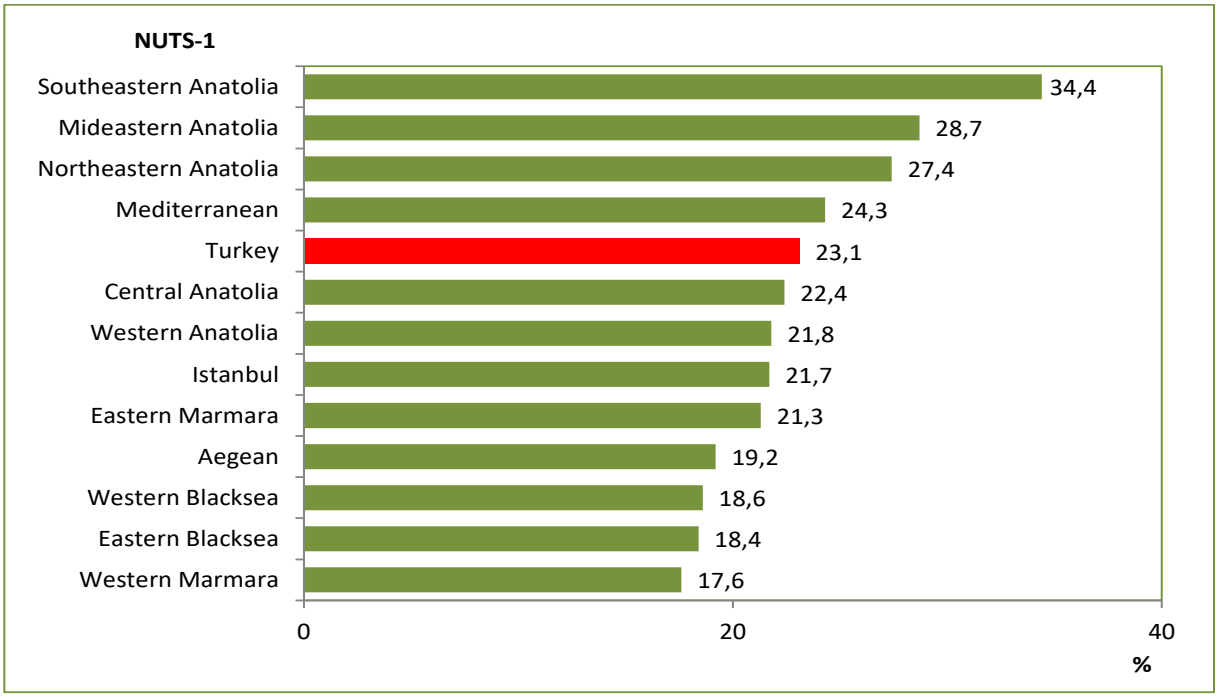
Source: TURKSTAT

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, (%), 2019

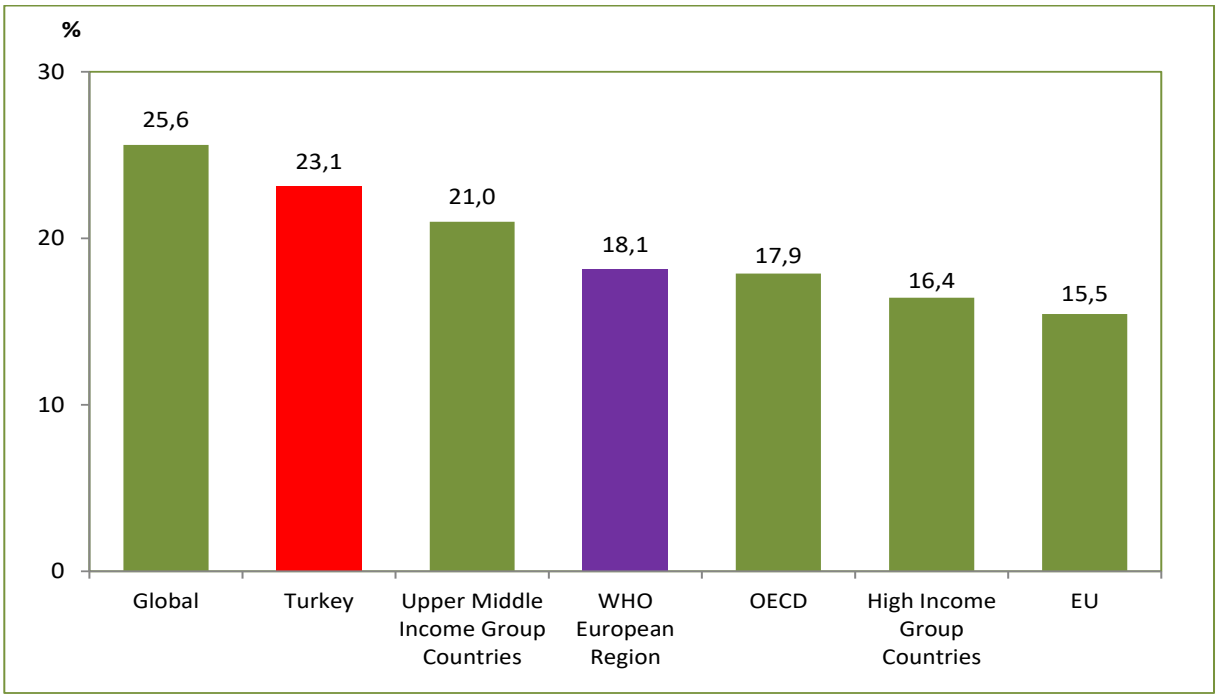


Source: TURKSTAT

Map 1.2. 0-14 Aged Population Ratio by Provinces, (%), 2019

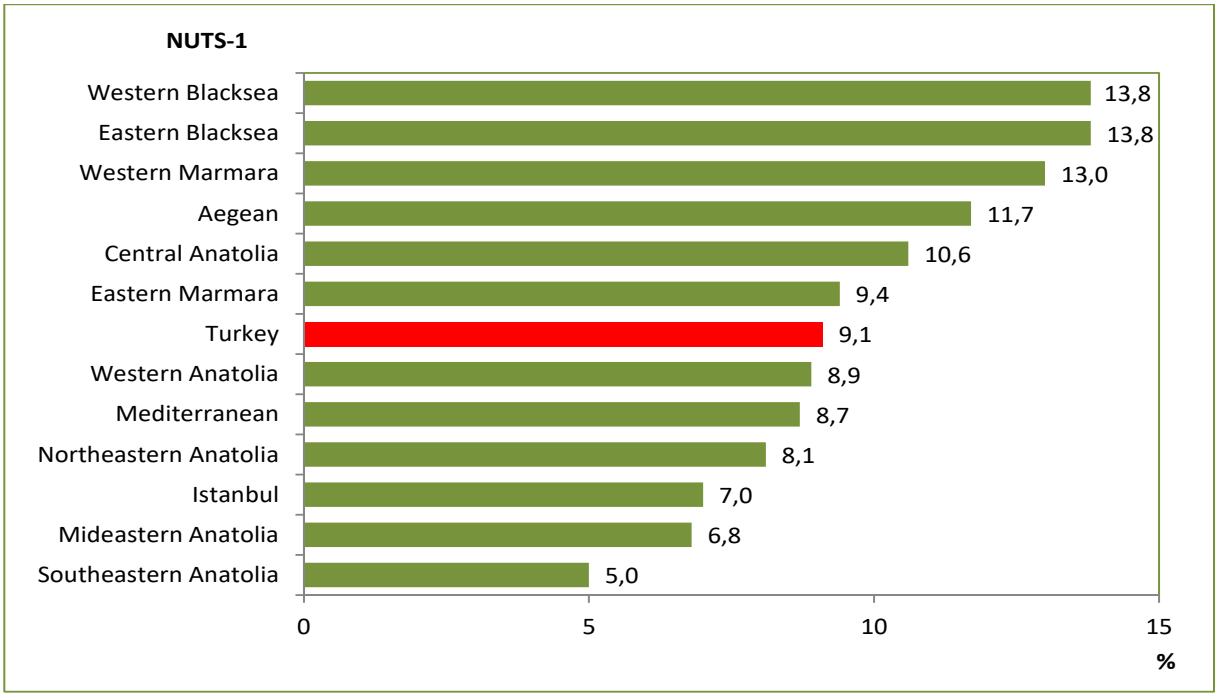
Source: TURKSTAT

Figure 1.7. International Comparison of 0-14 Aged Population Ratio, (%), 2019



Source: TURKSTAT, UNPD

Figure 1.8. 65 and Over Aged Population Ratio by NUTS-1, (%), 2019



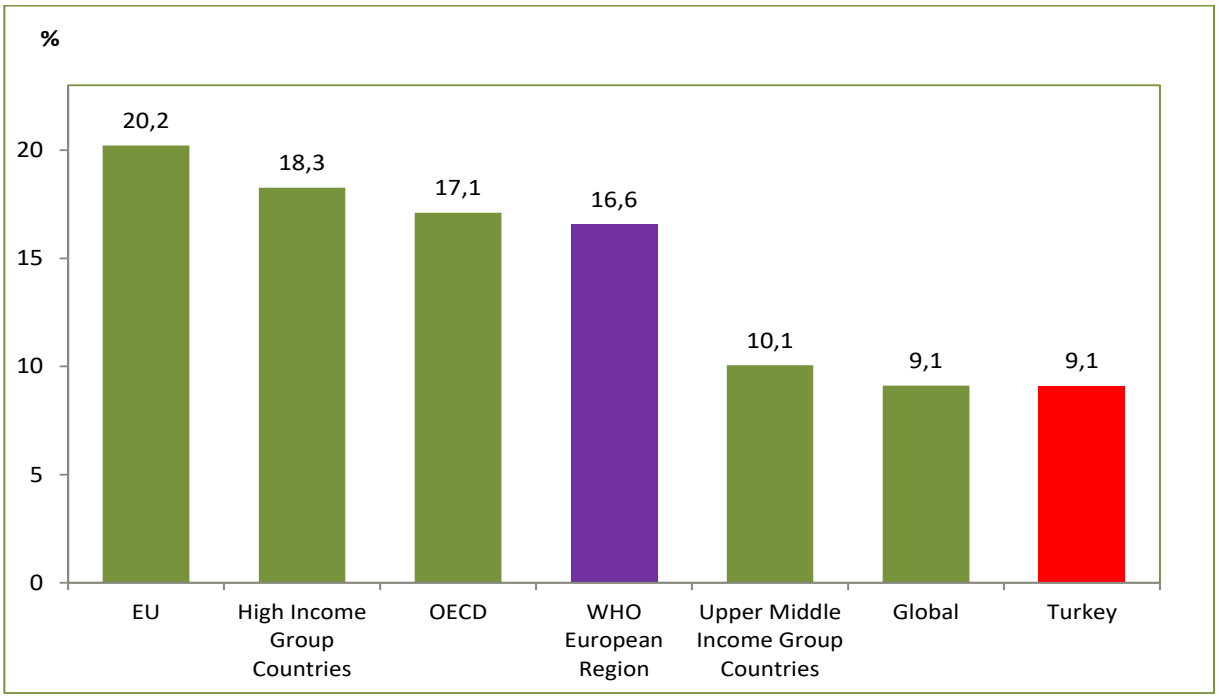
Source: TURKSTAT

Map 1.3. 65 and Over Aged Population Ratio by Provinces, (%), 2019



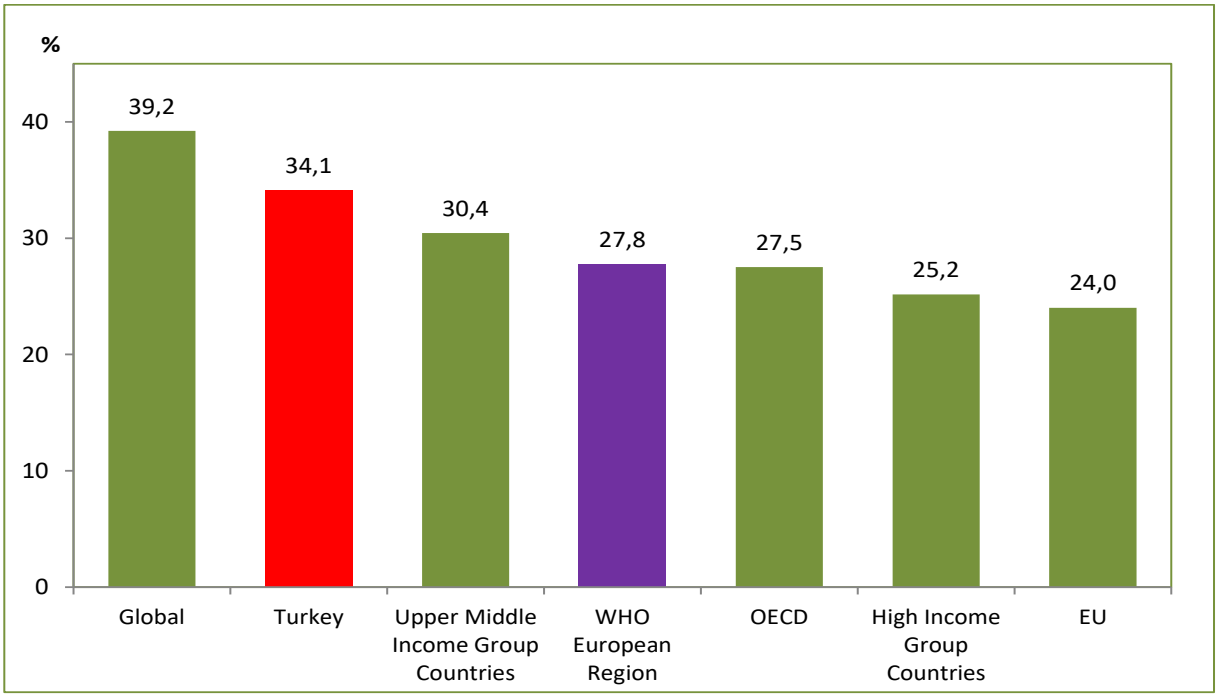
Source: TURKSTAT

Figure 1.9. International Comparison of 65 and Over Aged Population Ratio, (%), 2019



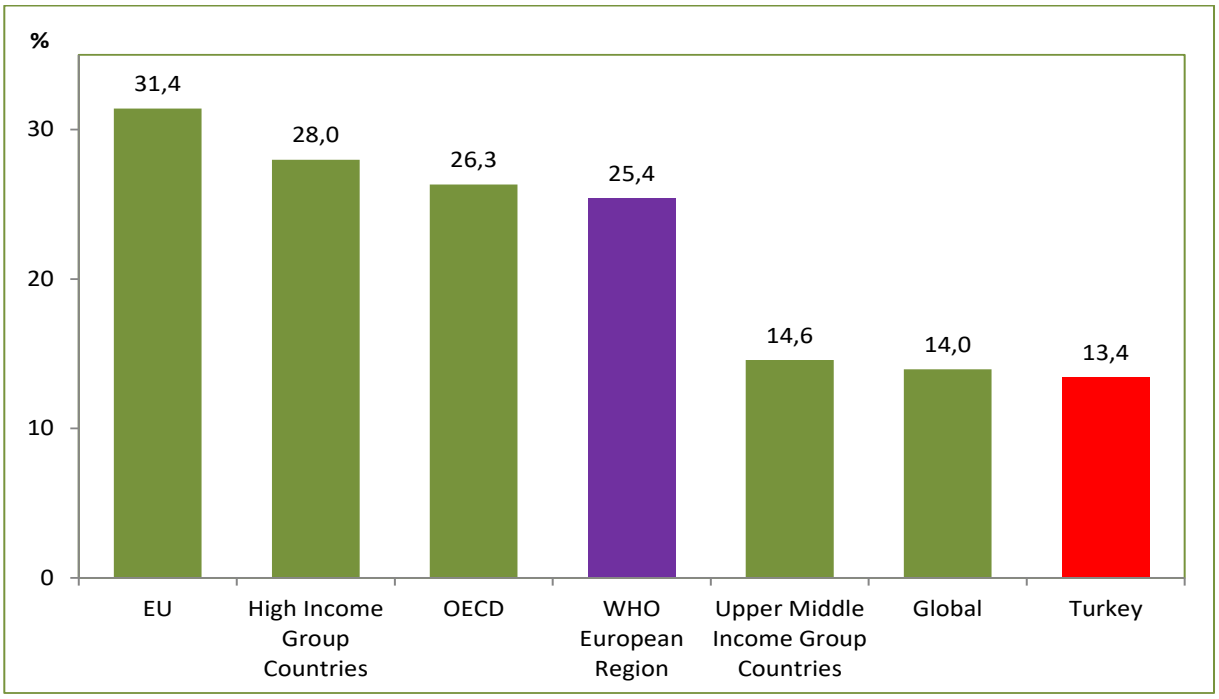
Source: TURKSTAT, UNPD

Figure 1.10. International Comparison of Child Dependency Ratio, (%), 2019



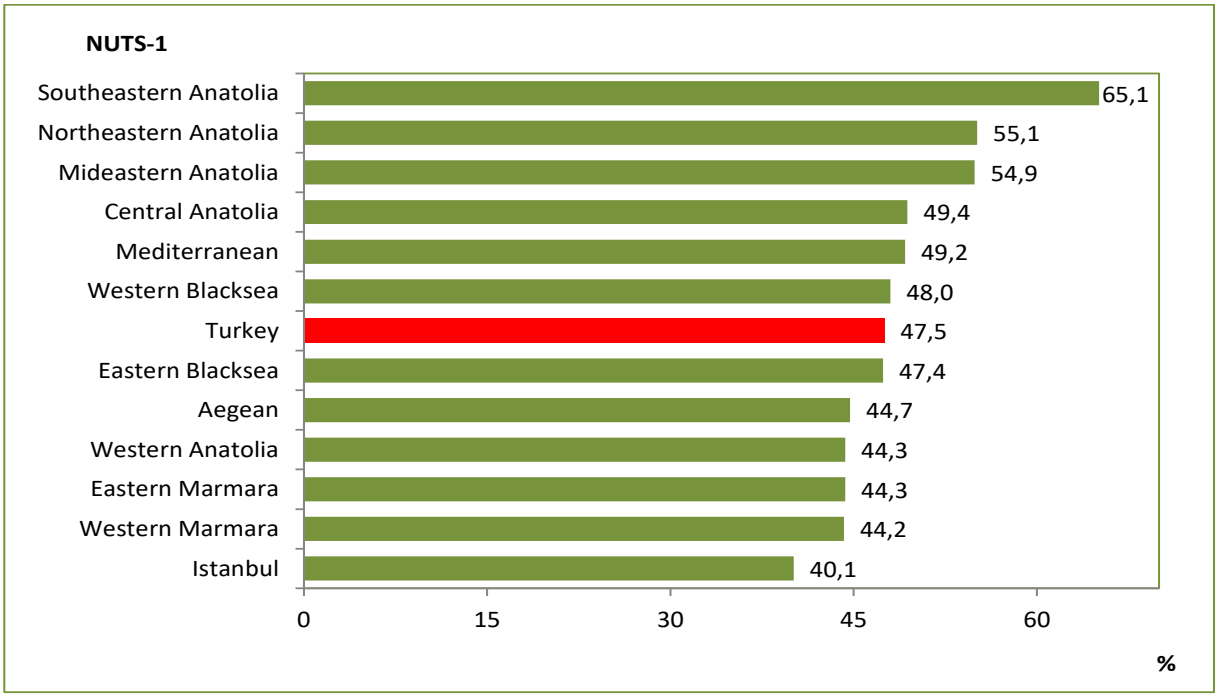
Source: TURKSTAT, UNPD

Figure 1.11. International Comparison of Elderly Dependency Ratio, (%), 2019



Source: TURKSTAT, UNPD

Figure 1.12. Total Age Dependency Ratio by NUTS-1, (%), 2019

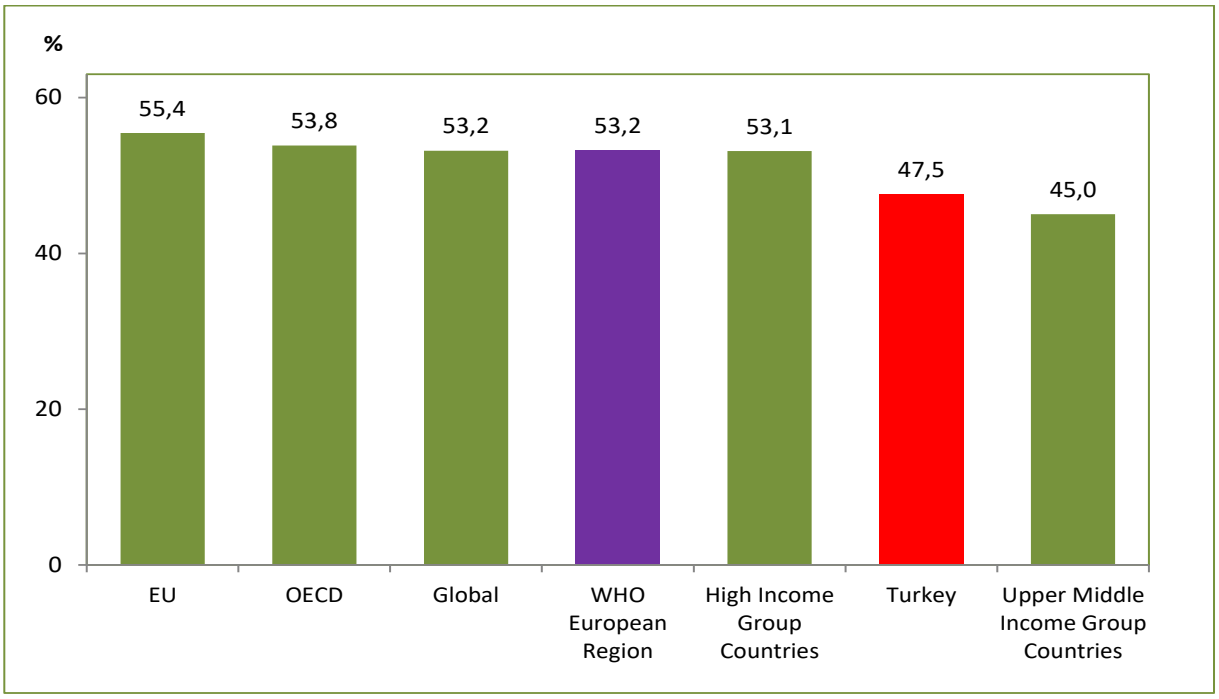


Source: TURKSTAT

Map 1.4. Total Age Dependency Ratio by Provinces, (%), 2019

Source: TURKSTAT

Figure 1.13. International Comparison of Total Age Dependency Ratio, (%), 2019



Source: TURKSTAT, UNPD

Table 1.3. Some General Demographic Indicators by Provinces, 2019

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	2.237.940	4,6	95,4	25,0	8,3	37,5	12,5	50,0
Adıyaman	626.465	34,8	65,2	29,1	7,8	46,0	12,4	58,4
Afyonkarahisar	729.483	54,6	45,4	22,0	11,2	32,9	16,8	49,7
Ağrı	536.199	47,5	52,5	35,1	4,7	58,3	7,9	66,2
Amasya	337.800	36,8	63,2	18,3	14,6	27,2	21,7	49,0
Ankara	5.639.076	0,9	99,1	20,9	8,6	29,7	12,3	41,9
Antalya	2.511.700	0,9	99,1	21,6	8,5	30,9	12,1	43,0
Artvin	170.875	71,6	28,4	16,4	16,2	24,2	24,0	48,3
Aydın	1.110.972	4,9	95,1	19,0	13,2	27,9	19,4	47,3
Balıkesir	1.228.620	6,0	94,0	16,8	15,2	24,7	22,3	47,1
Bilecik	219.427	38,7	61,3	18,9	11,5	27,2	16,5	43,7
Bingöl	279.812	48,5	51,5	26,7	6,9	40,3	10,4	50,8
Bitlis	348.115	49,1	50,9	32,6	5,2	52,5	8,4	61,0
Bolu	316.126	36,4	63,6	17,7	13,4	25,7	19,5	45,2
Burdur	270.796	49,3	50,7	16,8	14,9	24,6	21,9	46,5
Bursa	3.056.120	1,6	98,4	21,6	9,3	31,2	13,4	44,6
Çanakkale	542.157	47,7	52,3	15,9	15,0	23,1	21,7	44,7
Çankırı	195.789	55,2	44,8	17,7	16,2	26,9	24,4	51,3
Çorum	530.864	38,5	61,5	19,4	15,0	29,7	23,0	52,6
Denizli	1.037.208	10,4	89,6	20,0	11,0	28,9	16,0	44,9
Diyarbakır	1.756.353	2,5	97,5	33,1	4,9	53,4	7,9	61,3
Edirne	413.903	33,2	66,8	14,9	14,5	21,0	20,5	41,5
Elazığ	591.098	32,0	68,0	22,2	9,8	32,7	14,4	47,1
Erzincan	234.747	38,0	62,0	19,4	12,2	28,3	17,9	46,2
Erzurum	762.062	15,1	84,9	25,6	8,7	39,0	13,2	52,2
Eskişehir	887.475	9,4	90,6	18,0	11,5	25,5	16,2	41,7
Gaziantep	2.069.364	0,5	99,5	32,3	5,5	52,0	8,8	60,8
Giresun	448.400	53,4	46,6	16,3	16,1	24,2	23,9	48,1
Gümüşhane	164.521	59,5	40,5	18,0	11,7	25,6	16,7	42,3
Hakkari	280.991	53,6	46,4	29,3	3,4	43,5	5,1	48,6
Hatay	1.628.894	0,8	99,2	27,9	7,4	43,1	11,4	54,5
Isparta	444.914	40,4	59,6	18,4	12,7	26,6	18,4	45,0
Mersin	1.840.425	1,1	98,9	23,3	9,3	34,6	13,8	48,4
İstanbul	15.519.267	0,1	99,9	21,7	7,0	30,4	9,7	40,1
İzmir	4.367.251	0,5	99,5	18,7	11,3	26,7	16,1	42,8
Kars	285.410	61,9	38,1	27,2	8,1	41,9	12,5	54,4
Kastamonu	379.405	59,6	40,4	16,1	17,7	24,4	26,7	51,1
Kayseri	1.407.409	4,9	95,1	24,3	8,8	36,3	13,1	49,4
Kırklareli	361.836	37,0	63,0	15,4	13,8	21,8	19,6	41,3
Kırşehir	242.938	31,8	68,2	19,9	11,8	29,1	17,2	46,3
Kocaeli	1.953.035	0,0	100,0	23,4	7,3	33,7	10,5	44,3

Source: TURKSTAT

Table 1.3. Some General Demographic Indicators by Provinces, 2019 - 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	2.232.374	5,6	94,4	24,0	9,5	36,0	14,2	50,2
Kütahya	579.257	35,2	64,8	17,5	13,1	25,2	18,8	44,0
Malatya	800.165	10,2	89,8	23,1	10,2	34,7	15,4	50,0
Manisa	1.440.611	4,5	95,5	20,3	11,3	29,7	16,6	46,3
Kahramanmaraş	1.154.102	2,0	98,0	28,0	8,1	43,8	12,7	56,4
Mardin	838.778	3,4	96,6	33,9	5,5	55,8	9,0	64,9
Muğla	983.142	1,1	98,9	18,1	12,4	26,1	17,9	43,9
Muş	408.809	60,1	39,9	34,6	5,0	57,3	8,4	65,7
Nevşehir	303.010	54,3	45,7	21,0	11,7	31,2	17,4	48,6
Niğde	362.861	45,0	55,0	23,4	10,0	35,1	15,0	50,0
Ordu	754.198	16,8	83,2	18,9	14,4	28,4	21,6	49,9
Rize	343.212	51,4	48,6	18,3	12,6	26,4	18,3	44,7
Sakarya	1.029.650	3,3	96,7	21,5	9,7	31,2	14,0	45,3
Samsun	1.348.542	4,6	95,4	20,2	11,6	29,5	17,1	46,6
Siirt	330.280	42,2	57,8	34,2	4,9	56,3	8,1	64,4
Sinop	218.243	62,2	37,8	16,6	18,8	25,8	29,2	55,0
Sivas	638.956	41,0	59,0	20,6	12,7	30,9	19,0	50,0
Tekirdağ	1.055.412	0,0	100,0	21,4	8,7	30,5	12,4	42,9
Tokat	612.747	42,3	57,7	19,7	13,6	29,5	20,3	49,8
Trabzon	808.974	10,7	89,3	19,6	12,3	28,7	18,0	46,7
Tunceli	84.660	60,1	39,9	14,7	14,4	20,7	20,3	41,0
Şanlıurfa	2.073.614	0,0	100,0	39,5	3,9	69,8	6,9	76,7
Uşak	370.509	38,4	61,6	18,8	12,1	27,2	17,6	44,8
Van	1.136.757	1,3	98,7	34,1	4,0	55,1	6,5	61,5
Yozgat	421.200	53,7	46,3	20,7	13,3	31,5	20,2	51,7
Zonguldak	596.053	42,8	57,2	17,6	12,6	25,2	18,1	43,3
Aksaray	416.367	39,5	60,5	24,9	9,2	37,8	14,0	51,7
Bayburt	84.843	46,9	53,1	19,8	11,1	28,7	16,0	44,7
Karaman	253.279	34,5	65,5	22,1	10,9	32,9	16,2	49,1
Kırıkkale	283.017	22,6	77,4	18,9	12,1	27,3	17,5	44,8
Batman	608.659	24,3	75,7	33,9	4,5	55,1	7,4	62,5
Şırnak	529.615	40,4	59,6	36,7	3,3	61,1	5,5	66,6
Bartın	198.249	62,4	37,6	16,5	14,5	23,9	20,9	44,8
Ardahan	97.319	76,7	23,3	21,2	12,9	32,1	19,6	51,7
Iğdır	199.442	52,4	47,6	29,8	6,7	47,0	10,5	57,5
Yalova	270.976	39,6	60,4	20,1	11,8	29,5	17,4	46,9
Karabük	248.458	30,4	69,6	16,3	13,2	23,1	18,7	41,7
Kilis	142.490	27,1	72,9	28,7	8,1	45,4	12,8	58,2
Osmaniye	538.759	28,4	71,6	26,6	8,5	40,9	13,0	53,9
Düzce	392.166	47,1	52,9	20,8	9,9	30,0	14,2	44,2
Turkey	83.154.997	11,5	88,5	23,1	9,1	34,1	13,4	47,5

Source: TURKSTAT

Explanations for Chapter 1

☑ Population data for 1990 and 2000 were taken from the "General Census" results, and the 2016-2019 population data from the "Address Based Population Registration System (ABPRS)" Press Release (No. 33705 of 4 February 2020).
https://tuikweb.tuik.gov.tr/PreHaberBultenleri.do?id=33705

☑ 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 are as follows:

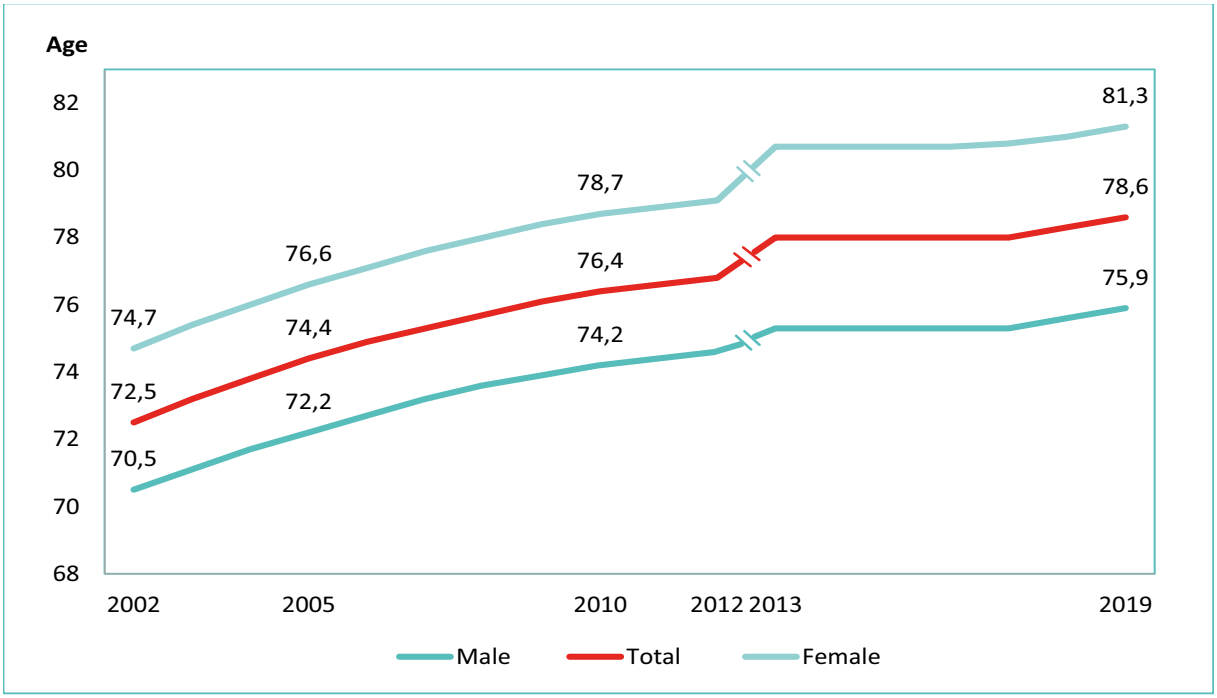
Rural Population Ratio (%)	:	It is the ratio of the population living in settlements with a population of 20.000 and below to the total population.
Urban Population Ratio (%)	:	It is the ratio of the population living in settlements with a population of 20.001 and above to the total population.
0-14 Aged Population Ratio (%)	:	It is the ratio of the 0-14 aged population to the total population.
65 and Over Aged Population Ratio (%)	:	It is the ratio of the 65 and over aged population to the total population.
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

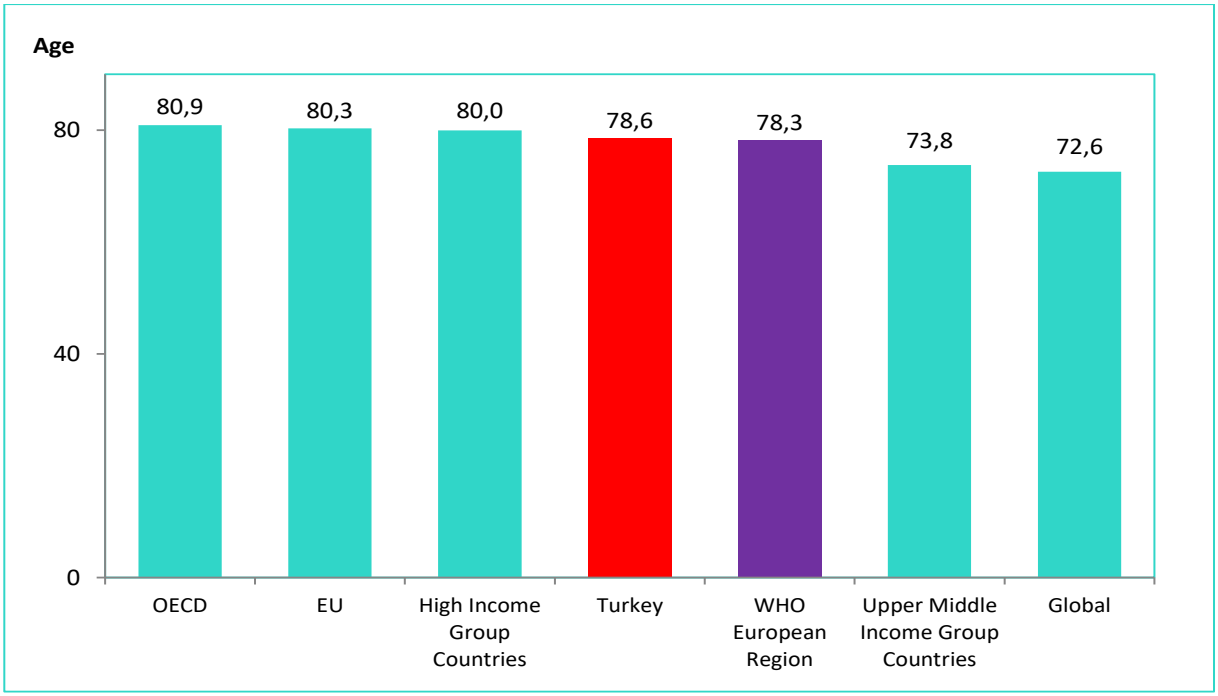
Mortality

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



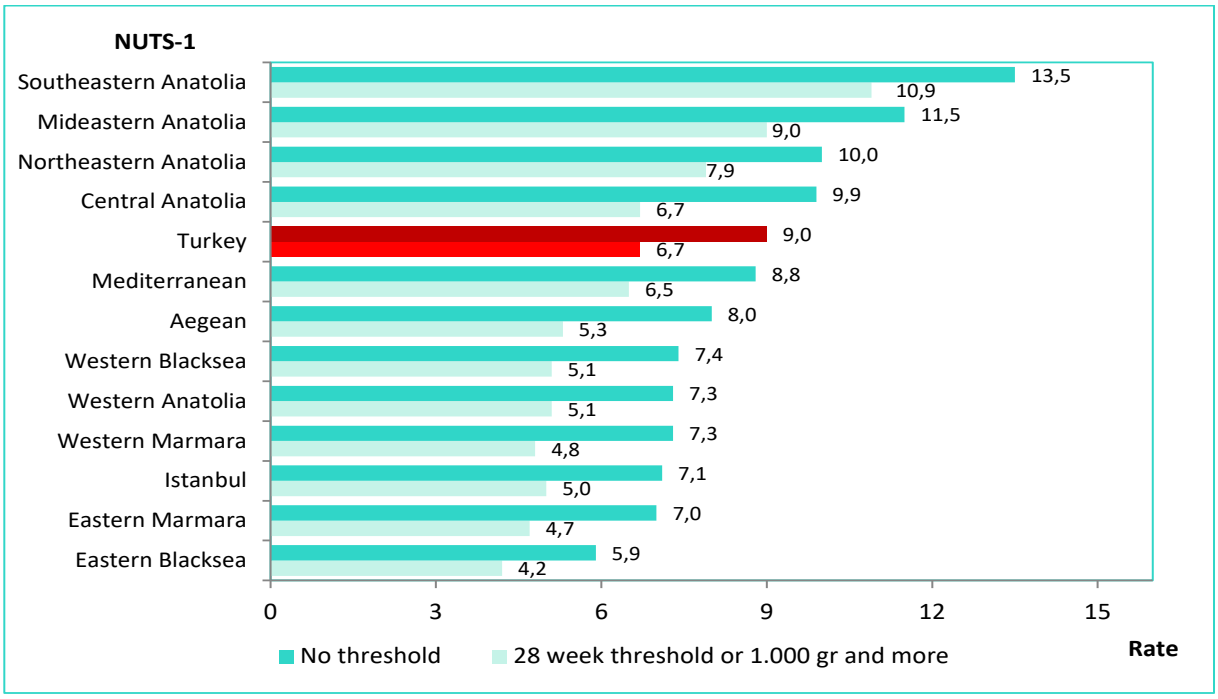
Source: TURKSTAT Population Projections for 2002-2012 years, TURKSTAT Life Tables for 2013-2019 years

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



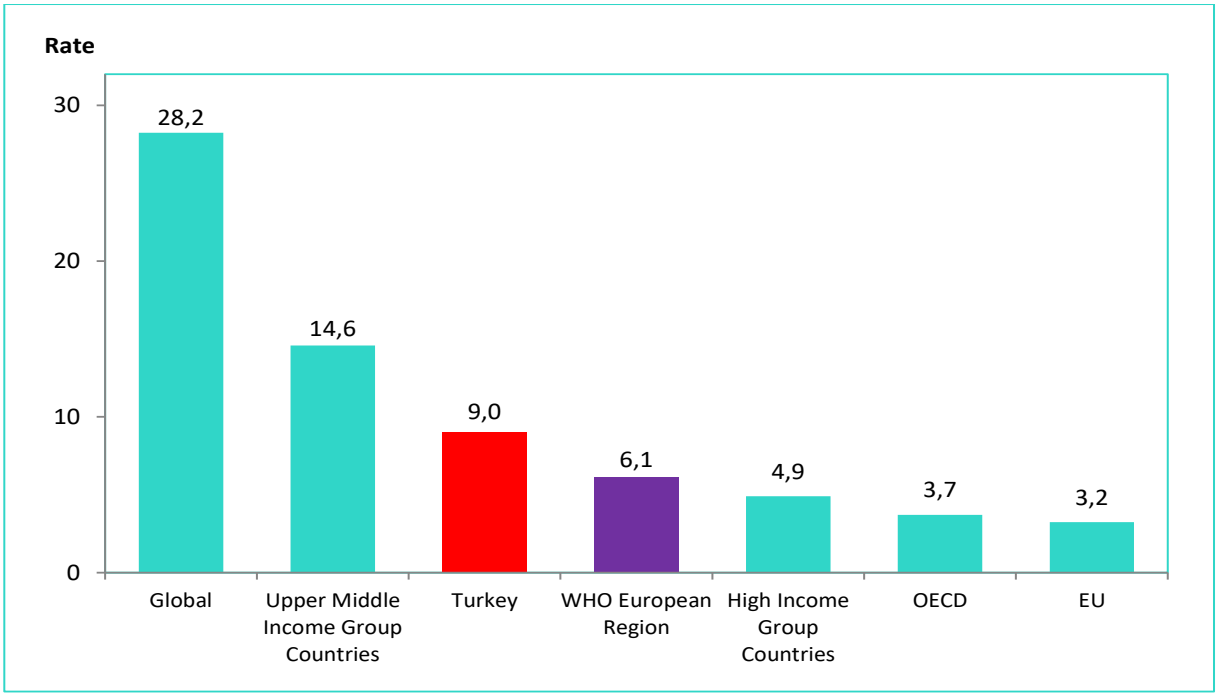
Source: TURKSTAT Life Tables 2017-2019 Press Release (No. 33711 of 17 September 2020), UNPD
Note: The values of the groups in the figure were calculated by the Department of Health Statistics based on the expected life expectancy at the birth of the countries.

Figure 2.3. Infant Mortality Rate by NUTS-1, (per 1.000 Live Births), 2019



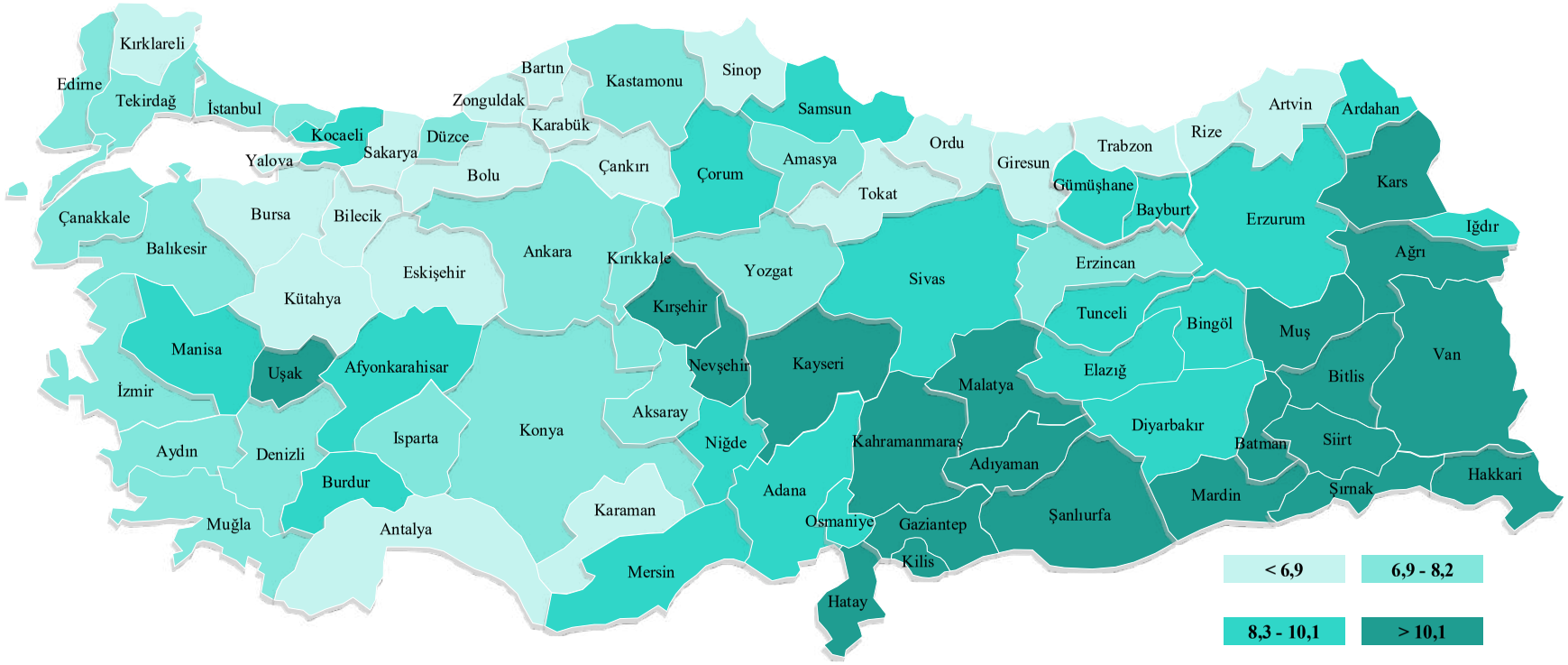
Source: General Directorate of Public Health

Figure 2.4. International Comparison of Infant Mortality Rate, (per 1.000 Live Births), 2019



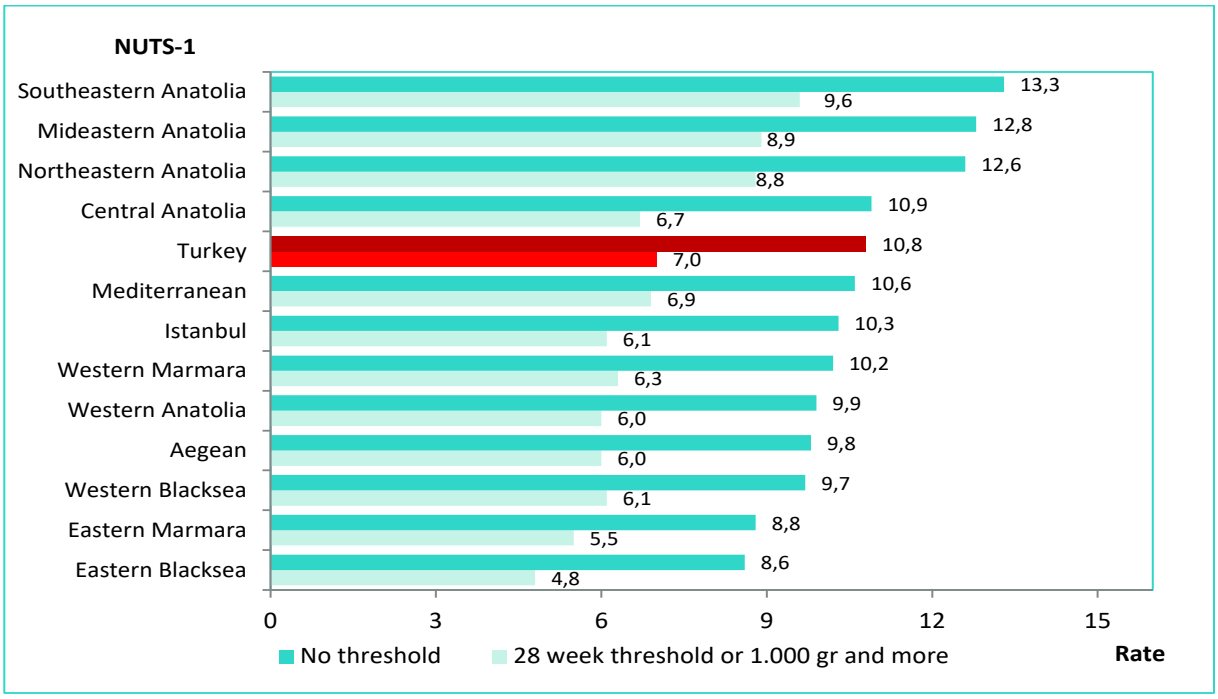
Source: General Directorate of Public Health, UN IGME 2020

Map 2.1. Infant Mortality Rate by Provinces, (per 1.000 Live Births), No Threshold, 2019



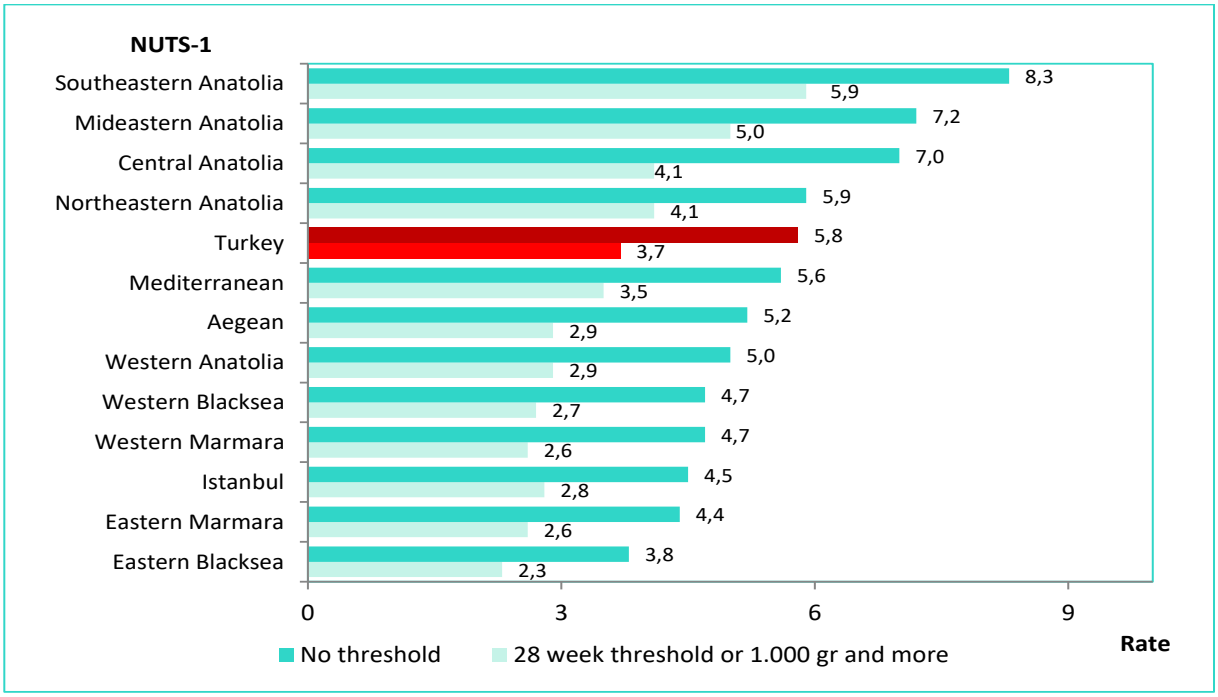
Source: General Directorate of Public Health

Figure 2.5. Perinatal Mortality Rate by NUTS-1, (per 1.000 Births), 2019



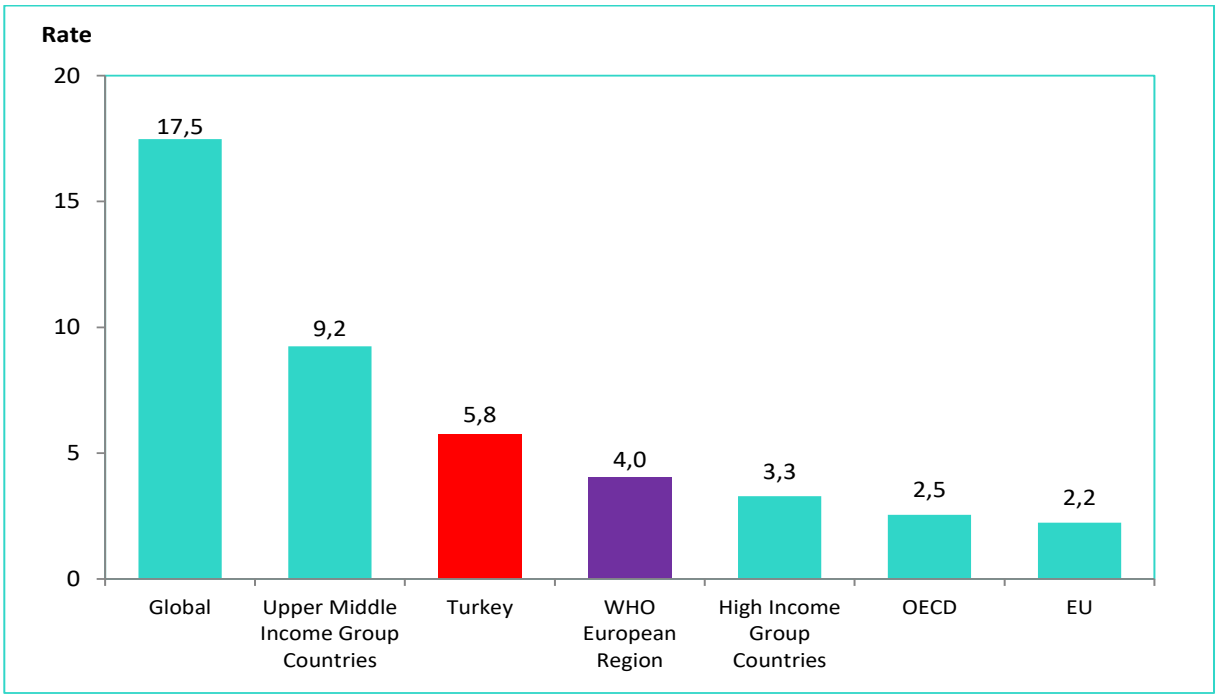
Source: General Directorate of Public Health

Figure 2.6. Neonatal Mortality Rate by NUTS-1, (per 1.000 Live Births), 2019



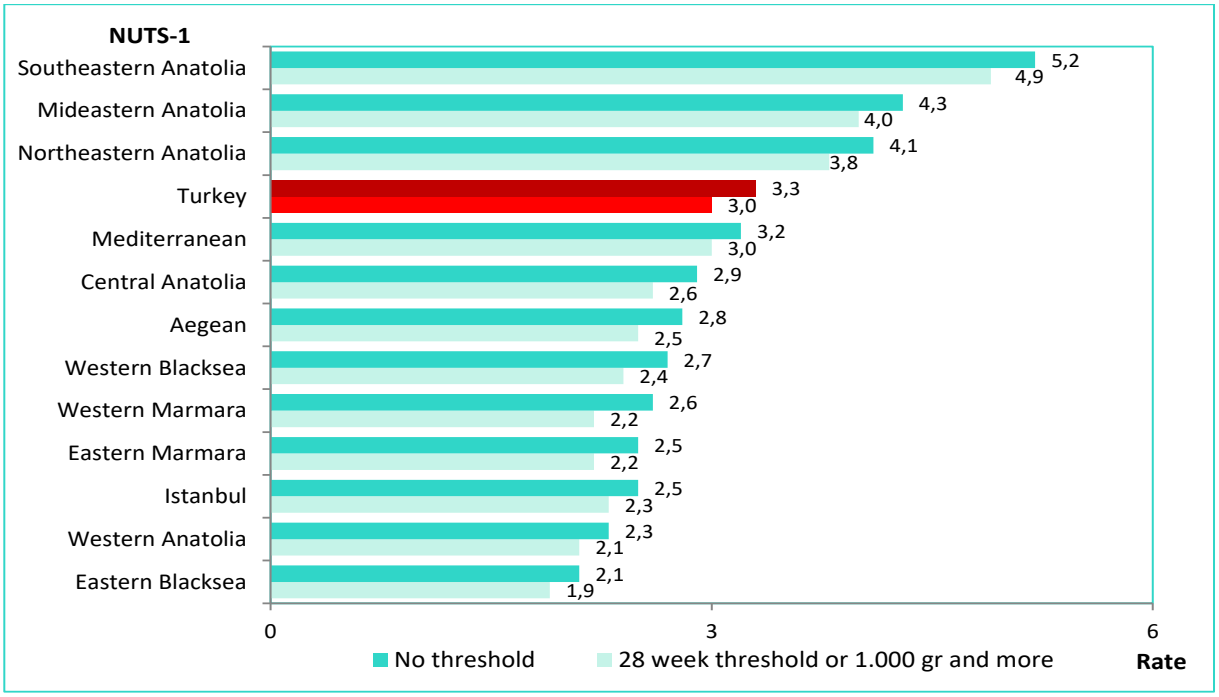
Source: General Directorate of Public Health

Figure 2.7. International Comparison of Neonatal Mortality Rate, (per 1.000 Live Births), 2019



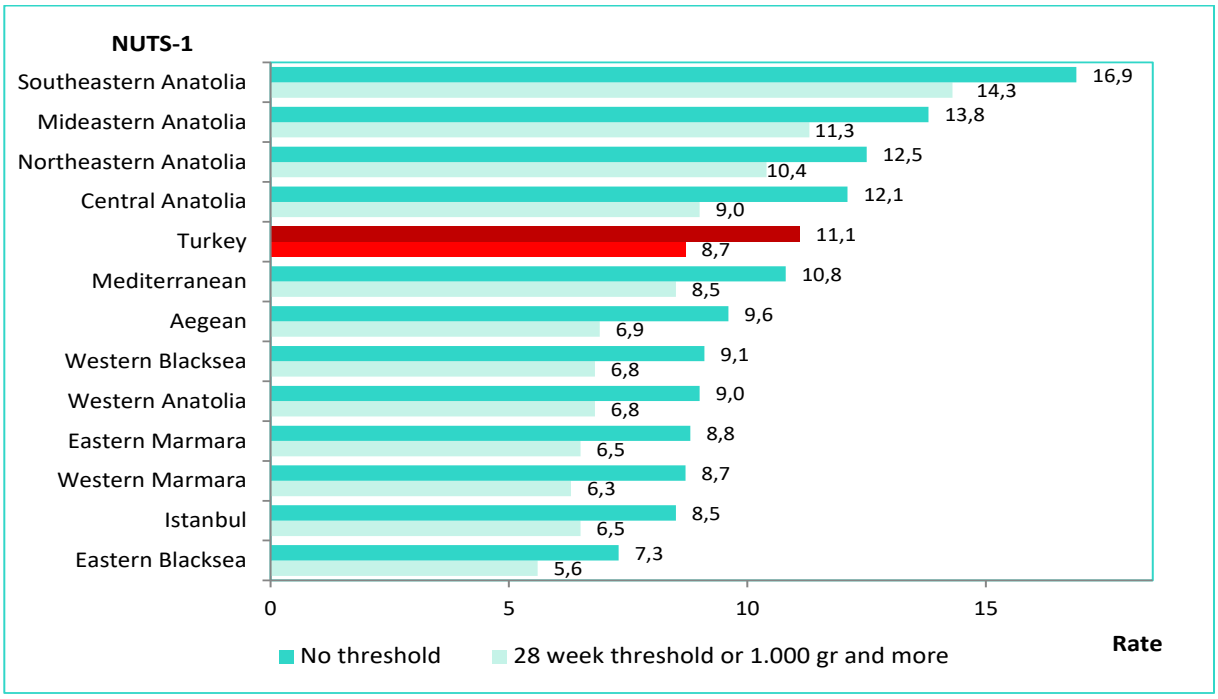
Source: General Directorate of Public Health, UN IGME 2020

Figure 2.8. Postneonatal Mortality Rate by NUTS-1, (per 1.000 Live Births), 2019



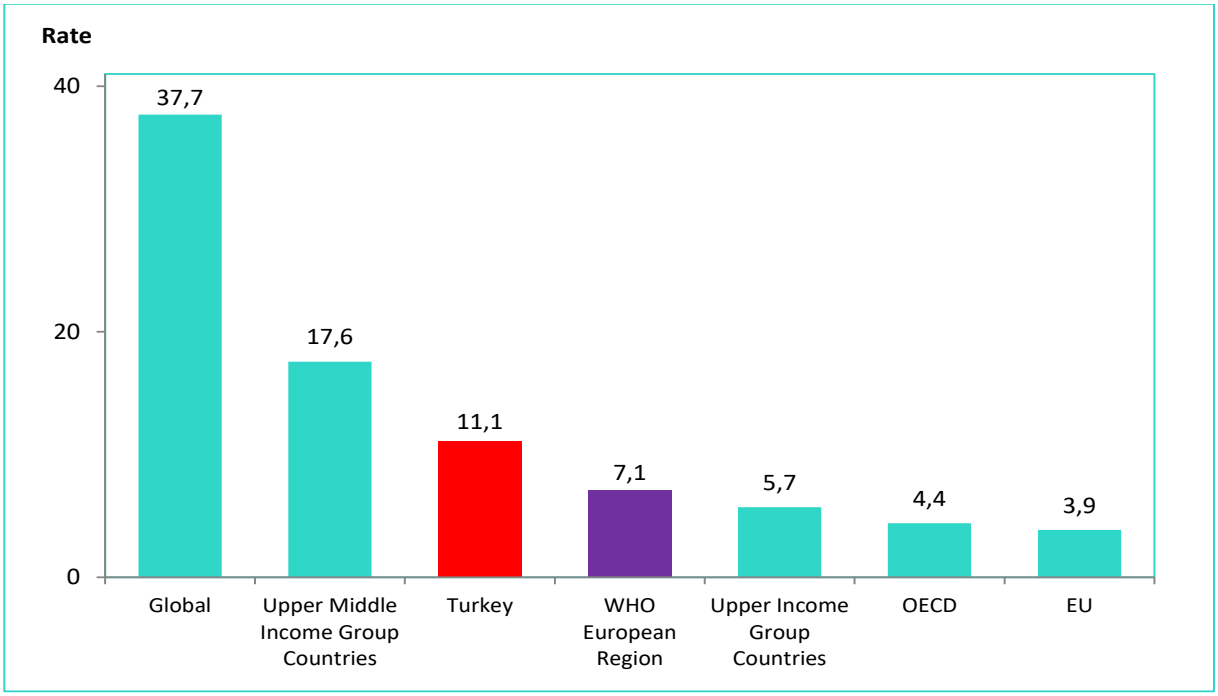
Source: General Directorate of Public Health

Figure 2.9. Under-5 Mortality Rate by NUTS-1, (per 1.000 Live Births), 2019



Source: General Directorate of Public Health

Figure 2.10. International Comparison of Under-5 Mortality Rate, (per 1.000 Live Births), 2019



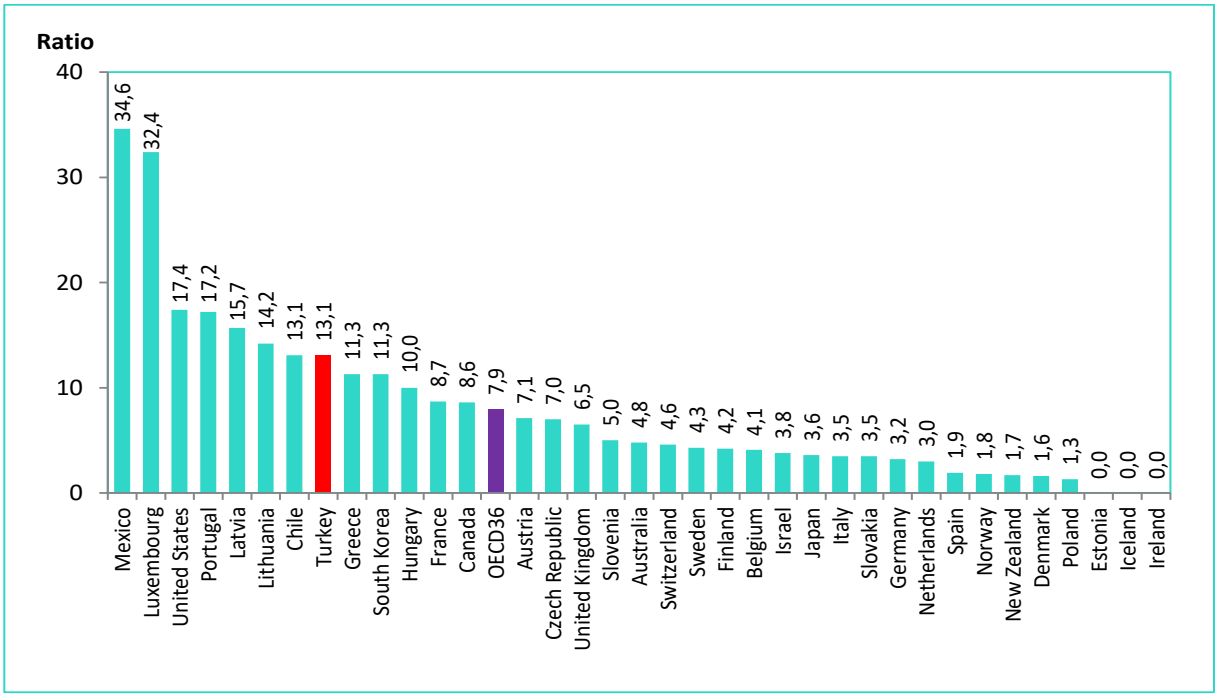
Source: General Directorate of Public Health, UN IGME 2020

Figure 2.11. Maternal Mortality Ratio by NUTS-1, (per 100.000 Live Births), 2019



Source: General Directorate of Public Health

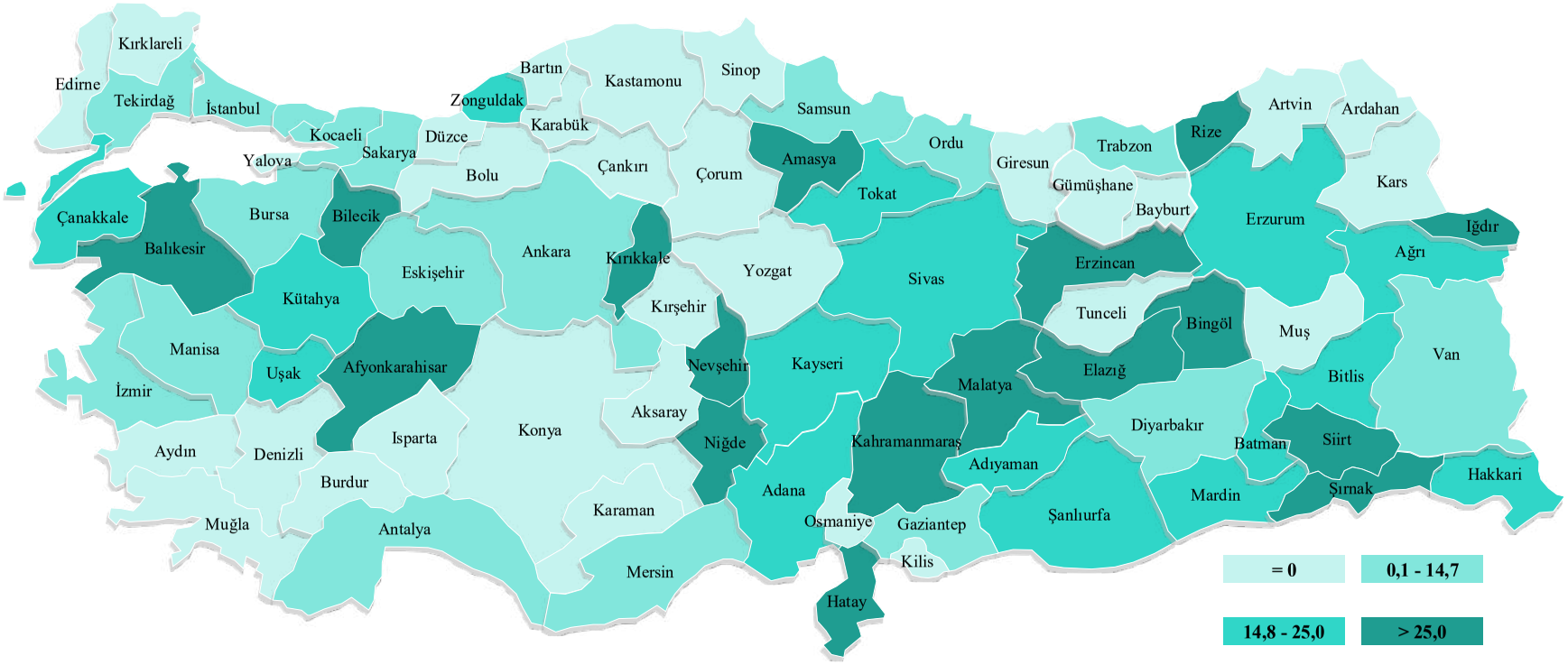
Figure 2.12. International Comparison of Maternal Mortality Ratio, (per 100.000 Live Births), 2018



Source: General Directorate of Public Health, OECD Health Data 2020

Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Map 2.2. Maternal Mortality Ratio by Provinces, (per 100.000 Live Births), 2019



Source: General Directorate of Public Health

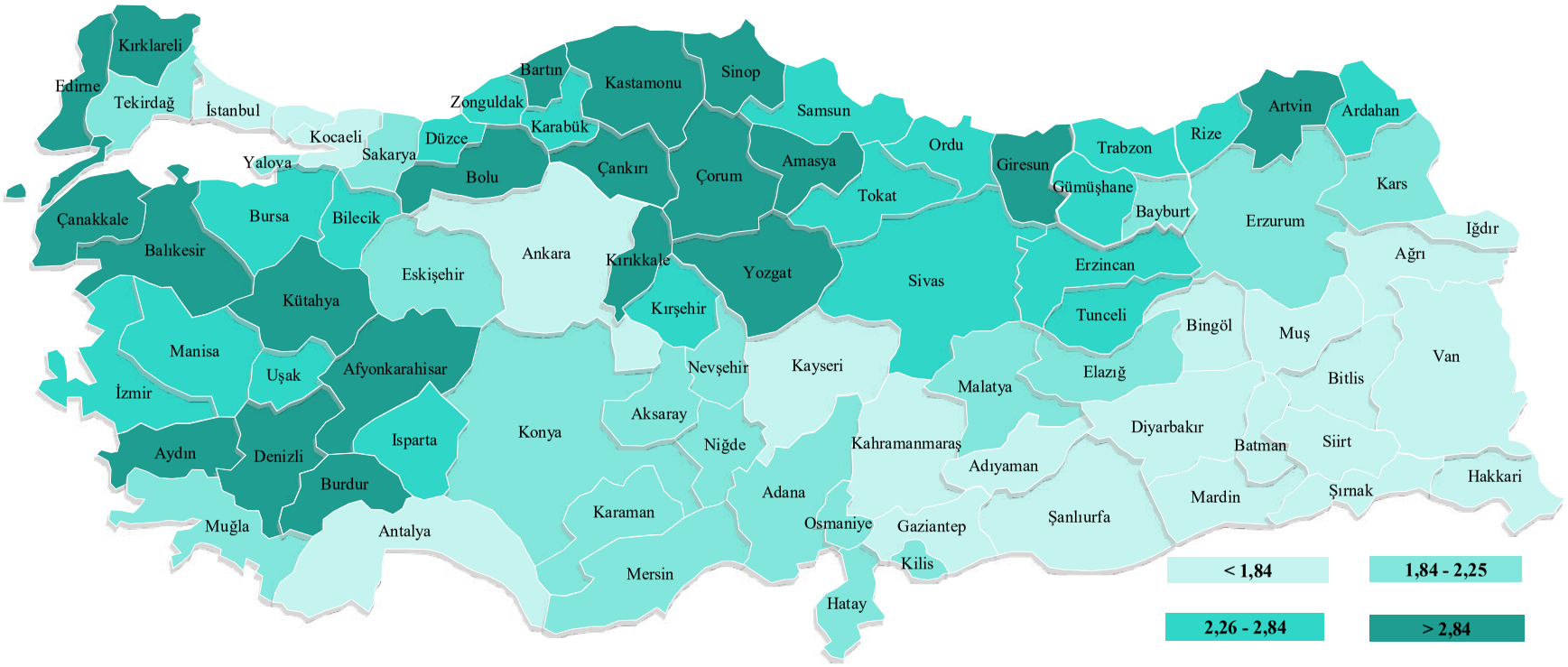
Table 2.1. Distribution of Causes of Death by the ICD-10 Main Diagnosis Codes and Sex, (%), 2018, 2019

ICD-10 Main Diagnosis Group	Code	2018			2019		
		Male	Female	Total	Male	Female	Total
Certain Infectious and Parasitic Diseases	A00-B99	2,33	2,80	2,54	2,52	3,08	2,77
Neoplasms	C00-D48	22,72	15,17	19,30	21,71	14,40	18,39
Diseases of the Blood and Bloodforming Organs and Certain Disorders Involving the Immune Mechanism	D50-D89	0,22	0,31	0,26	0,23	0,28	0,25
Endocrine, Nutritional and Metabolic Diseases	E00-E90	3,63	5,91	4,66	3,48	5,44	4,37
Mental and Behavioural Disorders	F00-F99	0,10	0,14	0,12	0,07	0,10	0,08
Diseases of the Nervous System and Sense Organs	G00-H95	3,87	6,02	4,84	3,63	5,73	4,59
Diseases of the Circulatory System	I00-I99	34,46	41,82	37,80	33,81	40,32	36,76
Diseases of the Respiratory System	J00-J99	12,78	11,60	12,25	13,39	12,39	12,94
Diseases of the Digestive System	K00-K93	2,19	2,49	2,32	2,14	2,45	2,28
Diseases of the Skin and Subcutaneous Tissue	L00-L99	0,06	0,10	0,08	0,06	0,11	0,08
Diseases of the Musculoskeletal System and Connective Tissue	M00-M99	0,19	0,38	0,28	0,20	0,33	0,26
Diseases of the Genitourinary System	N00-N99	3,35	4,14	3,71	3,55	4,52	3,99
Pregnancy, Childbirth and the Puerperium	O00-O99	-	0,10	0,05	-	0,08	0,04
Certain Conditions Originating in the Perinatal Period	P00-P96	1,49	1,40	1,45	1,32	1,22	1,28
Congenital Malformations, Deformations and Chromosomal Abnormalities	Q00-Q99	0,98	1,08	1,03	0,87	0,88	0,88
Symptoms, Signs and Abnormal Clinical and Laboratory Findings, Not Elsewhere Classified	R00-R99	2,69	2,21	2,47	1,48	1,57	1,52
External causes of morbidity and mortality	V01-Y89	6,21	2,74	4,63	4,83	2,28	3,67
Unknown	-	2,72	1,59	2,21	6,71	4,83	5,86

Source: TURKSTAT, Death and Causes of Death Statistics 2019

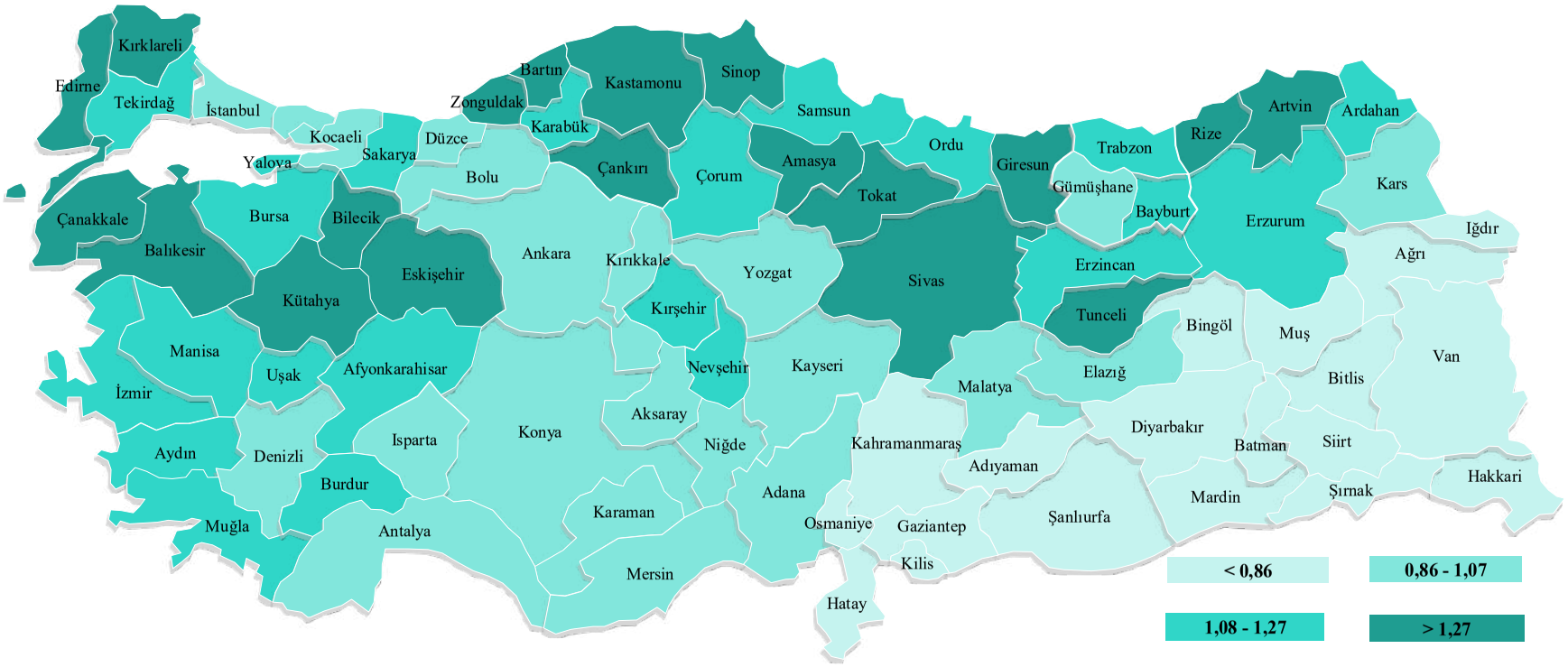
Note: The distribution of causes of death was calculated over the total number of relevant column.

Map 2.3. Diseases of the Circulatory System (ICD 10: I00-I99) Crude Death Rate by Usual Residence and Provinces, (‰), 2019



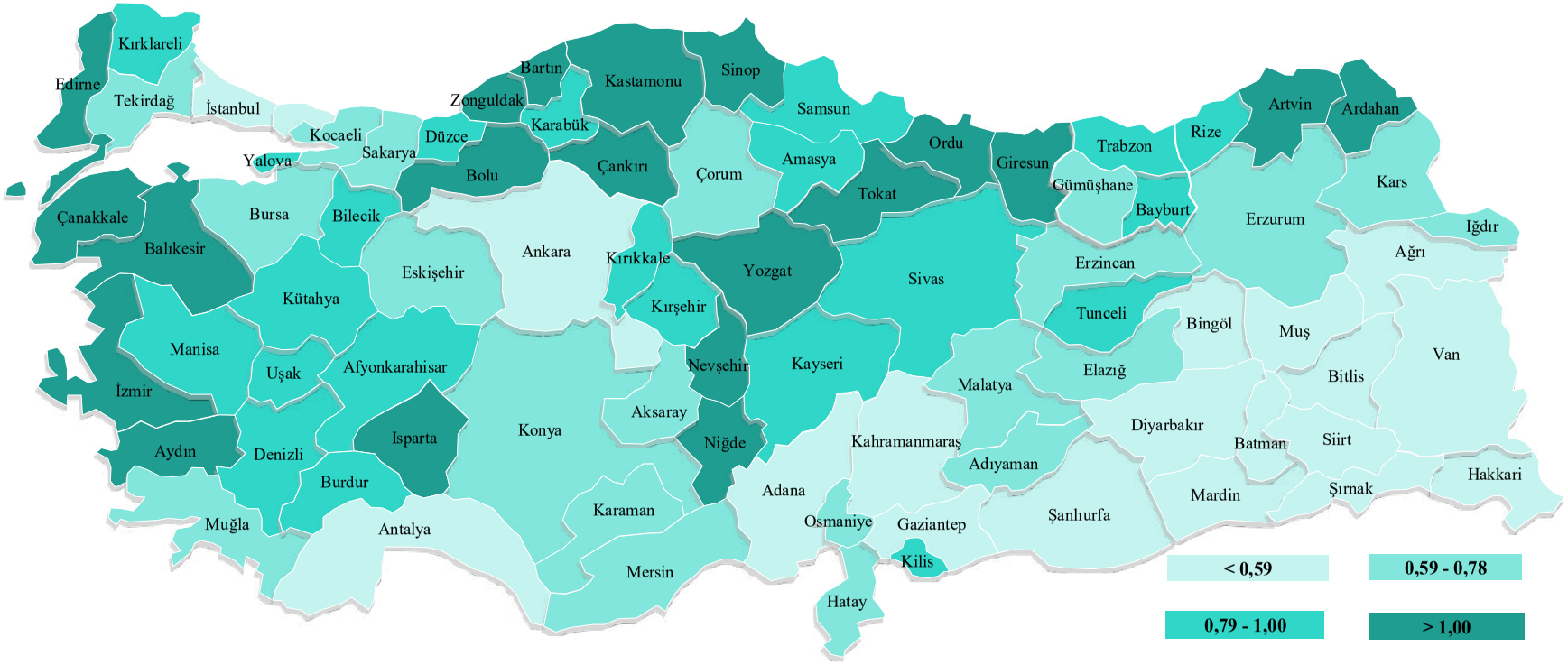
Source: TURKSTAT, Death and Causes of Death Statistics 2019

Map 2.4. Neoplasm (ICD 10: C00-D48) Crude Death Rate by Usual Residence and Provinces, (‰), 2019



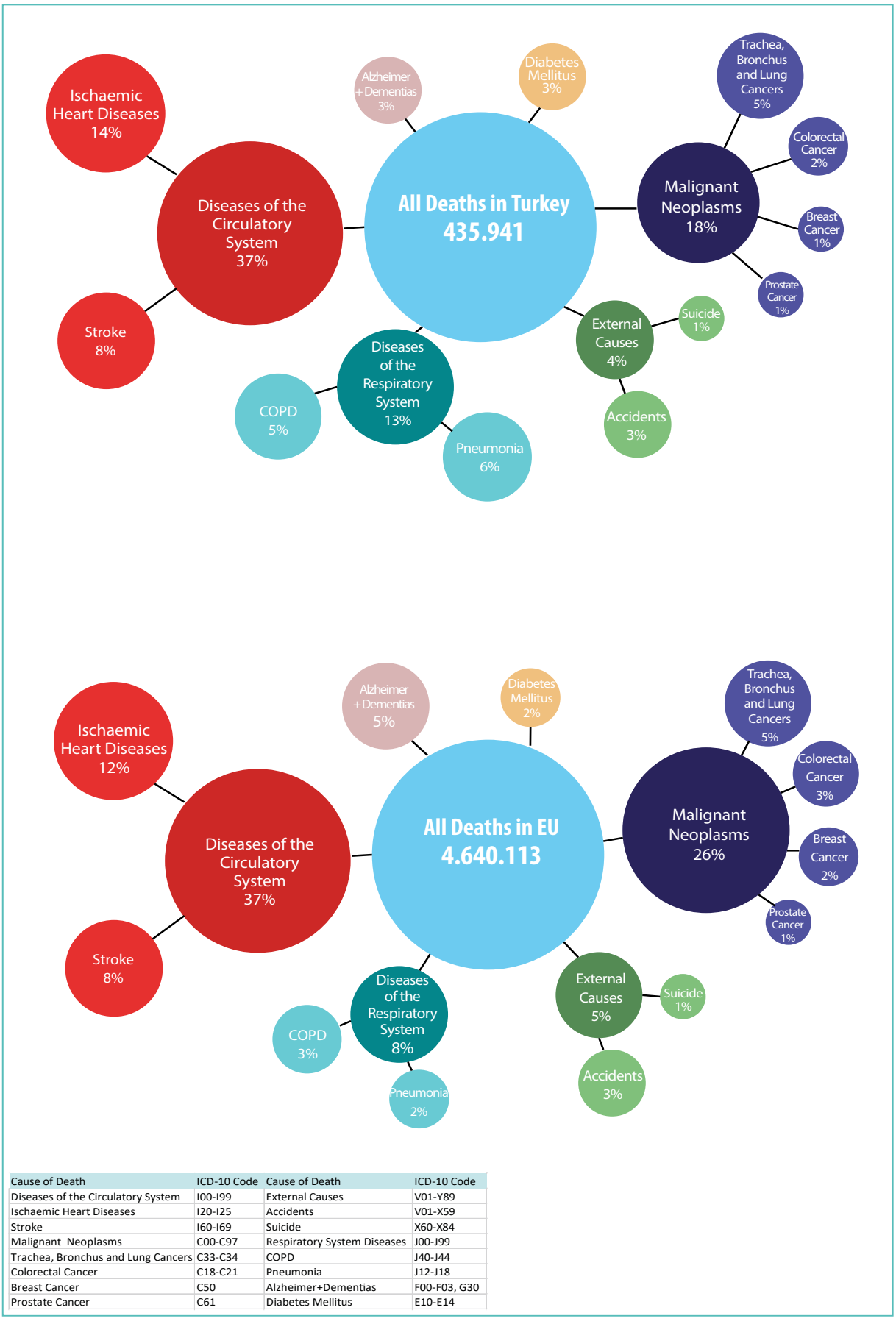
Source: TURKSTAT, Death and Causes of Death Statistics 2019

Map 2.5. Diseases of the Respiratory System (ICD 10: J00-J99) Crude Death Rate by Usual Residence and Provinces, (‰), 2019



Source: TURKSTAT, Death and Causes of Death Statistics 2019

Figure 2.13. International Comparison of Distribution of Causes of Death, (%), 2017

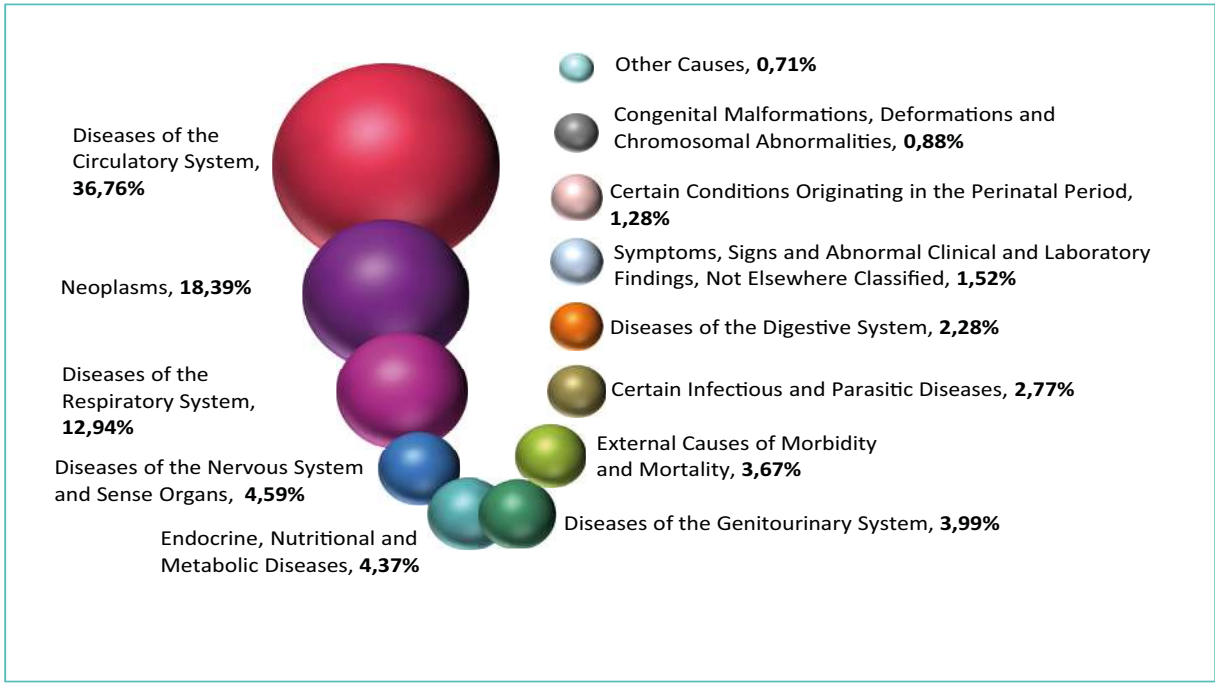


Cause of Death	ICD-10 Code	Cause of Death	ICD-10 Code
Diseases of the Circulatory System	I00-I99	External Causes	V01-Y89
Ischaemic Heart Diseases	I20-I25	Accidents	V01-X59
Stroke	I60-I69	Suicide	X60-X84
Malignant Neoplasms	C00-C97	Respiratory System Diseases	J00-J99
Trachea, Bronchus and Lung Cancers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

Source: TURKSTAT, Death and Causes of Death Statistics 2019, EUROSTAT

Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2017 or nearest.

Figure 2.14. Distribution of Causes of Death by the ICD-10 Main Diagnosis Codes, (%), 2019



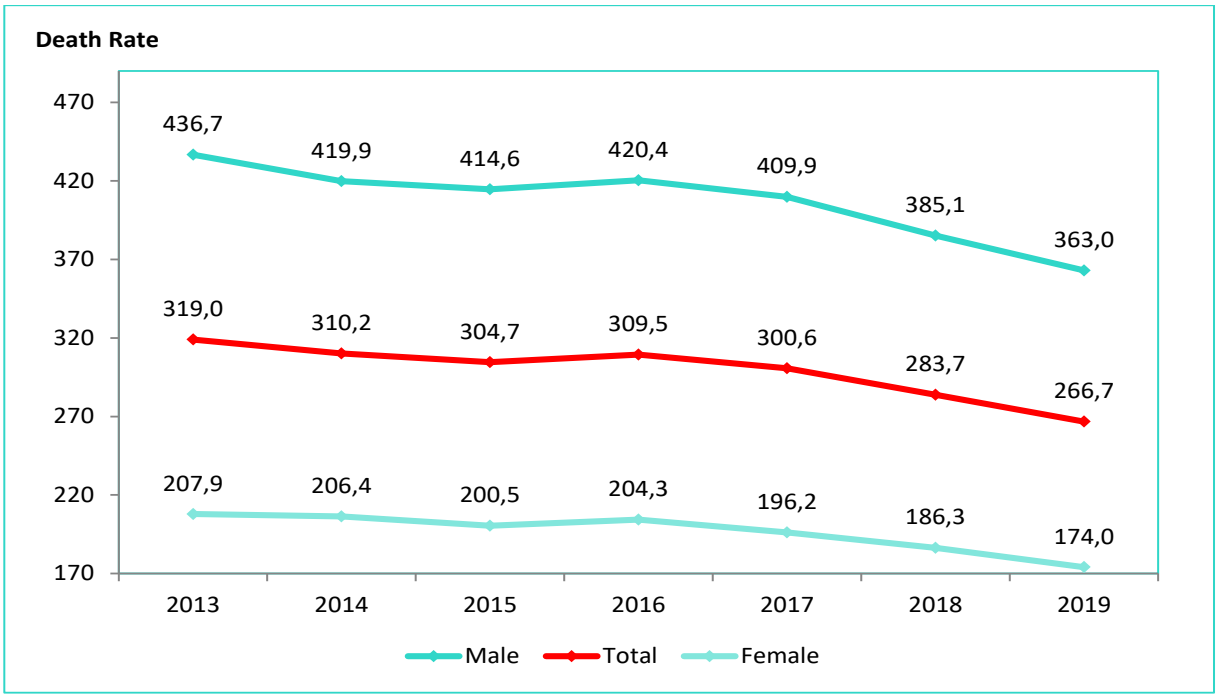
Source: TURKSTAT, Death and Causes of Death Statistics 2019

Table 2.2. Age-Standardized Premature Mortality Rate of Selected Causes by ICD-10 Diagnosis Codes and Sex, (per 100.000, World Standard Population), 2018, 2019

Selected Causes	Code	2018			2019		
		Male	Female	Total	Male	Female	Total
Malignant Neoplasms	C00-C97	145,81	73,15	108,63	136,17	69,22	101,94
Diabetes Mellitus	E10-E14	14,48	11,37	12,91	12,49	9,90	11,18
Diseases of the Circulatory System	I00-I99	152,10	71,65	111,28	145,67	66,90	105,73
Ischemic Heart Disease	I20-I25	81,19	26,64	53,51	74,88	24,35	49,29
Acute Myocardial Infarction	I21-I22	57,05	18,94	37,72	52,24	17,12	34,46
Cerebrovascular Diseases	I60-I69	25,14	17,51	21,27	25,23	16,74	20,91
Chronic Respiratory Diseases	J40-J47	22,73	7,62	14,97	21,51	7,14	14,14
COPD	J40-J44	22,01	6,62	14,11	20,93	6,10	13,33
Asthma	J45-J46	0,64	0,88	0,76	0,49	0,90	0,69
Diseases of the Digestive System	K00-K93	11,59	5,93	8,72	10,65	5,99	8,29

Source: TURKSTAT, Death and Causes of Death Statistics 2019
*Note: Mortality rates have been age-standardized by using the **World Standard Population.***

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

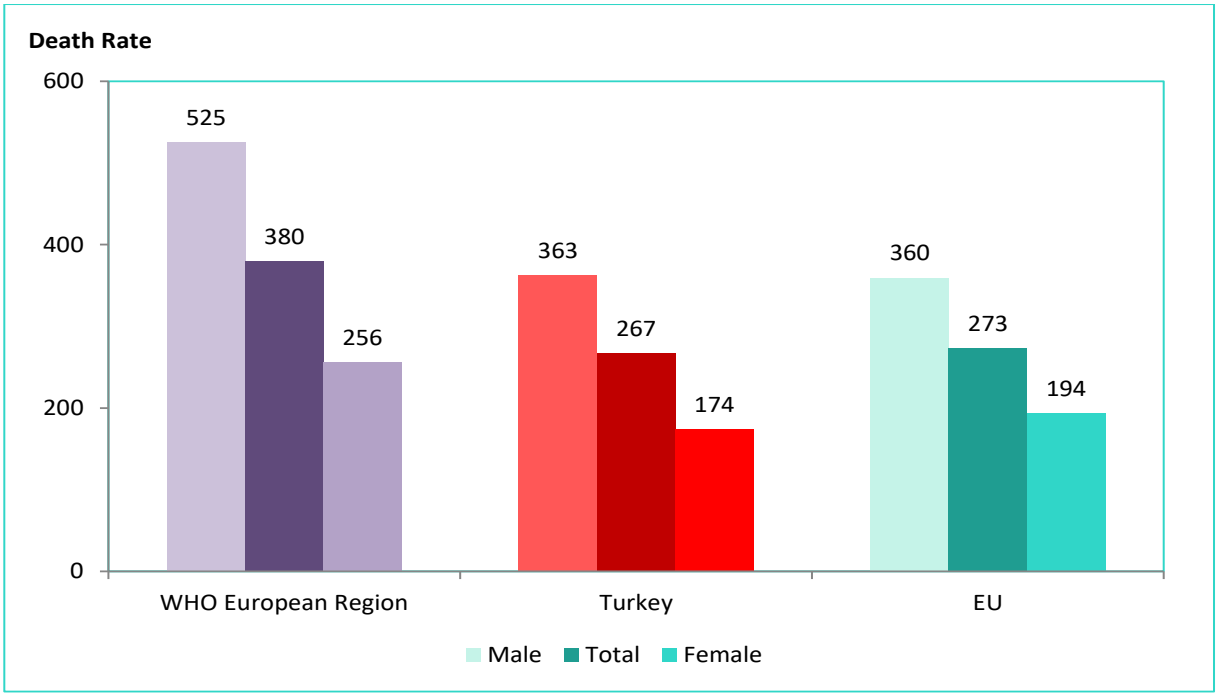


Source: TURKSTAT, Death and Causes of Death Statistics

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

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

Figure 2.16. International Comparison of Age-Standardized Premature Mortality Rate of Four Main Non-Communicable Disease Groups, (per 100.000, European Standard Population), 2015



Source: TURKSTAT, Death and Causes of Death Statistics 2019, European Health Information Gateway/WHO-Europe

*Note: Mortality rates have been age-standardized by using the **European Standard Population.***
Turkey's data belongs to the year 2019.

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

Explanations for Chapter 2

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

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

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

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

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

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

☑ **Maternal Mortality Ratio:** The number of mothers who die due to pregnancy 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/

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

☑ The value of the provinces was rounded up to 1 decimal place while making Map 2.1 and Map 2.2. The value of the provinces was rounded up to 2 decimal place while making Map 2.3, Map 2.4 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 Turkey, and foreigners residing in Turkey, who died within the borders of Turkey, and Turkish citizens residing in Turkey, who died abroad.
Time coverage	:	Death and Causes of Death Statistics are available from 2009 onwards for all Turkey.
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	2015	2016	2017	2018	2019
AIDS	**Local Case**	**37**	**94**	**95**	**106**	**103**	**88**
	Imported Case	6	28	11	19	22	24
	Total Case	43	122	106	125	125	112
Measles	**Local Case**	**7.810**	**235**	**0**	**48**	**412**	**1.958**
	Imported Case		107	9	36	304	947
	Total Case	7.810	342	9	84	716	2.905
Tuberculosis	**Local Case**	**18.043**	**11.703**	**11.305**	**10.748**	**10.334**	**9.820**
	Imported Case		847	881	1.073	1.242	1.427
	Total Case	18.043	12.550	12.186	11.821	11.576	11.247
Malaria	**Local Case**	**10.184**	**0**	**0**	**0**	**0**	**0**
	Imported Case	40	221	209	214	238	279
	Total Case	10.224	221	209	214	238	279

Source: General Directorate of Public Health

Note: AIDS total case number is calculated by using the notified cases with having positive confirmation test result as of 31 January 2020. The number of Tuberculosis cases indicates the sum of new and relapse cases.

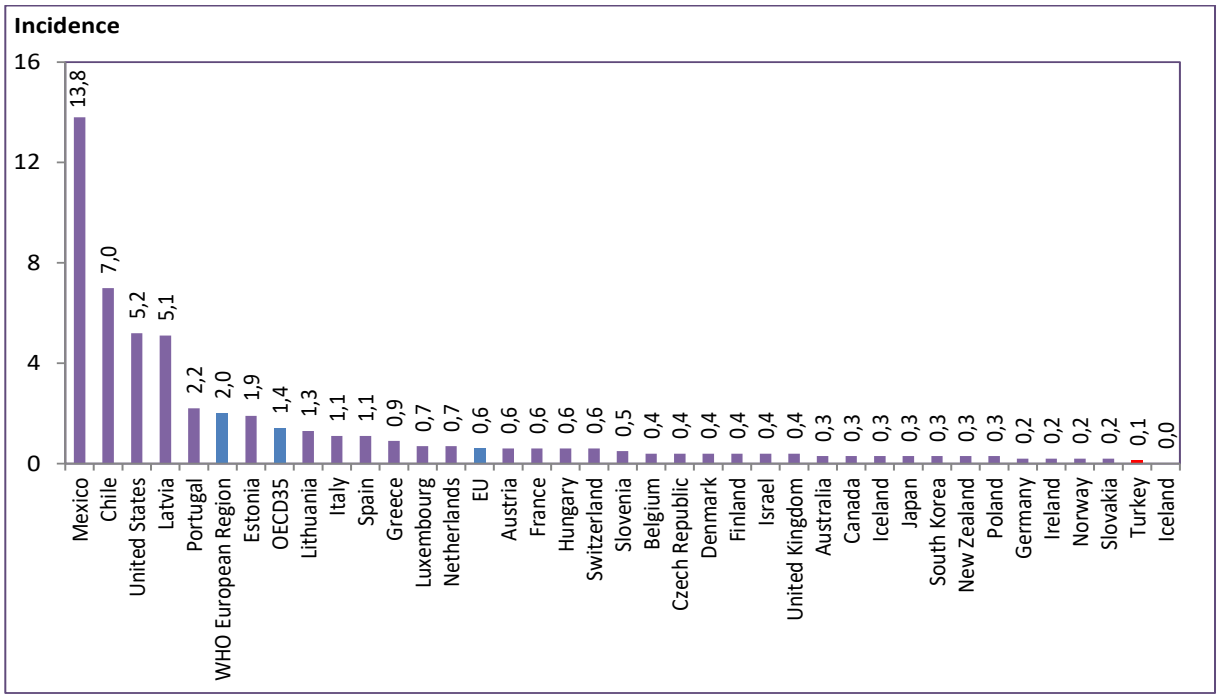
Table 3.2. Infectious Diseases Incidence by Years, (per 100.000 Population)

	2002	2015	2016	2017	2018	2019
AIDS	0,07	0,16	0,13	0,16	0,15	0,13
Measles	11,8	0,4	0,01	0,09	0,87	3,49
Tuberculosis	32,0	15,9	15,3	14,6	14,1	13,5
Malaria	15,4	0,3	0,26	0,26	0,29	0,34

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.

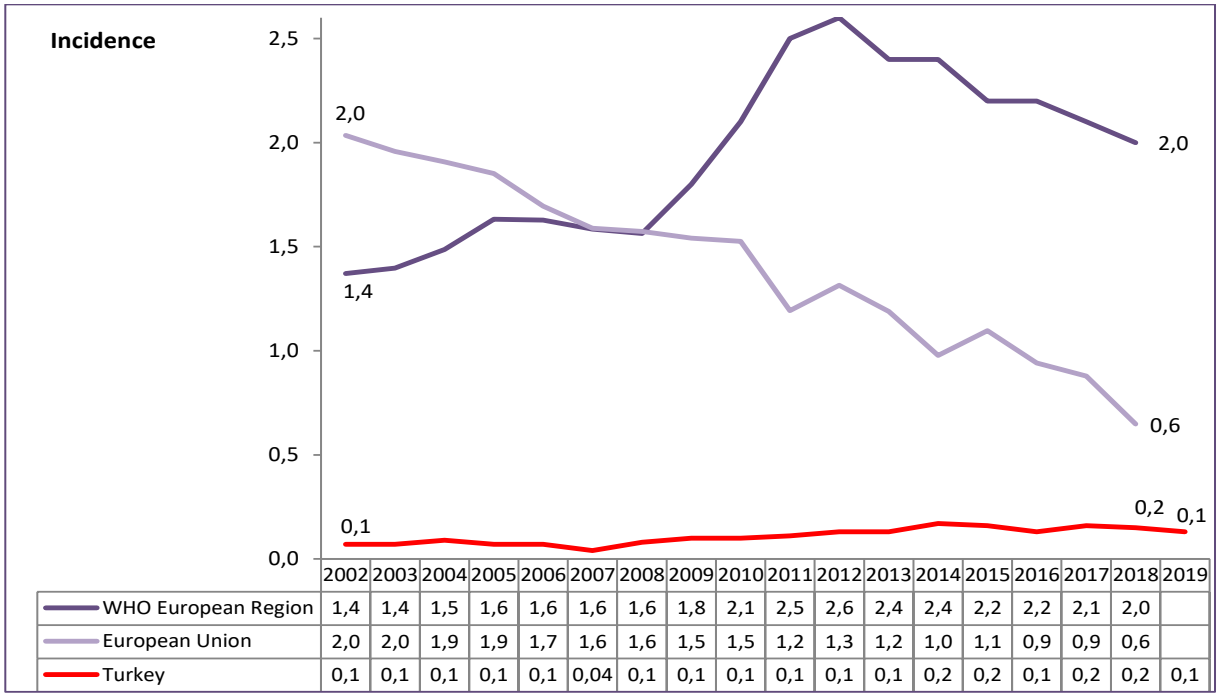
Figure 3.1. International Comparison of AIDS Incidence, (per 100.000 Population), 2018



Source: General Directorate of Public Health, ECDC HIV-AIDS Surveillance in Europe 2019, OECD Health Data 2020

Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

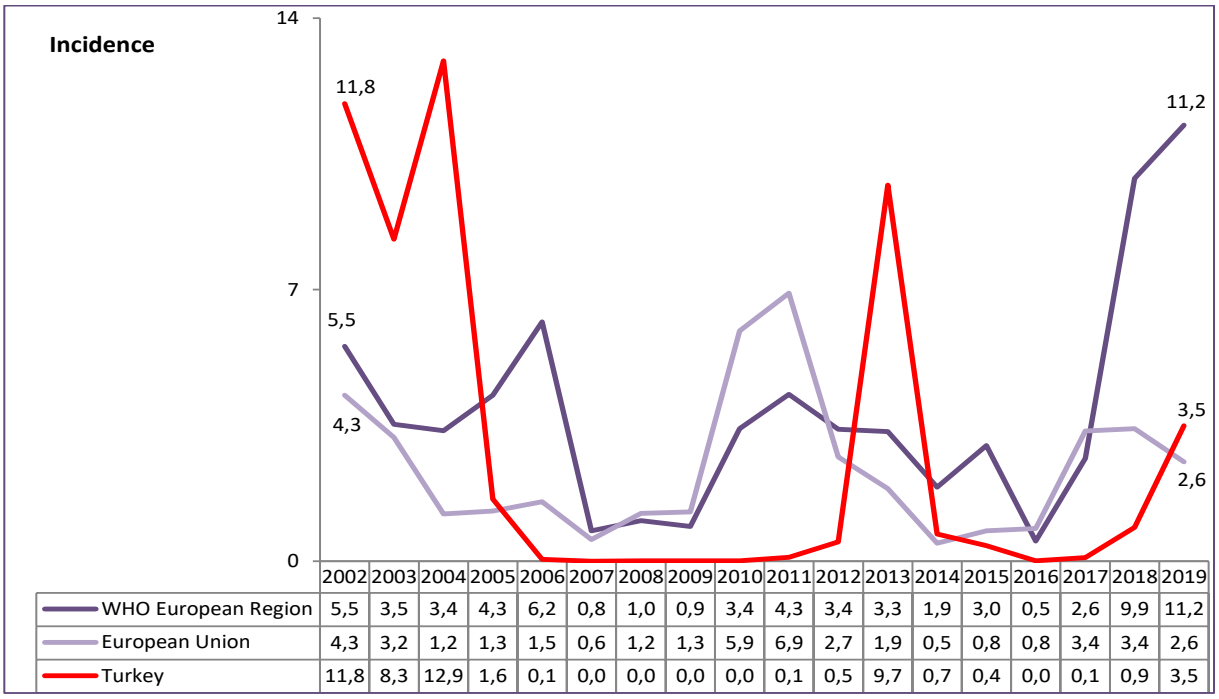
Figure 3.2. International Comparison of AIDS Incidence by Years, (per 100.000 Population)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
WHO European Region	1,4	1,4	1,5	1,6	1,6	1,6	1,6	1,8	2,1	2,5	2,6	2,4	2,4	2,2	2,2	2,1	2,0	
European Union	2,0	2,0	1,9	1,9	1,7	1,6	1,6	1,5	1,5	1,2	1,3	1,2	1,0	1,1	0,9	0,9	0,6	
Turkey	0,1	0,1	0,1	0,1	0,1	0,04	0,1	0,1	0,1	0,1	0,1	0,1	0,2	0,2	0,1	0,2	0,2	0,1

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

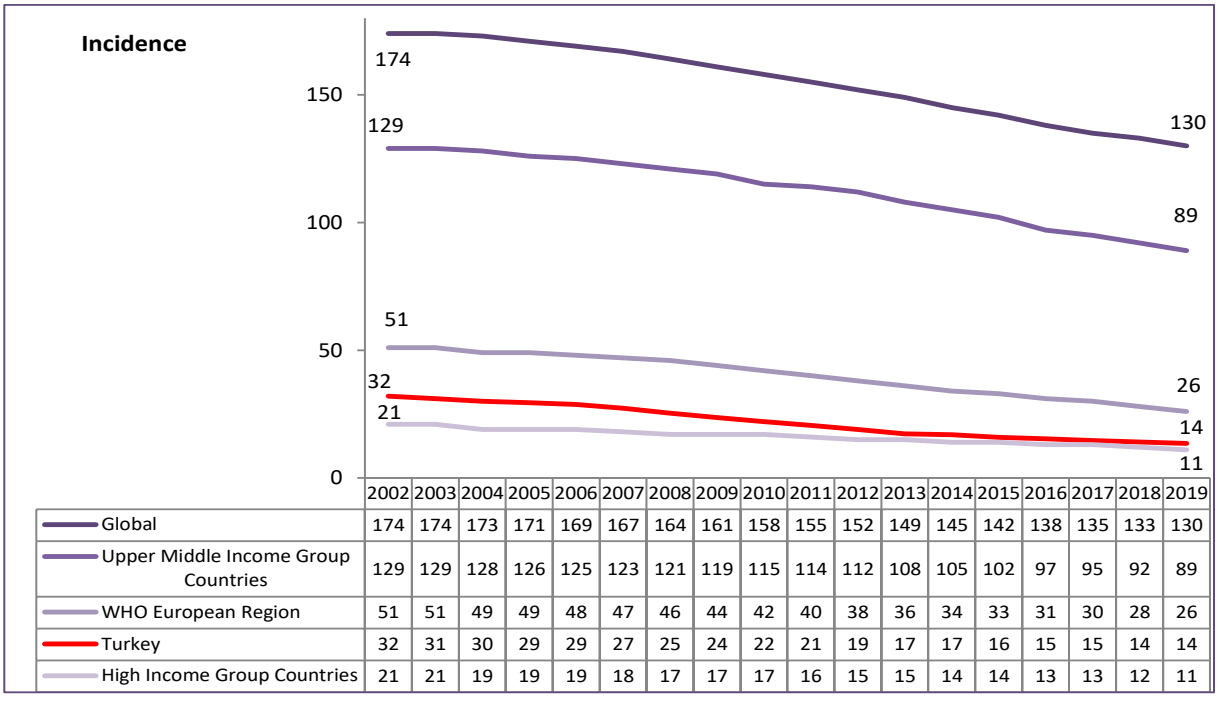
Figure 3.3. International Comparison of Measles Incidence by Years, (per 100.000 Population)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
WHO European Region	5,5	3,5	3,4	4,3	6,2	0,8	1,0	0,9	3,4	4,3	3,4	3,3	1,9	3,0	0,5	2,6	9,9	11,2
European Union	4,3	3,2	1,2	1,3	1,5	0,6	1,2	1,3	5,9	6,9	2,7	1,9	0,5	0,8	0,8	3,4	3,4	2,6
Turkey	11,8	8,3	12,9	1,6	0,1	0,0	0,0	0,0	0,0	0,1	0,5	9,7	0,7	0,4	0,0	0,1	0,9	3,5

Source: General Directorate of Public Health, WHO:Measles and Rubella Surveillance Data

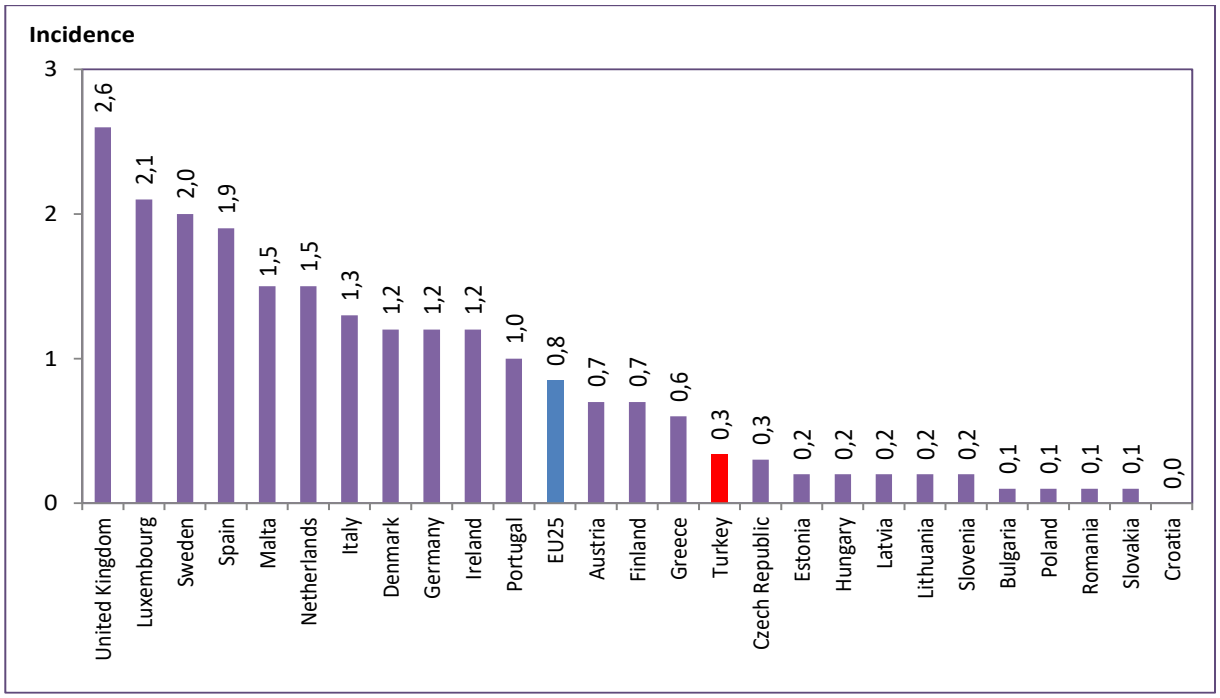
Figure 3.4. International Comparison of Tuberculosis Incidence by Years, (per 100.000 Population)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Global	174	174	173	171	169	167	164	161	158	155	152	149	145	142	138	135	133	130
Upper Middle Income Group Countries	129	129	128	126	125	123	121	119	115	114	112	108	105	102	97	95	92	89
WHO European Region	51	51	49	49	48	47	46	44	42	40	38	36	34	33	31	30	28	26
Turkey	32	31	30	29	29	27	25	24	22	21	19	17	17	16	15	15	14	14
High Income Group Countries	21	21	19	19	19	18	17	17	17	16	15	15	14	14	13	13	12	11

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), 2018



Source: General Directorate of Public Health, ECDC-Annual Epidemiological Report for 2018
Note: Turkey's number of local cases for the year 2019 is "0" (zero).

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

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

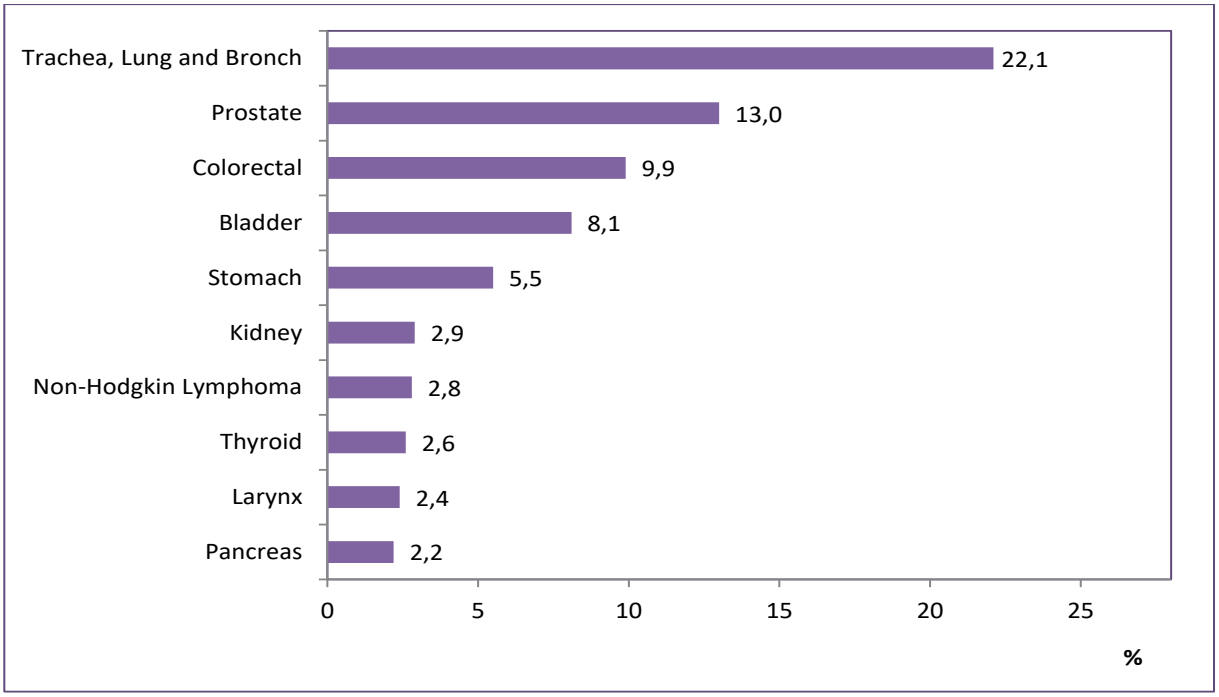
Source: General Directorate of Public Health

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

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

Source: General Directorate of Public Health

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



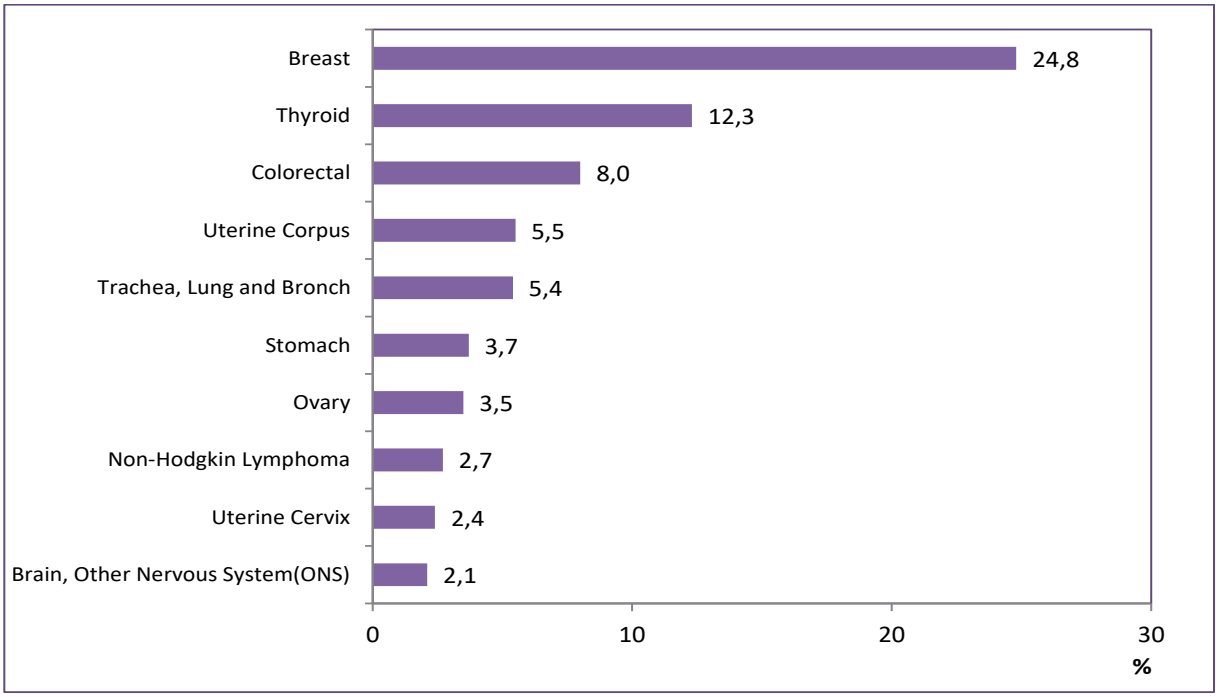
Source: General Directorate of Public Health

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

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

Source: General Directorate of Public Health

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



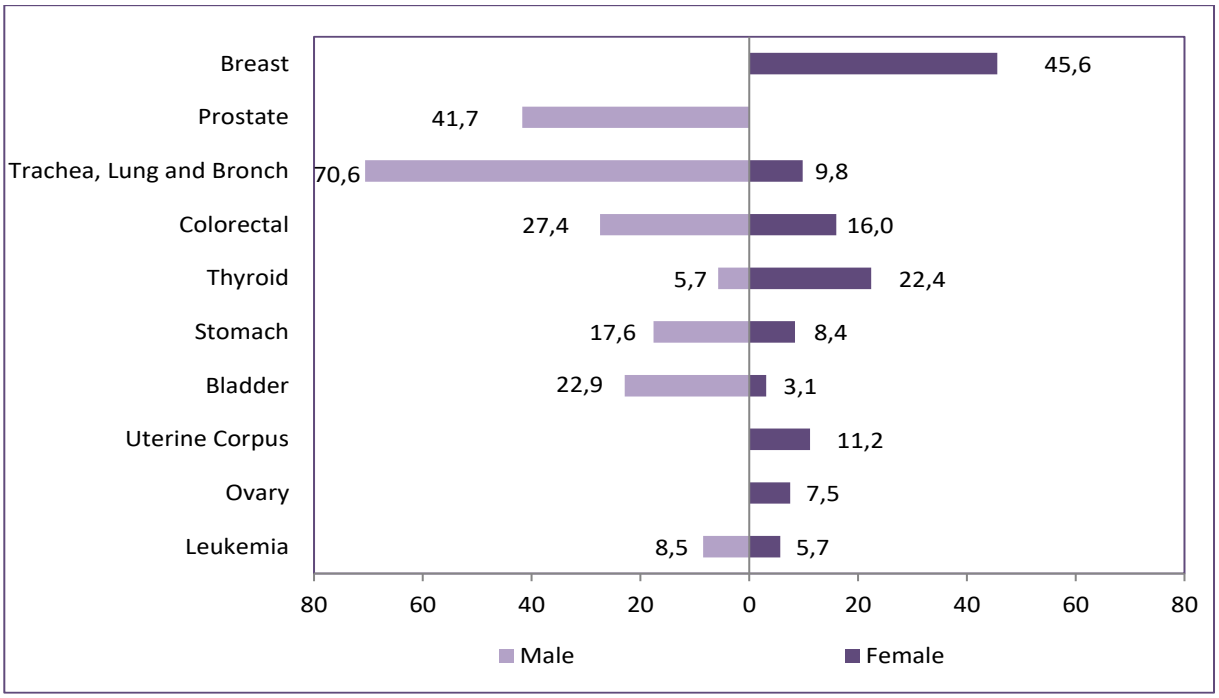
Source: General Directorate of Public Health

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

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

Source: General Directorate of Public Health

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



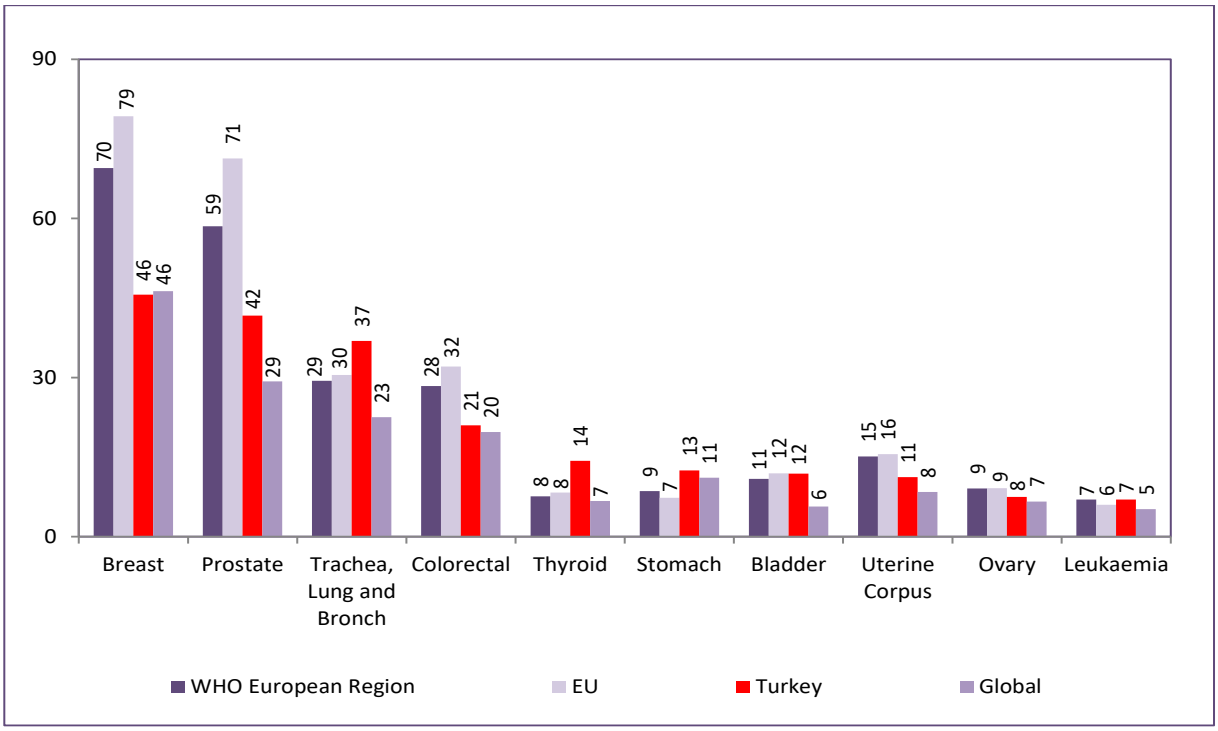
Source: IARC, GLOBOCAN 2018
Note: Cancer incidence is WHO's estimation for 2018.

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

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

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

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



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

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

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

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

Table 3.9. Distribution of the Status of 15 and Over Aged Females Regarding Making Self-Examination of Breast, (%), 2016, 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019

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

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

Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019

Table 3.11. Distribution of the Status of 15 and Over Aged Females Regarding Having Smear Test, (%), 2016, 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019

Table 3.12. Distribution of 15 and Over Aged Individuals Having Difficulty in Performing Personal Care by Sex, (%), 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2019

Table 3.13. Distribution of Major Diseases Seen in Children (0-6 Age Group) in the Past 6 Months by Sex, (%), 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2019

Table 3.14. Distribution of Major Diseases Seen in Children (7-14 Age Group) in the Past 6 Months by Sex, (%), 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2019

Table 3.15. Distribution of Major Diseases Seen in 15 and Over Aged Individuals in the Past 12 Months by Sex, (%), 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2019
Note: Alzheimer was evaluated for individuals in the 65+ age group.

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

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

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

Table 3.17. Distribution of 0-14 Aged Children's General Health Status by Sex and Age Groups, (%), 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2019

Table 3.18. Distribution of 15 and Over Aged Individuals' General Health Status by Sex and Age Groups, (%), 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2019

Table 3.19. Distribution of 15 and Over Aged Individuals Wearing Glasses or Lenses by Sex, (%), 2016, 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019

Table 3.20. Distribution of 15 and Over Aged Individuals Having Vision Problem by Sex and Age Groups, (%), 2016, 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019
Note: Those who could not see / see at all despite the use of glasses / lenses were included in the calculation.

Table 3.21. Distribution of 15 and Over Aged Individuals Wearing a Hearing Aid by Sex, (%), 2016, 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019

Table 3.22. Distribution of 15 and Over Aged Individuals Having Hearing Problem by Sex and Age Groups, (%), 2016, 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019
Note: Those who could not hear / hear at all despite the wear of hearing aids were included in the calculation.

Table 3.23. In the past 12 Months, Days of Absence from Work for Reasons of Health Problems and the Percentage of in 15 and Over Aged Individuals Absent From Work for Reasons of Health Problems by Years

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

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

Table 3.24. In The Last Two Weeks, Percentage of 15 and Over Aged Individuals Having Some Mental Problems Almost Everyday by Sex, (%), 2016, 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019

Explanations for Chapter 3

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

☑ The date of case notification is based on confirmation time in HIV/AIDS surveillance system. The case number is calculated by using the notified cases with having positive confirmation test result. Annual case number would be change due to the value of current year including notifications for confirmed cases of previous year. Case number and incidence values are calculated by using the notified cases with having positive confirmation test result as of 31 January 2020.

☑ 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 is checked in the Turkey database. For errors in the data base of the Provincial, inspection reports are forwarded to the provincial cancer registry centers, "Turkey 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, Turkey Health Interview Survey 2019

Research is based on self-reported.

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

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

☑ **Sampling Distribution:** In 8.325 of these households the questionnaire was completed. The questionnaire was completed by 23.199 people.

☑ **Period of the field study:** Field study of the survey was implemented on April in 2008, on May-June in 2010 and 2012 for only one month. But it was implemented on August-October in 2014 and 2016 for three months and September-December in 2019 for three months.

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

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

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

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

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

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

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

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

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



CHAPTER 4

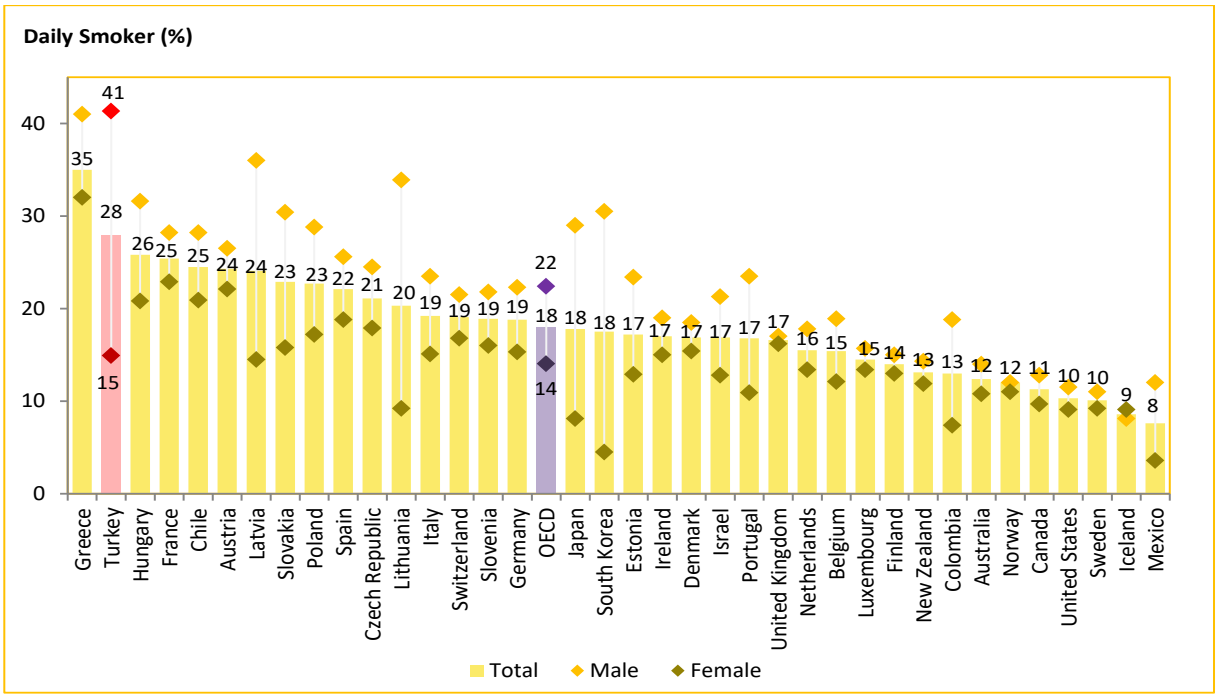
Risk Factors

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

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

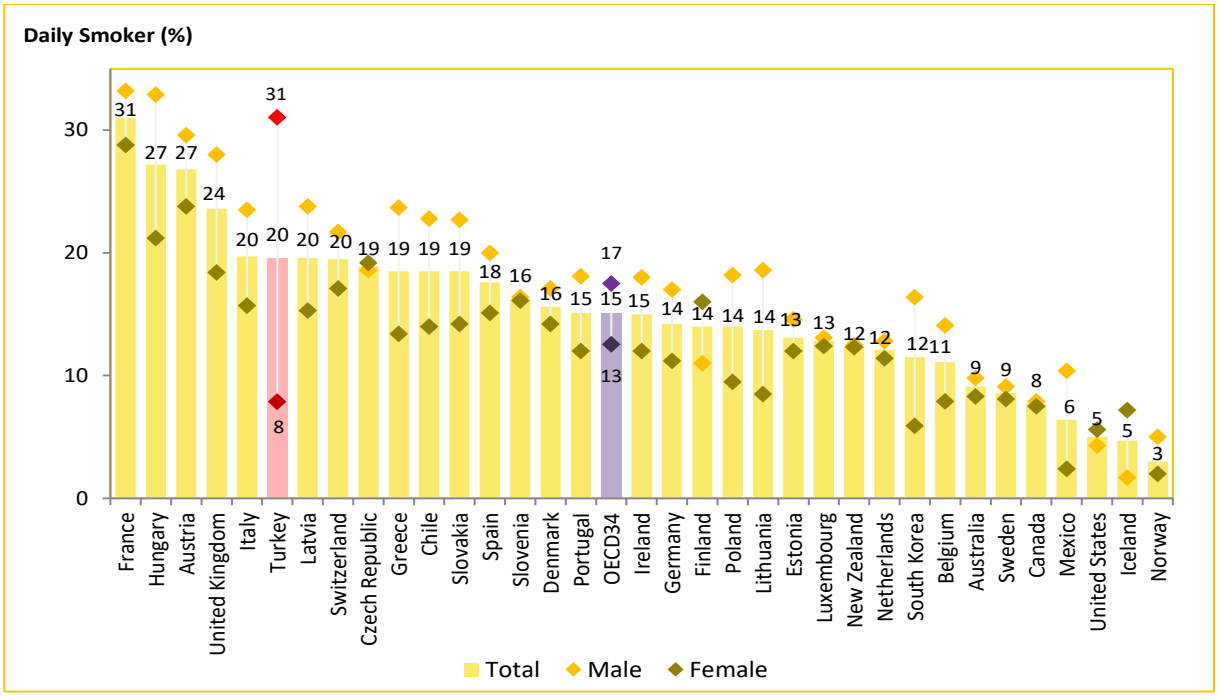
Source: TURKSTAT, Turkey Health Interview Survey 2014, 2016, 2019

Figure 4.1. International Comparison of Distribution of 15 and Over Aged Individuals Using Tobacco Product by Sex, (%), 2018



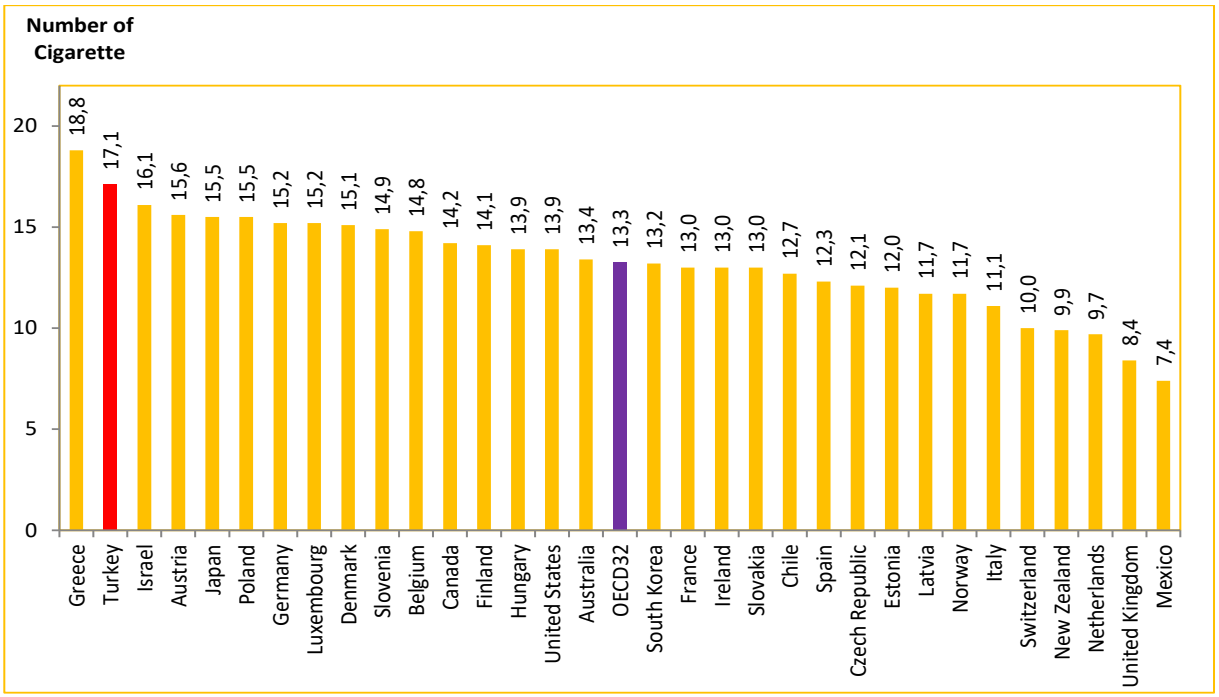
Source: TURKSTAT Turkey Health Interview Survey 2019, OECD Health Data 2020
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Figure 4.2. International Comparison of Distribution of 15-24 Aged Individuals Using Tobacco Product by Sex, (%), 2018



Source: TURKSTAT Turkey Health Interview Survey 2019, OECD Health Data 2020
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Figure 4.3. International Comparison of the Average Number of Daily Cigarette per 15 and Over Aged Individuals Using Cigarette, 2018



Source: TURKSTAT Turkey Health Interview Survey 2019, OECD Health Data 2020
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

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

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

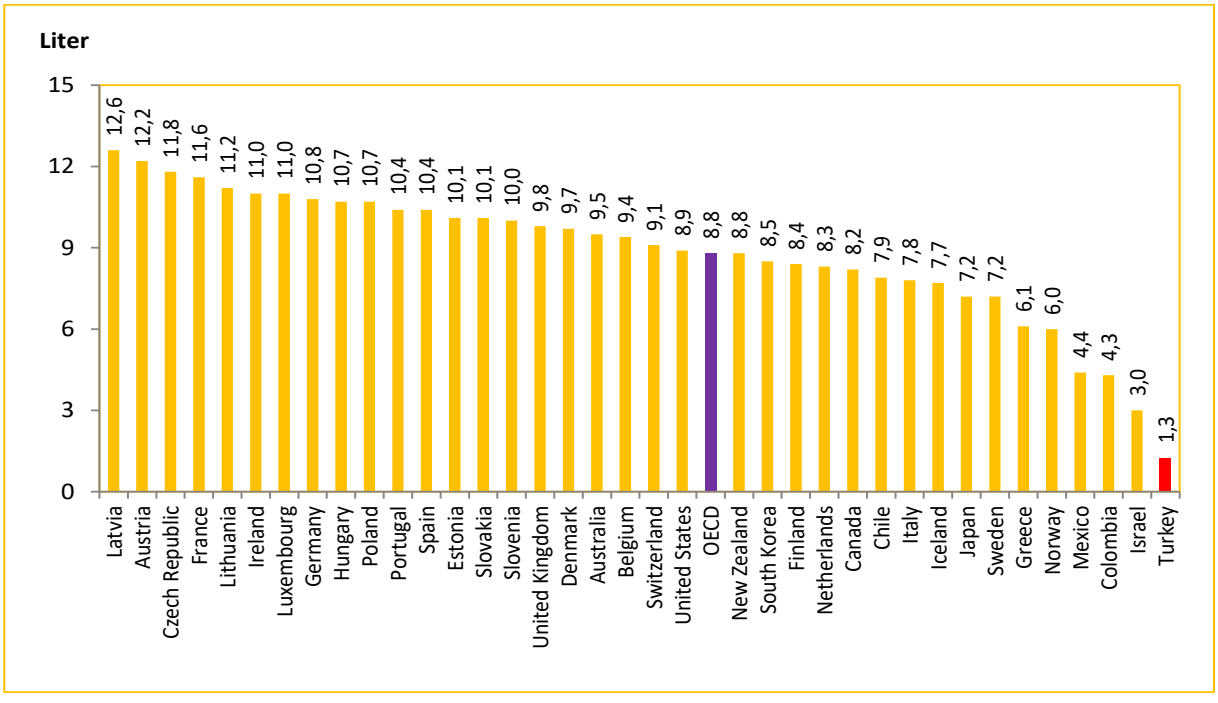
Source: TURKSTAT, Turkey Health Interview Survey 2014, 2016, 2019

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

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

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

Figure 4.4. Consumption of Absolute Alcohol per 15 and Over Aged Individuals, Liter, 2018



Source: Ministry of Agriculture and Forestry, OECD Health Data 2020

Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

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

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

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

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

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

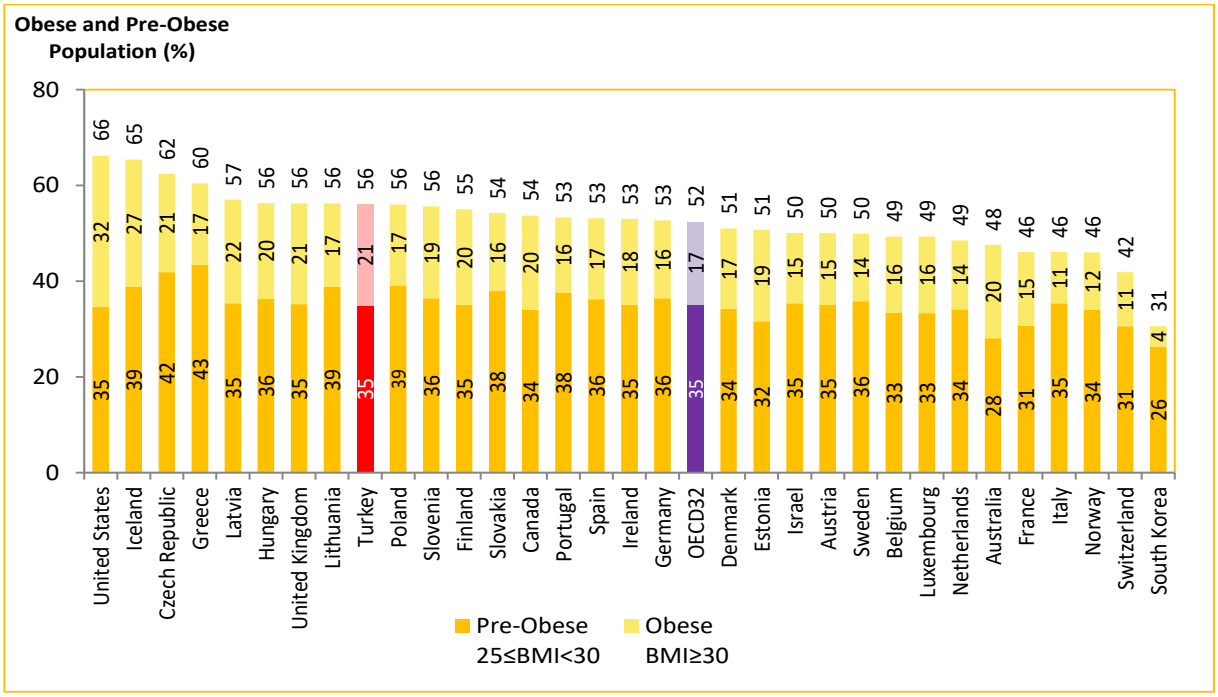
Source: TURKSTAT, Turkey Health Interview Survey 2019

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

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

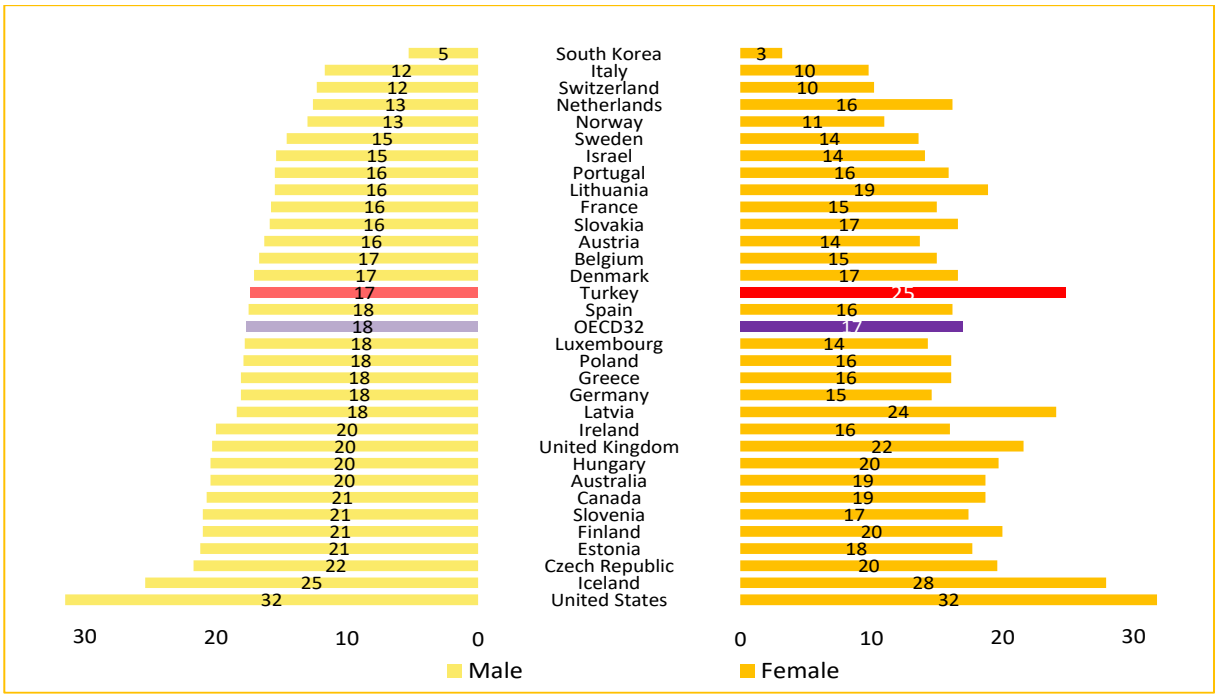
Source: TURKSTAT, Turkey Health Interview Survey 2014, 2016, 2019
Note: The phrase "overweight" has been changed with "pre-obese".

Figure 4.5. International Comparison of Obesity and Pre-Obesity Among 15 and Over Aged Individuals (Self-Reported), (%), 2018



Source: TURKSTAT Turkey Health Interview Survey 2019, OECD Health Data 2020
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Figure 4.6. International Comparison of Obesity (BMI≥30) Among 15 and Over Aged Individuals by Sex (Self-Reported), (%), 2018



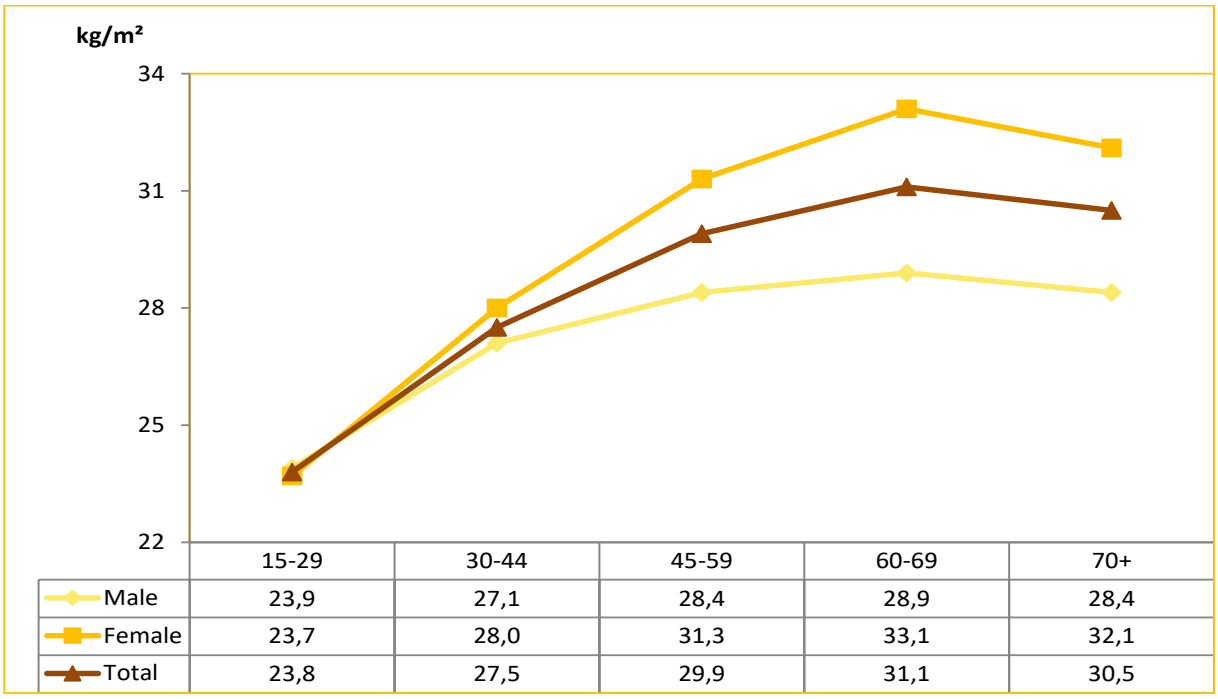
Source: TURKSTAT Turkey Health Interview Survey 2019, OECD Health Data 2020
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

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

Sex	Age Group	Weight (kg)	Height (cm)	BMI (kg/m²)	Waist Circumference (cm)	Hip Circumference (cm)	Neck Circumference (cm)
Male	≥15	79,7	172,0	26,9	94,4	103,1	38,9
	≥19	80,9	172,0	27,4	95,7	103,7	39,2
	19-64	81,2	172,6	27,3	95,0	103,6	39,1
	≥65	78,8	166,5	28,4	102,2	104,6	39,8
Female	≥15	70,7	157,6	28,6	90,4	106,3	34,6
	≥19	71,9	157,2	29,2	91,9	107,4	34,9
	19-64	71,6	158,1	28,8	90,2	106,6	34,7
	≥65	73,6	151,3	32,1	102,7	111,9	36,0
Total	≥15	74,9	164,4	27,8	92,3	104,8	36,6
	≥19	76,1	164,1	28,3	93,7	105,7	36,9
	19-64	76,2	165,0	28,0	92,5	105,2	36,8
	≥65	75,9	158,0	30,4	102,5	108,7	37,7

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

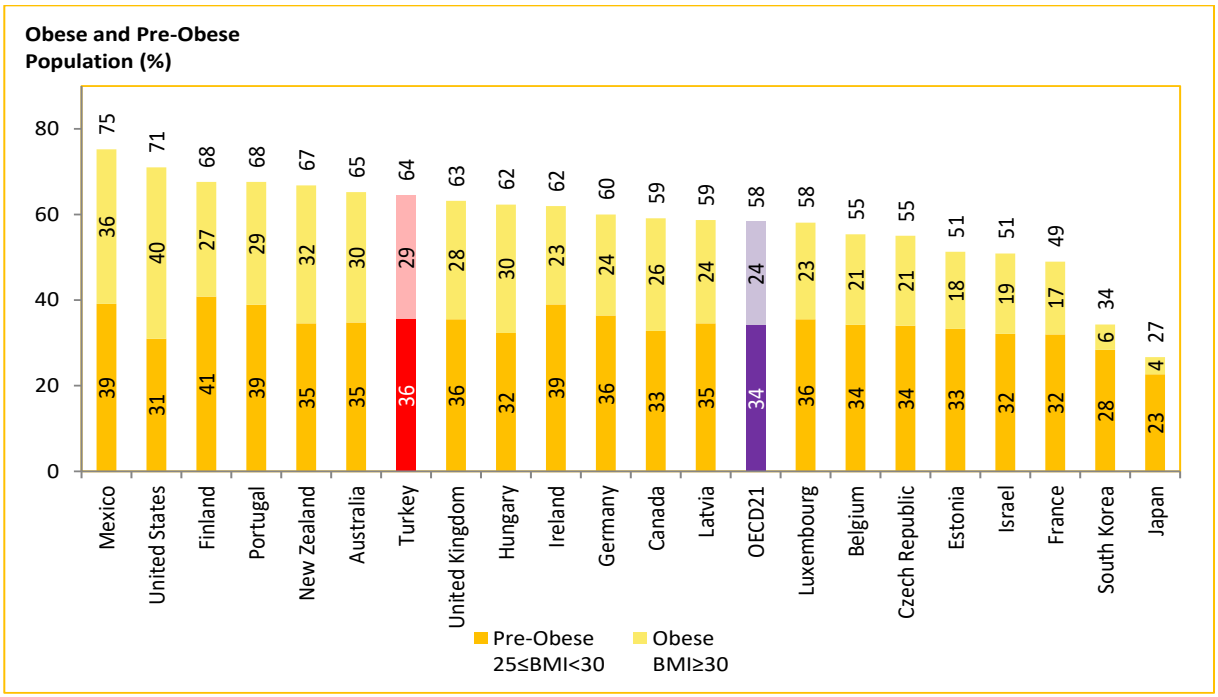
Figure 4.7. Distribution of Body Mass Index by Sex and Age Groups, (Measured), kg/m², 2017



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

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

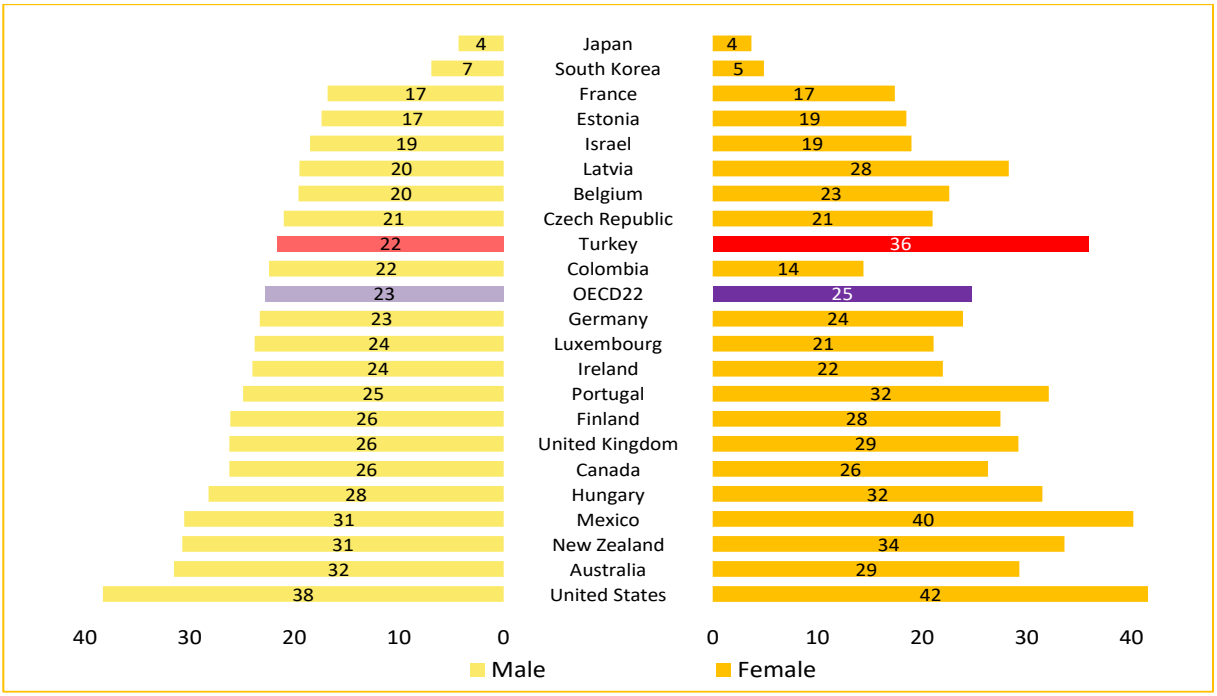
Figure 4.8. International Comparison of Obesity and Pre-Obesity Among 15 and Over Aged Individuals (Measured), (%), 2018



Source: Ministry of Health National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017, OECD Health Data 2020

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

Figure 4.9. International Comparison of Obesity (BMI≥30) Among 15 and Over Aged Individuals by Sex (Measured), (%), 2018



Source: Ministry of Health National Household Health Survey in Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017, OECD Health Data 2020

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

Table 4.8. 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 (2^{nd} Grade Students in Primary School) Obesity Research (COSI-TUR-2016)

Note: BAZ: Body Mass Index Z-Score by Age, WAZ: Weight Z-Score by Age, HAZ: Height Z- Score by Age

Table 4.9. Distribution of BMI Among 15 and Over Aged Individuals by Sex and Age Groups (Measured), (%), 2017

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

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

Table 4.10. Distribution of Feeding Time with Only Breast Milk, Average of Feeding Time with Breast Milk and BMI Z-Scores Obesity Ratio for 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
Total	**4,5**	**15,6**	**9,9**

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

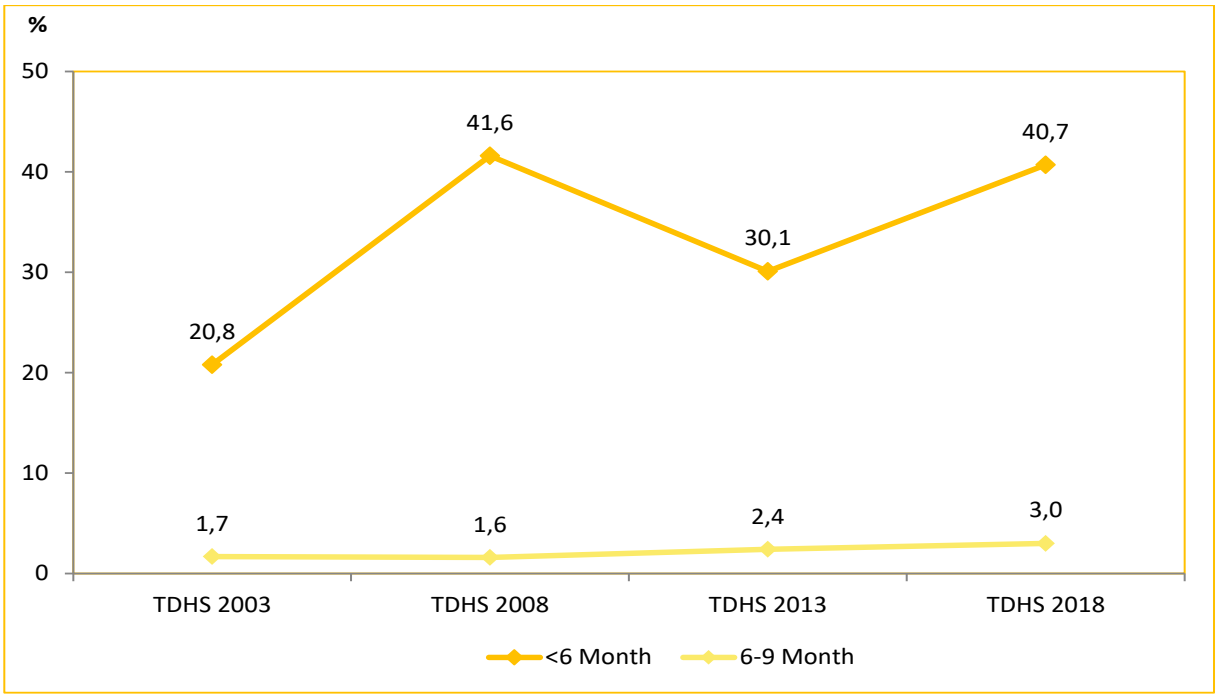
Table 4.11. Distribution of Breastfeeding Status of Children Under Two Years by Age (in Months), (%), 2018

Age (in Months) / Breastfeeding Status	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

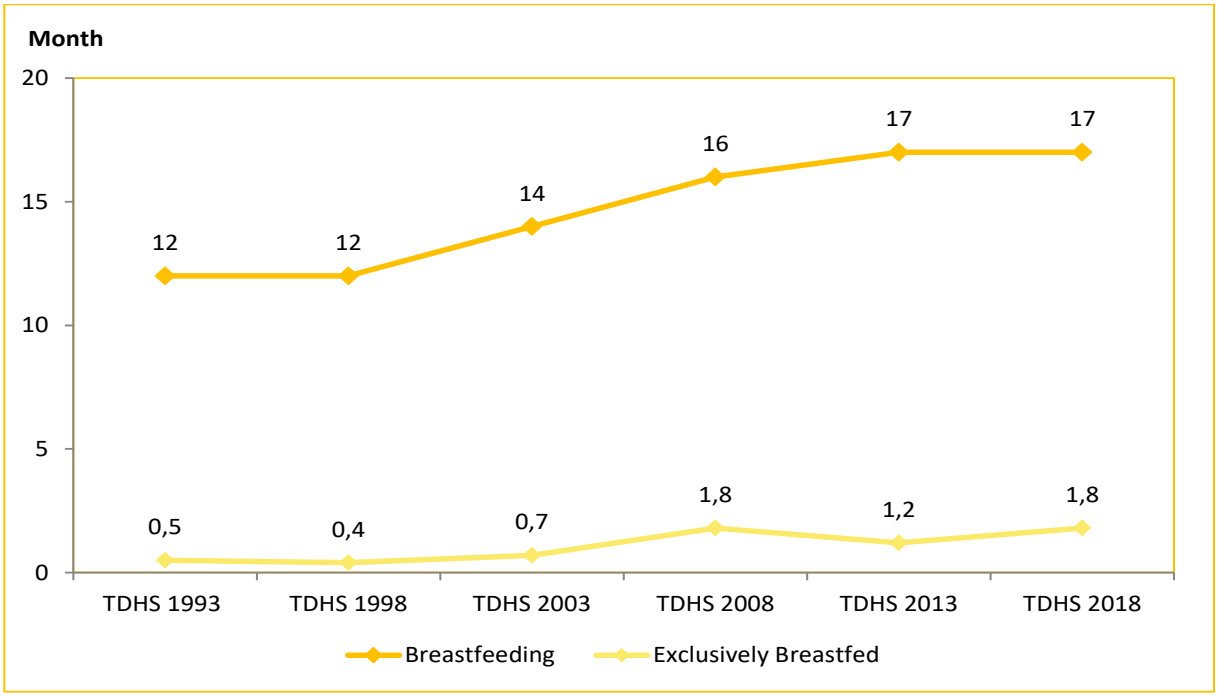
** Non-milk liquids include juice, juice drinks, clear broth or other liquids.*

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 4.12. 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 4.13. Average Nutrition Consumption Amount Among 19 and Over Aged Individuals by Sex, (person/day/gr, mL), 2010, 2017

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

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

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

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

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

Note: The most common reasons of no meals consumption are top three reasons.

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

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

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

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

Fruit Consumption	Age Group	2014			2016			2019		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Once a Day or More	15-24	40,4	43,3	41,8	47,9	48,5	48,2	37,9	42,7	40,3
	25-34	42,1	46,9	44,5	43,4	51,1	47,2	35,3	45,1	40,2
	35-44	44,7	47,6	46,2	46,3	50,7	48,5	42,4	45,8	44,1
	45-54	48,9	54,0	51,4	54,2	57,1	55,7	47,3	50,1	48,7
	55-64	55,6	56,9	56,3	59,4	60,0	59,7	52,2	56,5	54,4
	65-74	54,1	51,0	52,5	60,5	59,1	59,7	54,9	52,4	53,5
	75+	48,9	51,5	50,5	58,0	50,9	53,7	52,7	50,2	51,2
	15+	**45,9**	**49,0**	**47,5**	**50,2**	**53,1**	**51,6**	**43,4**	**47,9**	**45,7**
4-6 Times a Week	15-24	17,7	19,0	18,4	18,2	17,0	17,6	19,1	17,0	18,1
	25-34	20,1	15,9	18,0	16,8	15,7	16,3	19,8	16,6	18,2
	35-44	18,4	16,1	17,3	17,9	16,6	17,2	18,7	15,7	17,2
	45-54	17,7	15,9	16,8	16,7	15,5	16,1	17,6	13,8	15,7
	55-64	15,3	17,3	16,3	15,8	16,4	16,1	16,8	16,0	16,4
	65-74	19,5	19,8	19,6	16,5	15,7	16,0	19,5	18,1	18,7
	75+	21,9	17,8	19,4	18,6	20,8	20,0	19,8	19,6	19,7
	15+	**18,4**	**17,1**	**17,7**	**17,2**	**16,4**	**16,8**	**18,7**	**16,2**	**17,4**
1-3 Times a Week	15-24	31,5	27,2	29,4	25,9	25,7	25,8	32,5	30,4	31,5
	25-34	26,7	25,7	26,2	30,4	25,8	28,1	33,7	27,6	30,6
	35-44	27,6	24,7	26,1	25,9	24,4	25,2	29,0	27,7	28,4
	45-54	23,8	20,0	21,9	21,8	20,9	21,4	26,2	27,3	26,7
	55-64	20,7	19,0	19,9	20,0	18,4	19,2	24,2	20,0	22,1
	65-74	19,5	21,0	20,3	18,7	19,0	18,9	19,3	22,0	20,8
	75+	21,6	21,4	21,5	20,6	22,2	21,6	21,0	25,6	23,8
	15+	**26,1**	**23,7**	**24,9**	**24,9**	**23,2**	**24,0**	**28,6**	**26,6**	**27,6**
Less Than Once a Week	15-24	7,6	7,1	7,4	6,4	6,6	6,5	8,2	7,2	7,7
	25-34	8,9	8,4	8,7	7,1	5,3	6,2	9,1	8,1	8,6
	35-44	7,6	8,6	8,1	8,1	6,5	7,3	7,8	7,9	7,9
	45-54	7,4	7,2	7,3	5,9	5,3	5,6	7,3	7,0	7,2
	55-64	5,9	5,0	5,4	3,7	4,5	4,1	5,9	5,8	5,8
	65-74	4,9	6,6	5,8	3,8	4,9	4,4	5,8	6,4	6,1
	75+	6,2	8,0	7,2	2,1	4,8	3,7	5,5	3,7	4,4
	15+	**7,5**	**7,5**	**7,5**	**6,2**	**5,7**	**5,9**	**7,6**	**7,1**	**7,3**
Never	15-24	2,8	3,4	3,1	1,6	2,3	1,9	2,2	2,6	2,4
	25-34	2,1	3,1	2,6	2,3	2,2	2,2	2,1	2,6	2,4
	35-44	1,7	3,0	2,3	1,8	1,8	1,8	2,0	2,9	2,5
	45-54	2,2	2,9	2,5	1,4	1,2	1,3	1,7	1,7	1,7
	55-64	2,5	1,8	2,1	1,0	0,7	0,9	1,0	1,8	1,4
	65-74	2,1	1,6	1,8	0,6	1,4	1,0	0,5	1,1	0,8
	75+	1,5	1,4	1,4	0,7	1,2	1,0	1,0	0,9	1,0
	15+	**2,2**	**2,8**	**2,5**	**1,6**	**1,7**	**1,6**	**1,7**	**2,2**	**2,0**

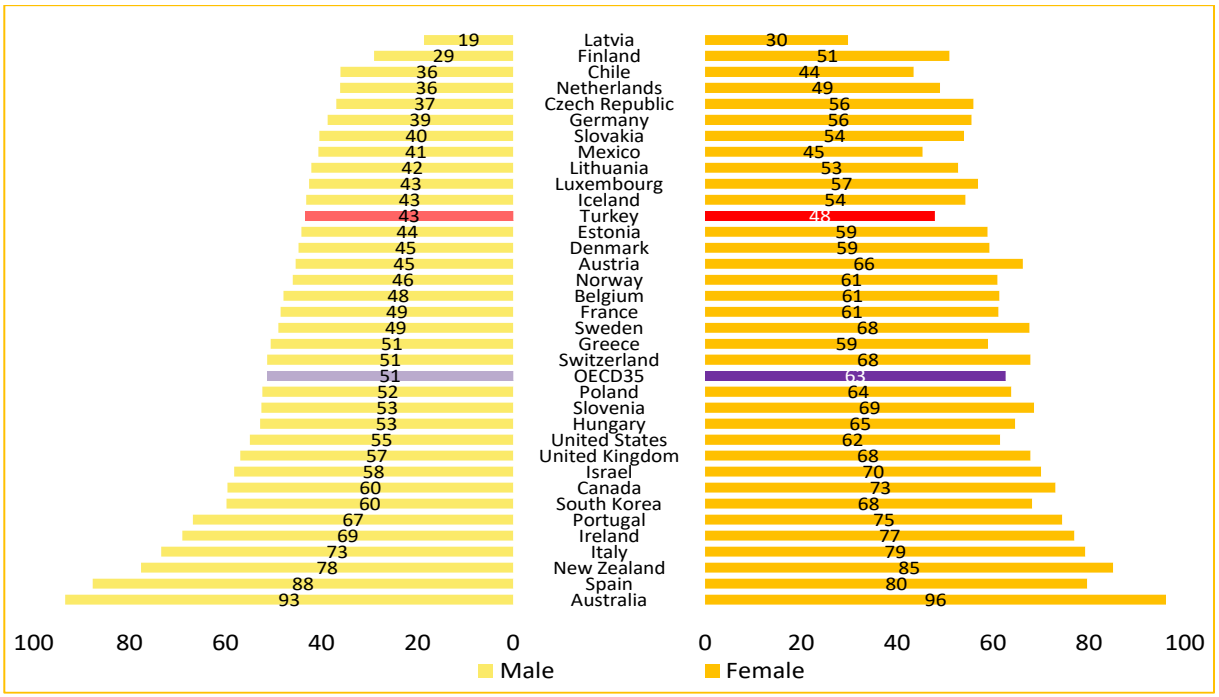
Source: TURKSTAT, Turkey Health Interview Survey 2014, 2016, 2019

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

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

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

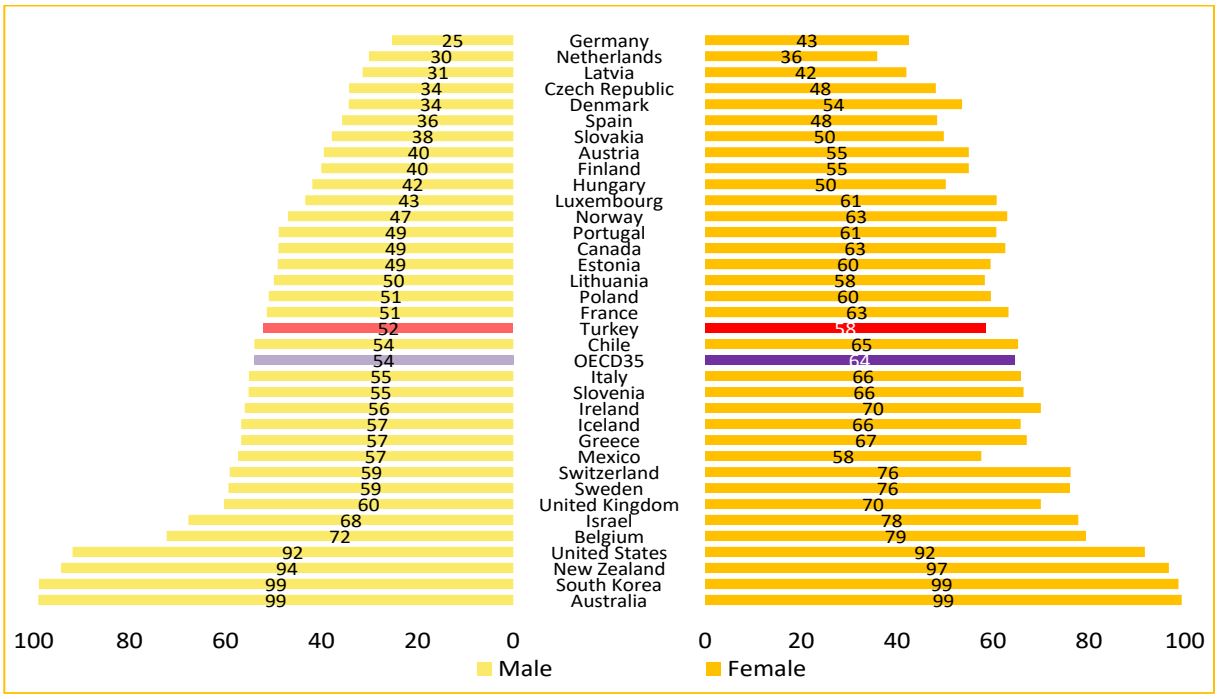
Figure 4.12. International Comparison of Distribution of 15 and Over Aged Individuals' Fruit Consumption Once a Day or More by Sex, (%), 2018



Source: TURKSTAT Turkey Health Interview Survey 2019, OECD Health Data 2020

Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Figure 4.13. International Comparison of Distribution of 15 and Over Aged Individuals' Vegetable or Salad Consumption Once a Day or More by Sex, (%), 2018



Source: TURKSTAT Turkey Health Interview Survey 2019, OECD Health Data 2020

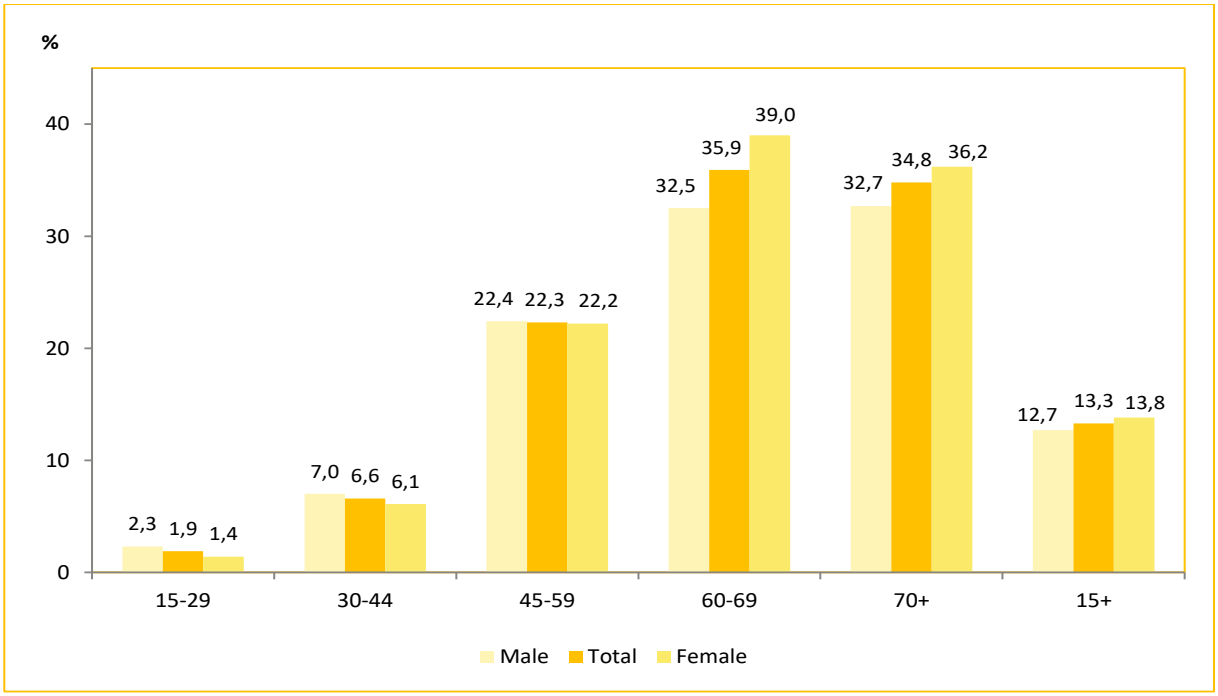
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

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

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

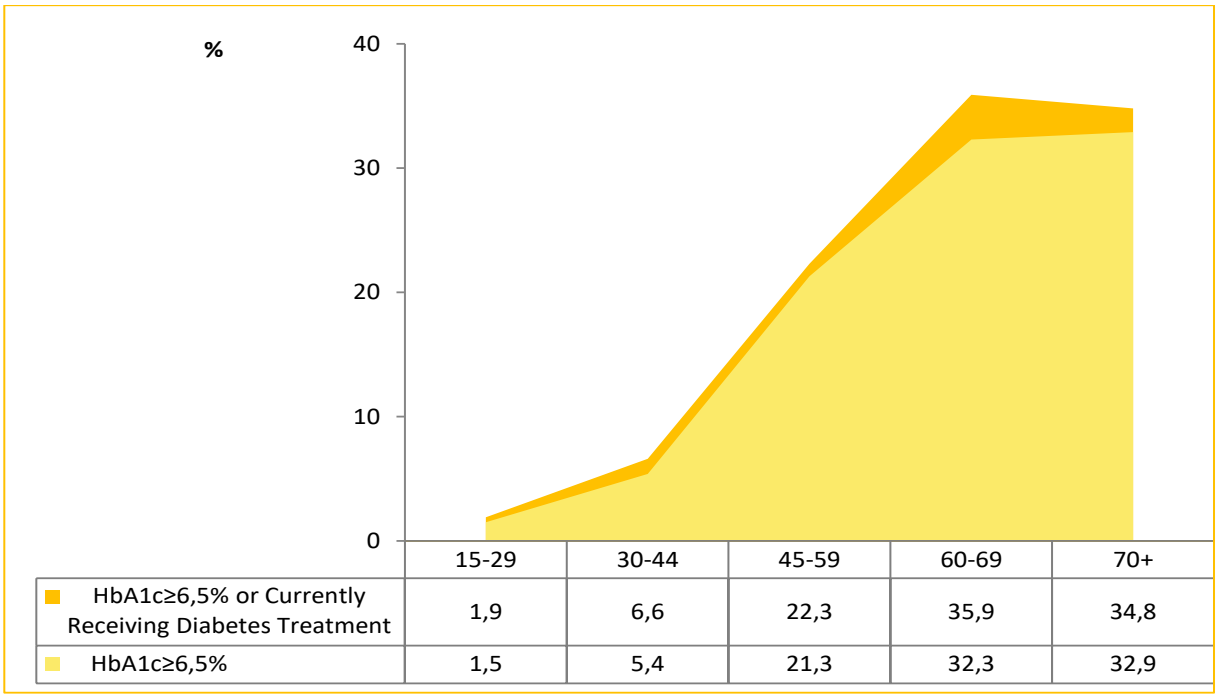
Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019

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



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

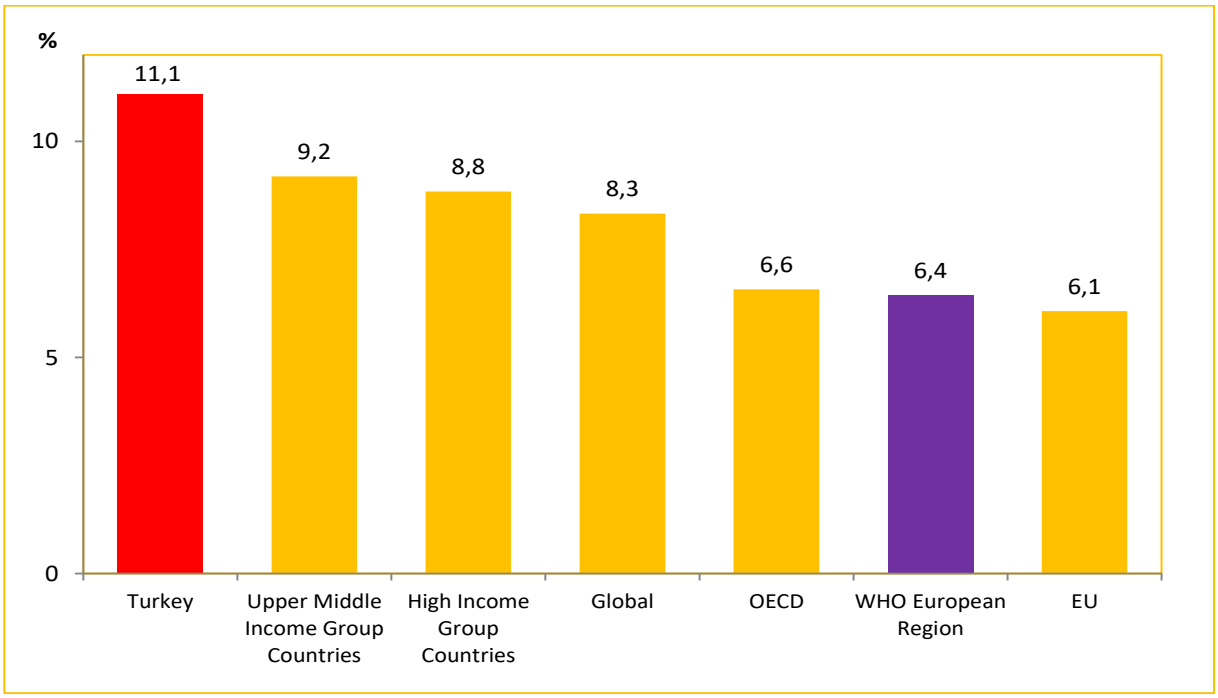
Figure 4.15. Comparison of Distribution of Individuals with HbA1c≥6,5% or Currently Receiving Diabetes Treatment and Individuals with HbA1c≥6,5% by Age Groups, (%), 2017



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

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

Figure 4.16. International Comparison of Age Standardized Diabetes Prevalence for 20-79 Age Group, (%), (World Standard Population), 2019



Source: IDF Diabetes Atlas 9th Edition, 2019

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

Table 4.19. Distribution of 15 and Over Aged Individuals' Total Cholesterol and Fasting Triglycerides Levels by Sex, (%), 2017

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

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

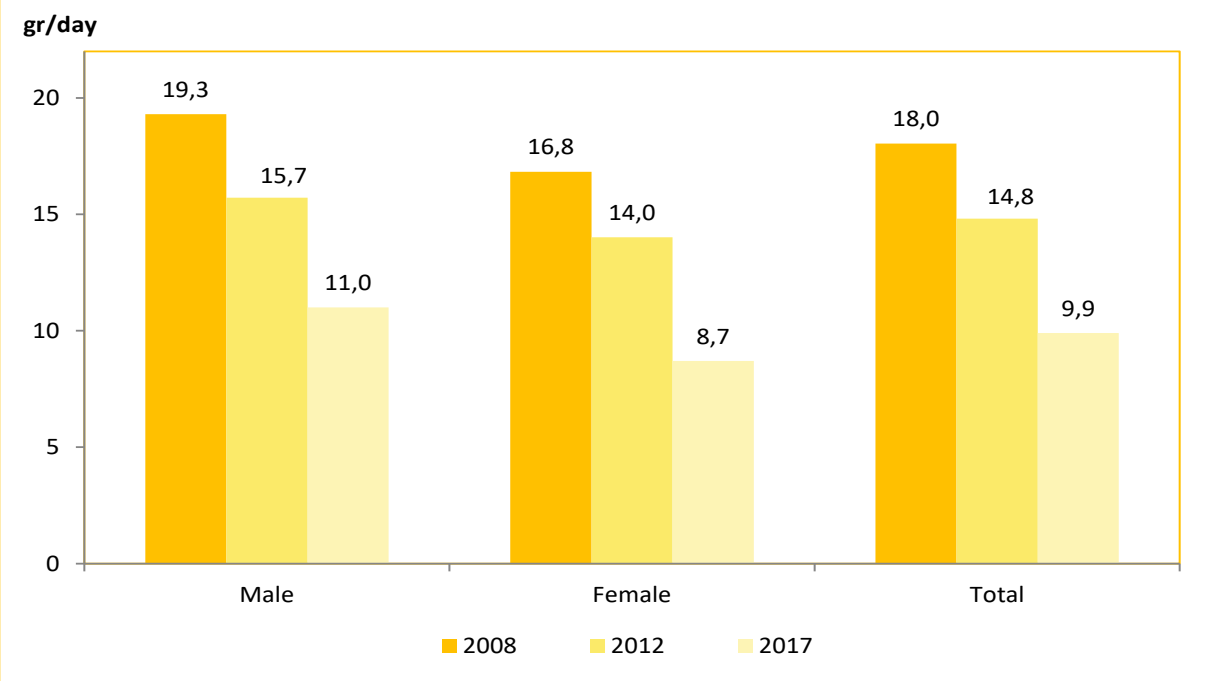
Note: Individuals using drugs were also included in the calculation of total cholesterol. Low HDL threshold was considered as <40 mg/dl for men and <50 mg/dl for women.

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

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

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

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



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

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

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

Source: Ministry of Health, Turkey Nutrition and Health Survey 2017
Note: PAL classification is based on FAO / WHO / UNU standards.

Table 4.22. Distribution of Individuals' Physical Activity Status by Sex and Age Groups, (%), 2017

Age Group	Male			Female			Total		
	Low	Middle	High	Low	Middle	High	Low	Middle	High
15-29	31,7	25,6	42,6	56,2	29,3	14,5	43,8	27,4	28,7
30-44	37,3	23,4	39,2	58,0	28,2	13,9	47,7	25,8	26,5
45-59	37,5	28,5	34,0	58,4	26,3	15,3	48,0	27,4	24,6
60-69	47,2	30,8	22,0	72,1	19,1	8,8	60,2	24,7	15,1
70+	51,5	29,1	19,5	84,9	10,9	4,3	70,6	18,6	10,8
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 Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017

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

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

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

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

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

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

Table 4.25. Distribution of 15 and Over Aged Individuals Providing Care or Assistance to Persons Suffering from Some Age Problem, Chronic Health Condition or Infirmity by Sex, (%), 2016, 2019

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

Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019

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

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

Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019

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

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

Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019

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

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

Source: TURKSTAT, Turkey Health Interview Survey 2016, 2019

Explanations for Chapter 4

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

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

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

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

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

TURKSTAT, Turkey Health Interview Survey 2019

Research is based on self-reported.

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

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

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

☑ **Period of the field study:** Field study of the survey was implemented on April in 2008, on May-June in 2010 and 2012 for only one month. But it was implemented on August-October in 2014 and 2016 for three months and September-December in 2019 for three months.

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

Hacettepe University, Turkey 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 Turkey: Prevalence of Noncommunicable Disease Risk Factors 2017

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

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

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

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

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

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

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

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

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

High Physical Activity:

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

Moderate Physical Activity:

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

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

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 Turkey, 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 Turkey SALTurk-I and SALTURK –II 18 and over aged citizens of the Republic of Turkey are covered.

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

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

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

Ministry of Health, Turkey Nutrition and Health Survey 2017

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

☑ **Estimation Level:** Sample size was calculated by TURKSTAT and covers eating habits, consumption of food, disease and physical activity status, blood tests of 15 and over aged individuals. Family Medicine Database was used for sampling process by TURKSTAT.

☑ **Sampling Distribution:** By selecting one individual from each household, the sample size was calculated 24.000 for 15 and over aged. The sampling method of the study is 3-stage cluster sampling (cluster, household, individuals aged 15 and over).

☑ **Period of Field Study:** Field studies for TNHS 2017 were conducted between September and December 2017.



CHAPTER 5

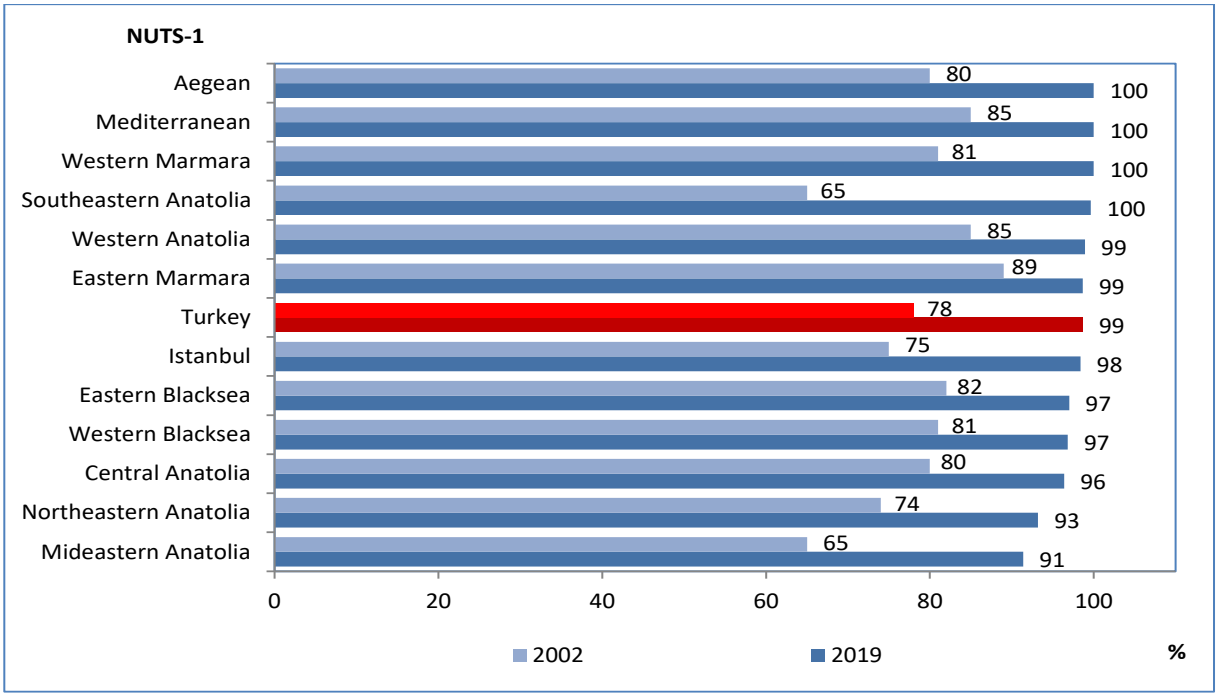
Prevention of Diseases and Protection of Health

Table 5.1. Vaccination Rate by Years, (%)

	2002	2015	2016	2017	2018	2019
DaPT 3	78	97	98	96	98	99
BCG	77	96	96	93	96	96
HBV 3	72	97	98	96	98	99
MMR	82	97	98	96	96	97

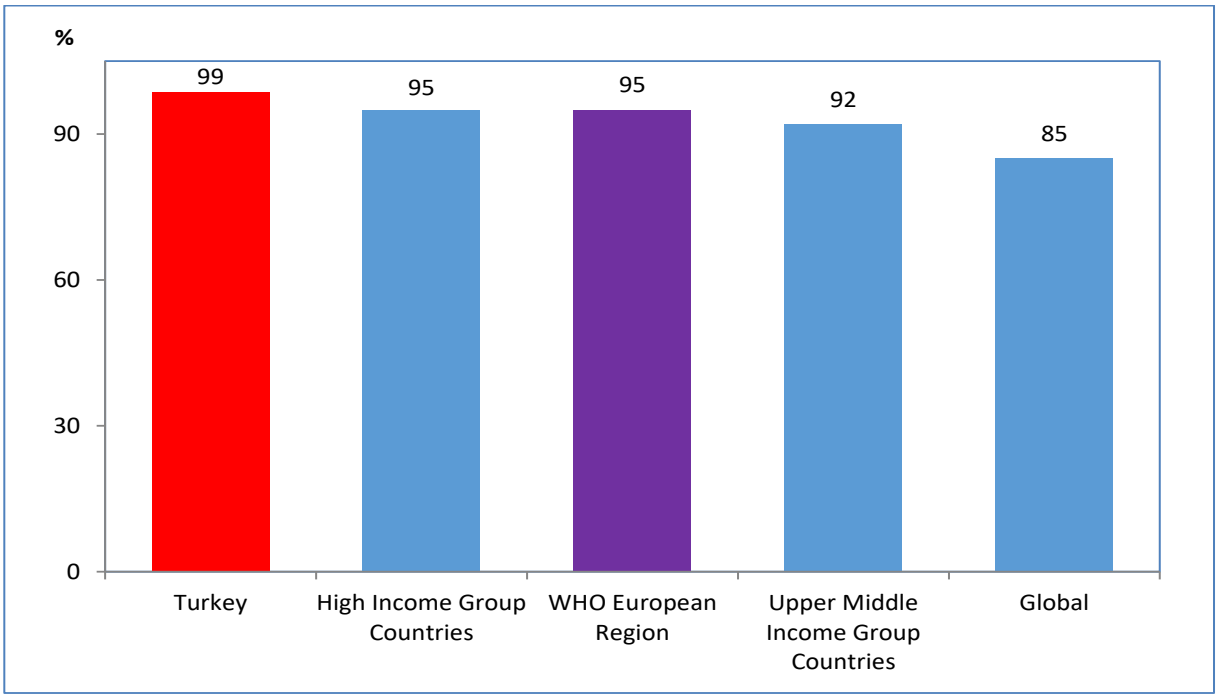
Source: General Directorate of Public Health

Figure 5.1. Third Dose Vaccination Rate of 5-Component Combined Vaccine (DaPT+IPV+Hib) by NUTS-1, (%), 2002, 2019



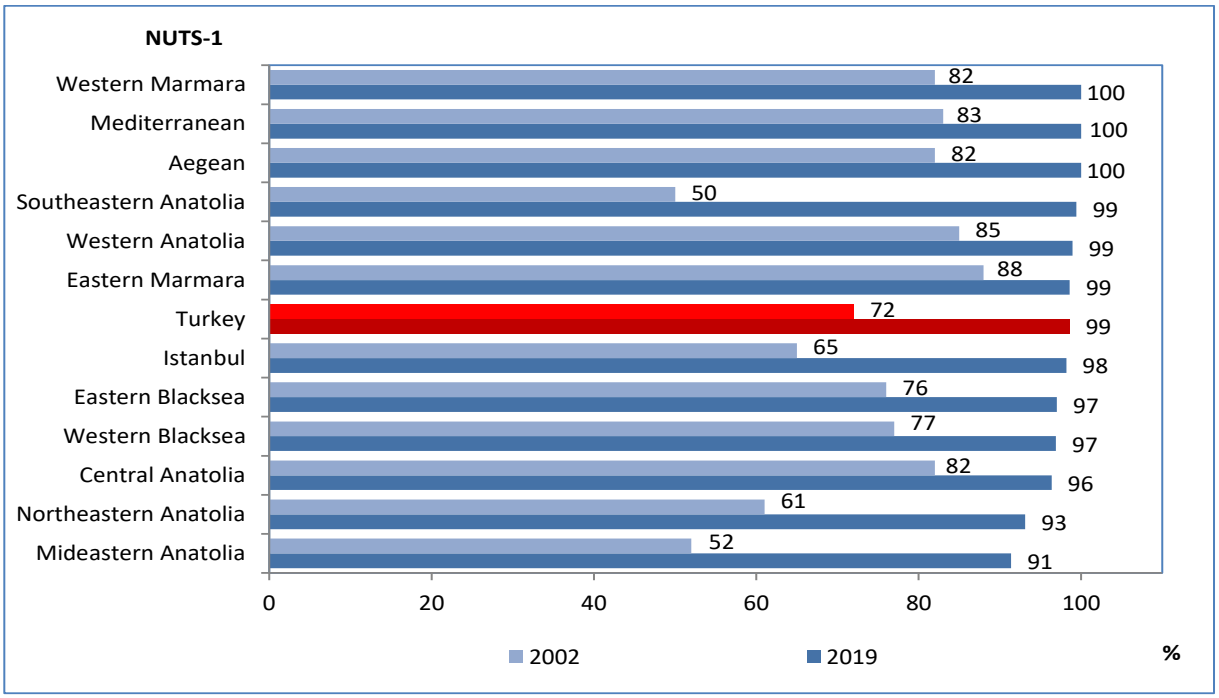
Source: General Directorate of Public Health

Figure 5.2. International Comparison of DaPT+IPV+Hib Vaccination Rate, (%), 2019



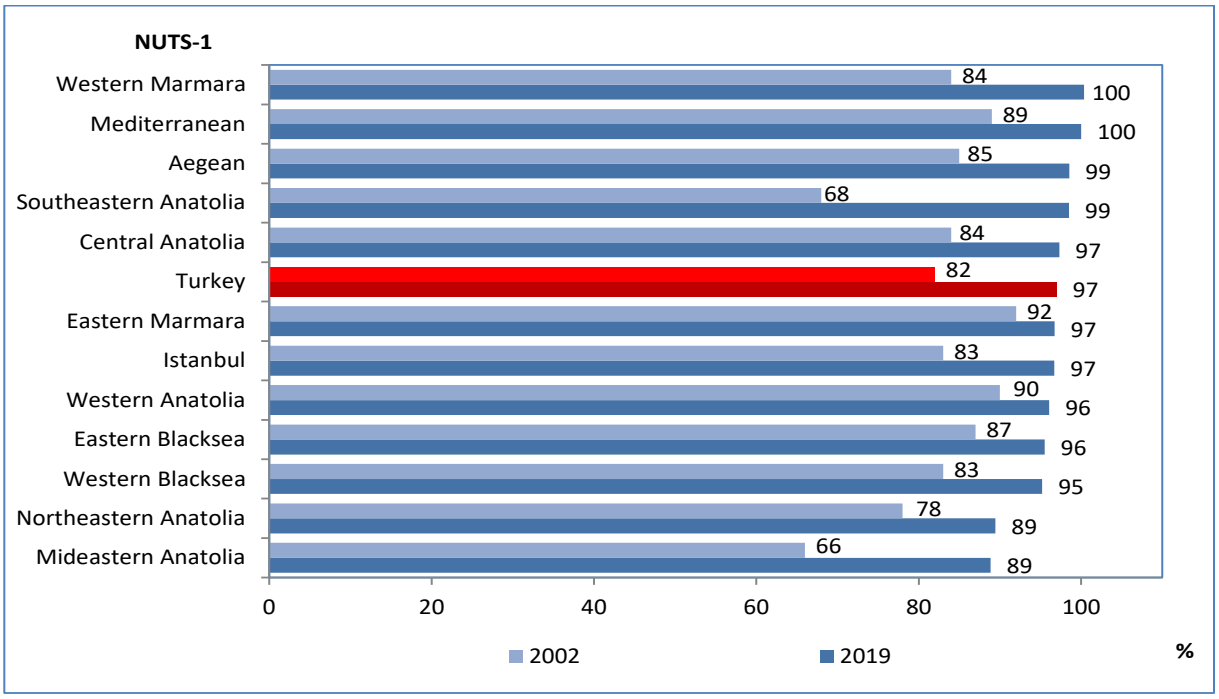
Source: General Directorate of Public Health, WHO Global Health Observatory Database

Figure 5.3. HBV 3 Vaccination Rate by NUTS-1, (%), 2002, 2019



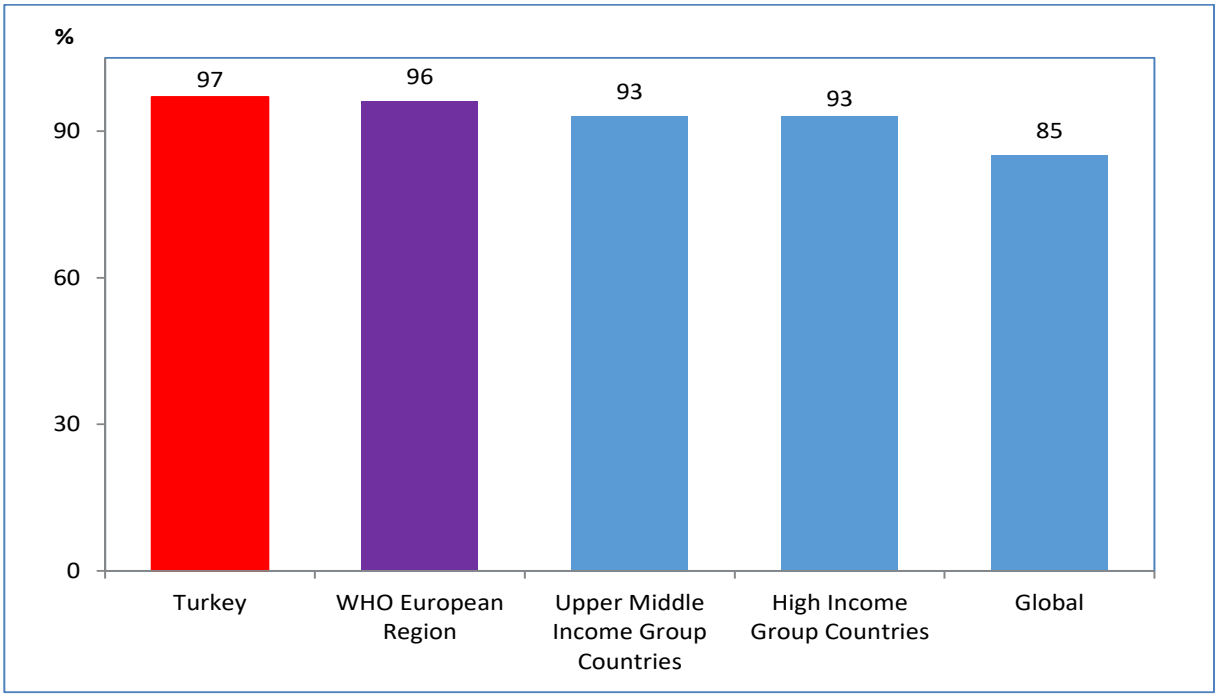
Source: General Directorate of Public Health

Figure 5.4. MMR Vaccination Rate by NUTS-1, (%), 2002, 2019



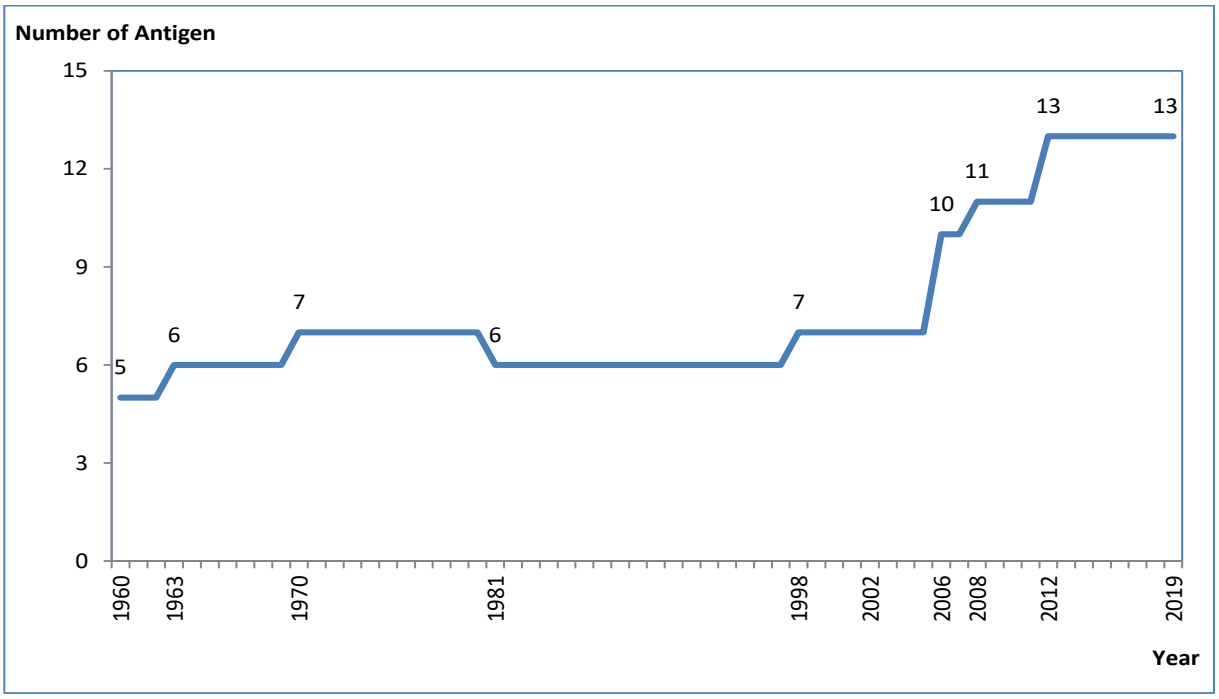
Source: General Directorate of Public Health

Figure 5.5. International Comparison of MMR Vaccination Rate, (%), 2019



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

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



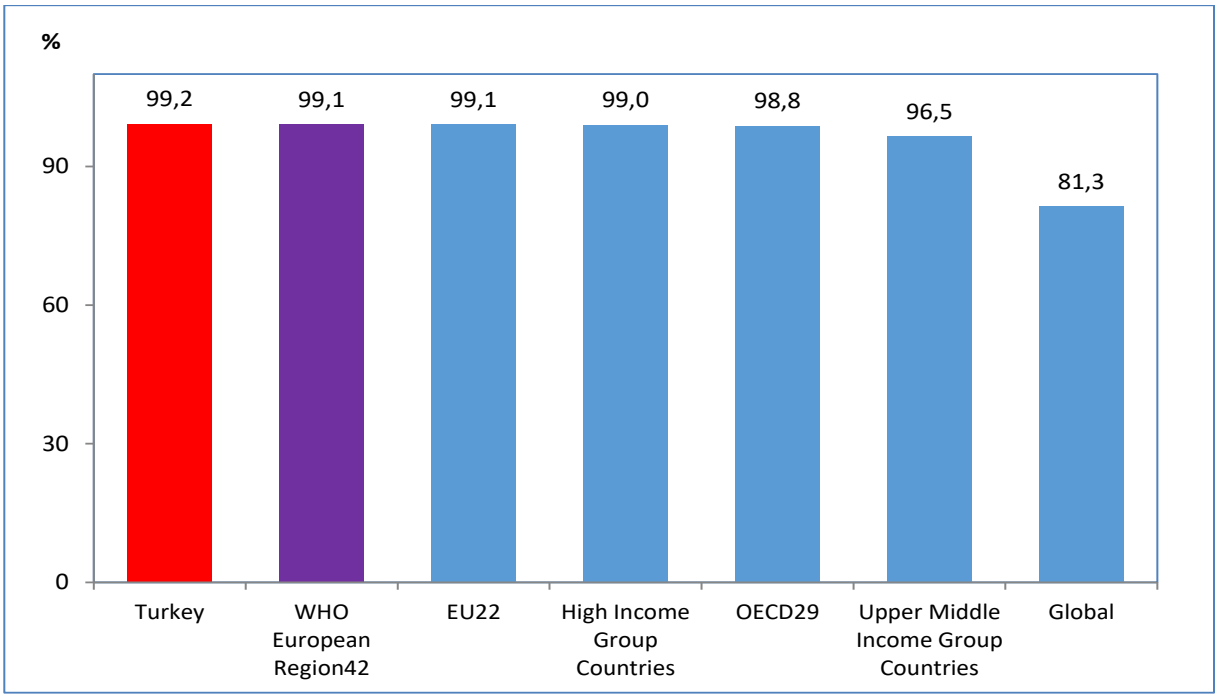
Source: General Directorate of Public Health

Table 5.2. Indicators of Birth by NUTS-1, (%), 2019

NUTS-1	Births at Hospital, (%)	Cesarean Sections Among Live Births, (%)	Primary Cesarean Sections Among Live Births, (%)
Istanbul	98	58,9	30,8
Western Marmara	95	59,2	31,8
Aegean	98	62,2	32,4
Eastern Marmara	97	58,0	29,6
Western Anatolia	99	53,2	27,3
Mediterranean	99	64,0	29,1
Central Anatolia	96	51,0	23,8
Western Blacksea	97	61,1	30,3
Eastern Blacksea	95	60,4	29,6
Northeastern Anatolia	92	37,5	17,4
Mideastern Anatolia	95	40,2	18,7
Southeastern Anatolia	96	43,5	18,0
Turkey	97	54,4	26,5

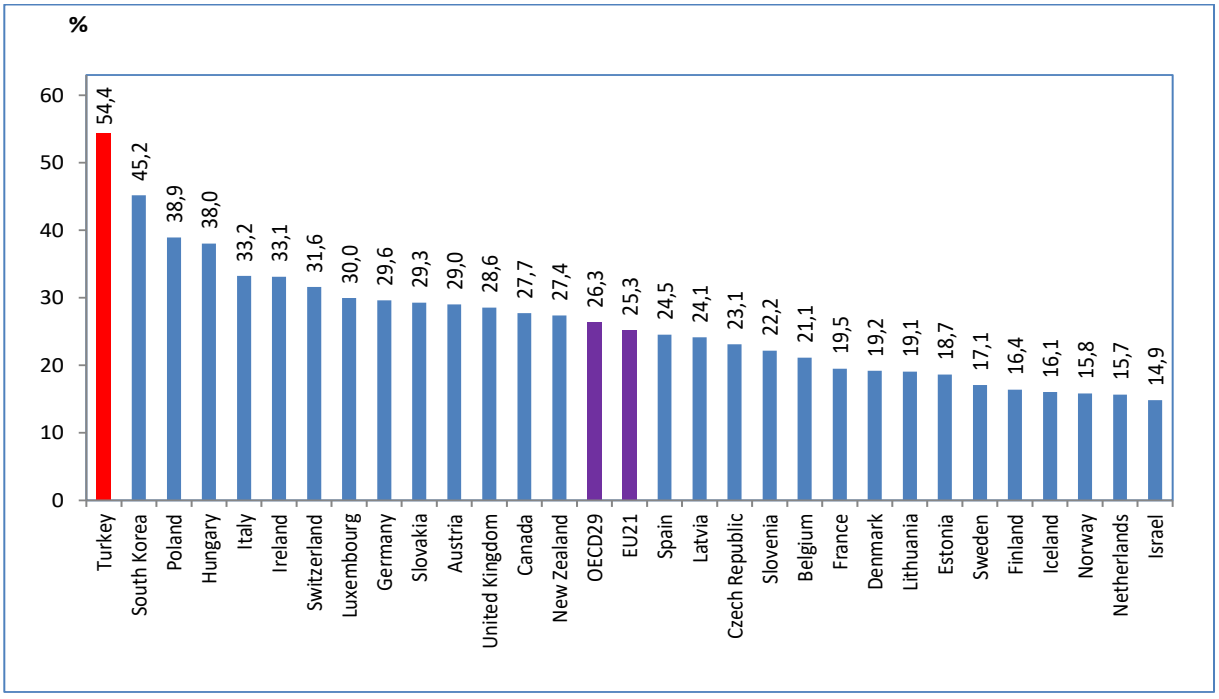
Source: General Directorate of Public Health
Note: Birth data for 2019 was obtained from the e-rapor database.

Figure 5.7. International Comparison of Proportion of Births Attended by Skilled Health Personnel, (%), 2018



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

Figure 5.8. International Comparison of Cesarean Sections Among Live Births, (%), 2018



Source: General Directorate of Public Health, OECD Health Data 2020
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Table 5.3. Proportions of Cesarean and Primary Cesarean Section Among All Births Given at Hospital by Sectors, (%), 2019

	Cesarean Sections	Primary Cesarean Sections
Ministry of Health	41,8	15,9
University	70,4	35,3
Private	71,8	39,8
Total	57,0	27,8

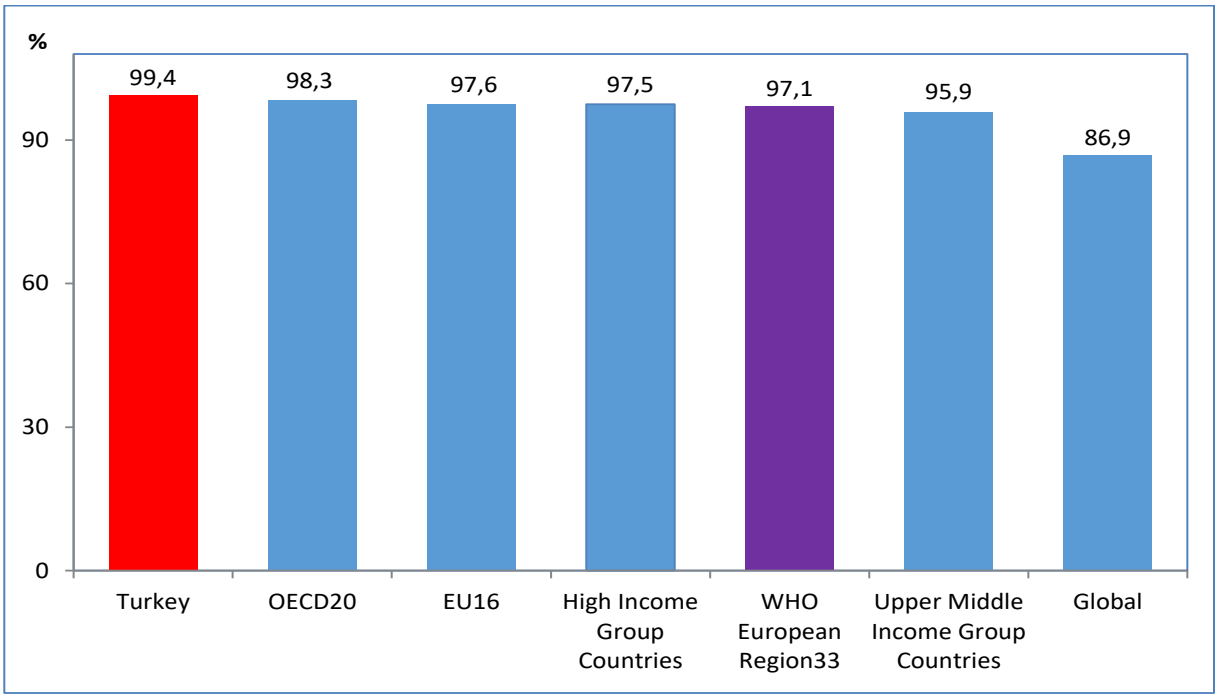
Source: General Directorate of Public Health
Note: Birth data for 2019 was obtained from the e-rapor database.

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

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

Source: General Directorate of Public Health

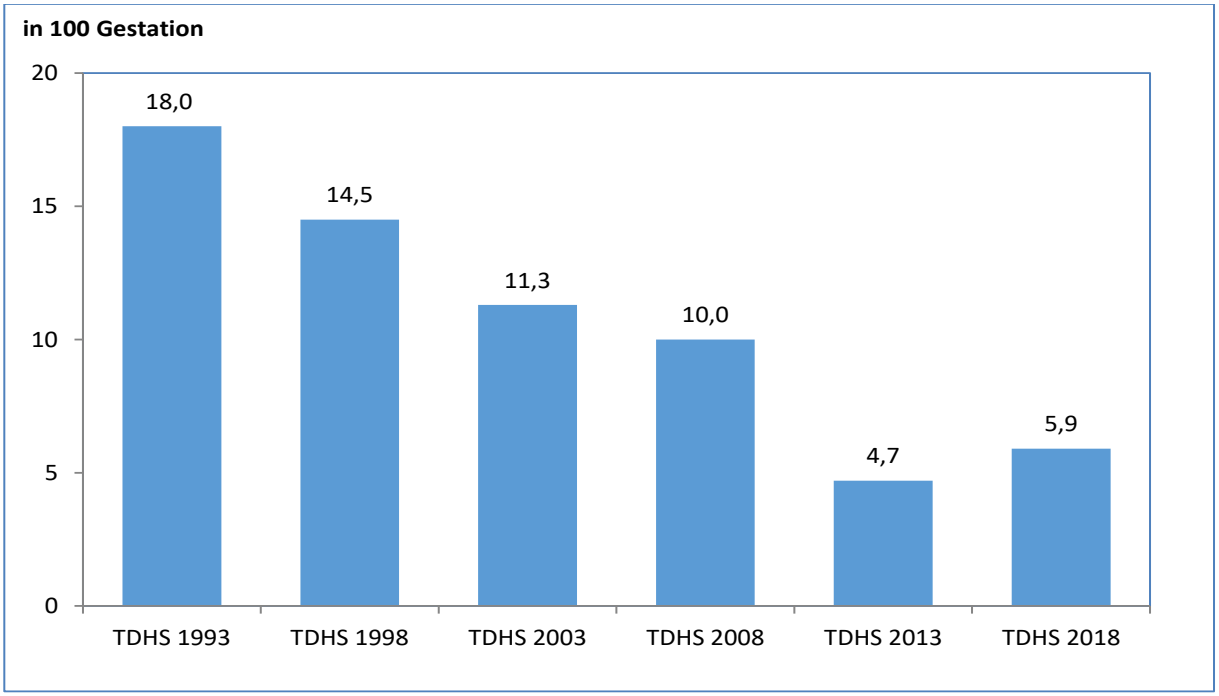
Figure 5.9. International Comparison of Antenatal Care Coverage (Minimum 1 Visit), (%), 2018



Source: General Directorate of Public Health, UNICEF - Maternal and Newborn Health Coverage Database

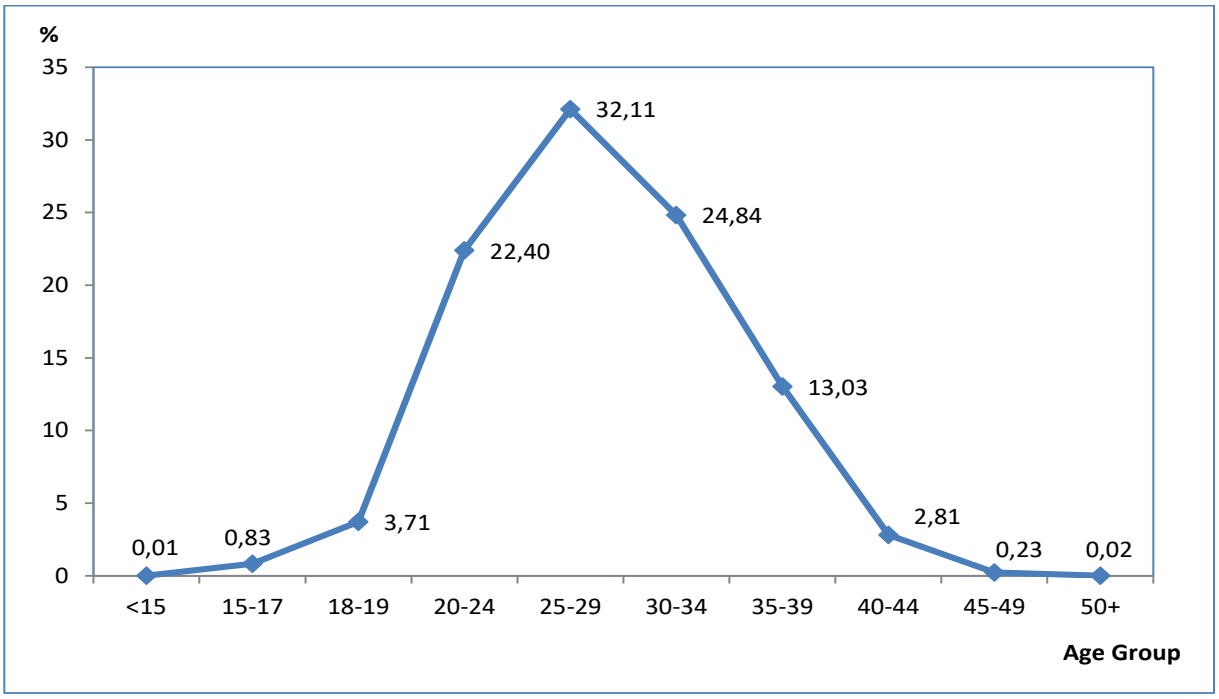
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Figure 5.10. Proportion of Induced Abortion by Years, (in 100 Gestation)



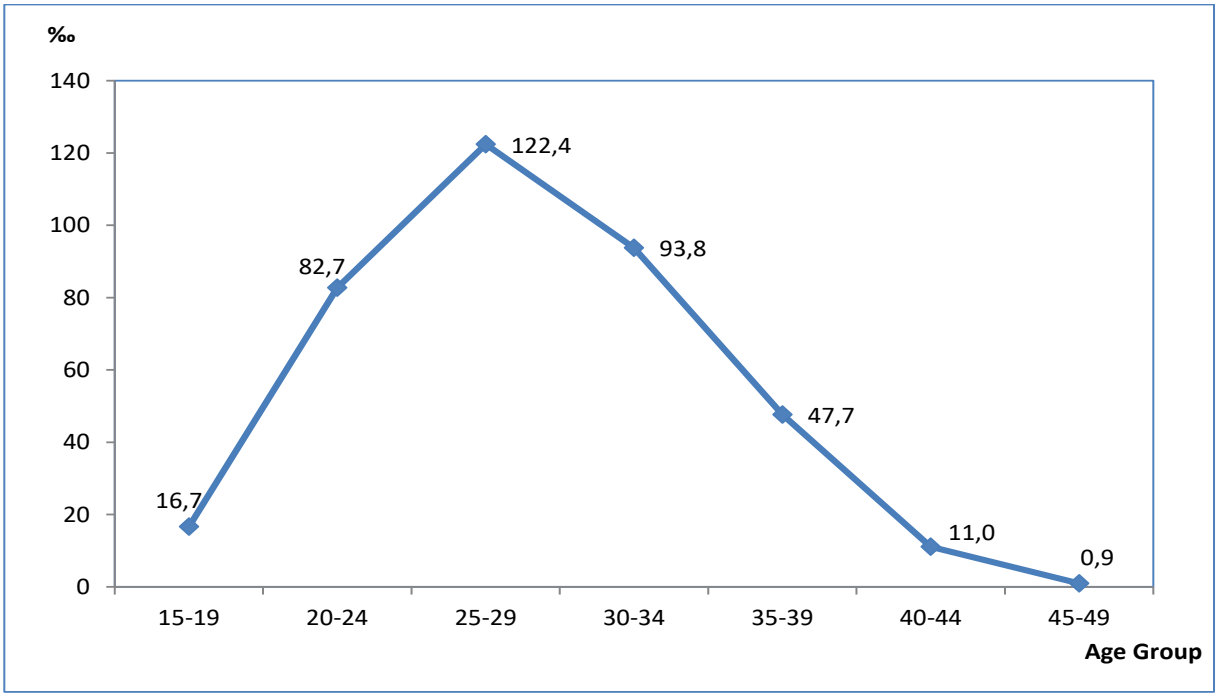
Source: TDHS, 1993, 1998, 2003, 2008, 2013, 2018

Figure 5.11. Proportion of Births by Age Group of Mother Among All Births, (%), 2019



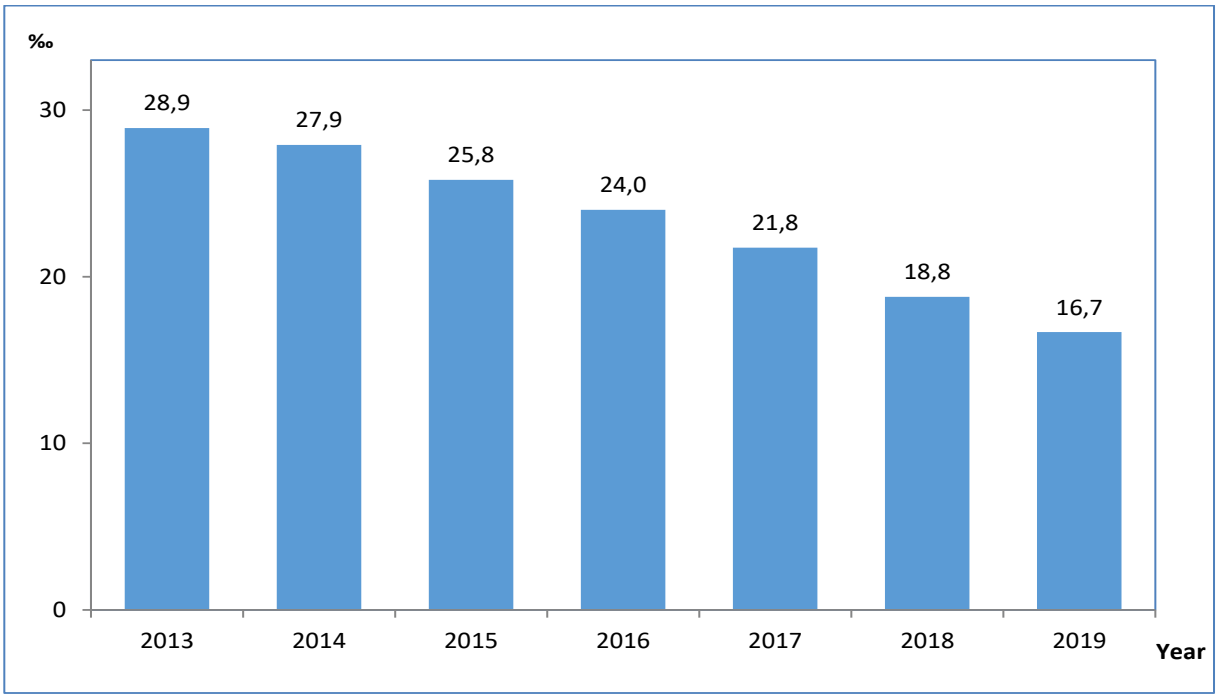
Source: TURKSTAT, Birth Statistics 2019

Figure 5.12. Age-Specific Fertility Rate, (‰), 2019



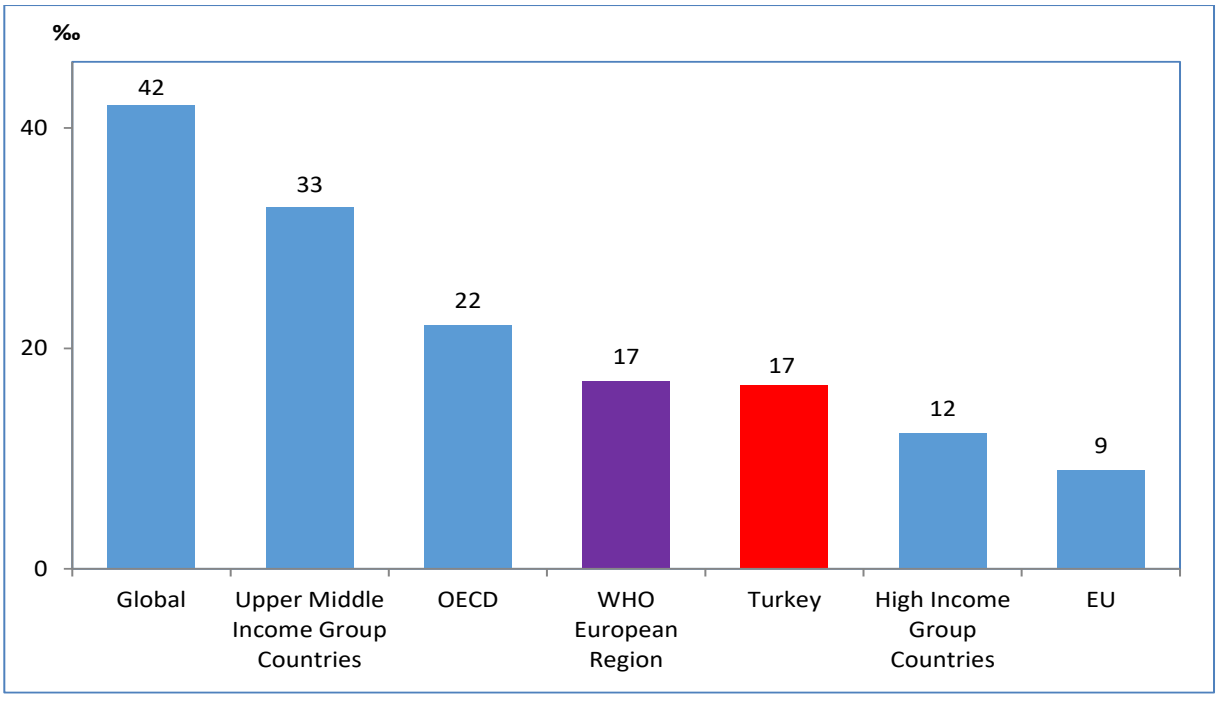
Source: TURKSTAT, Birth Statistics 2019

Figure 5.13. Adolescent Fertility Rate by Years, (‰)



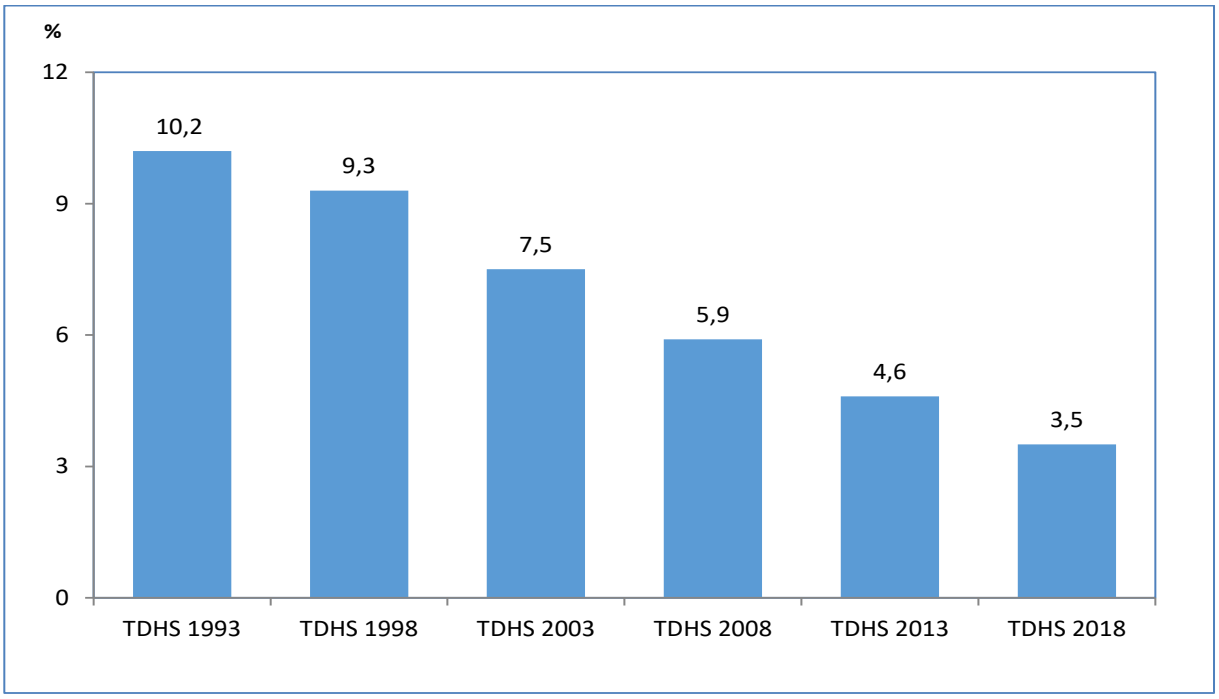
Source: TURKSTAT, Birth Statistics 2019

Figure 5.14. International Comparison of Adolescent Fertility Rate, (‰), 2018



Source: TURKSTAT Birth Statistics 2019, UNPD
Note: Turkey's data belongs to the year 2019.

Figure 5.15. 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, (%), 2019

NUTS-1	Pregnancy	Infant	Child
Istanbul	98,1	90,2	93,6
Western Marmara	99,2	97,0	97,4
Aegean	99,4	95,0	96,5
Eastern Marmara	98,7	94,4	95,8
Western Anatolia	97,8	95,0	96,5
Mediterranean	97,8	93,5	93,5
Central Anatolia	98,8	95,4	95,2
Western Blacksea	98,9	96,4	97,2
Eastern Blacksea	99,7	96,4	97,0
Northeastern Anatolia	98,8	92,0	93,4
Mideastern Anatolia	98,3	88,9	92,1
Southeastern Anatolia	97,3	84,5	87,2
Turkey	98,3	91,7	93,6

Source: General Directorate of Public Health

Explanations for Chapter 5

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

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

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

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

☑ Data on birth indicators before 2015 were obtained from the provinces by official letter, and between 2015 and 2018, using the "Hospital Birth Information System", and as of 2019, the data collection method was changed and the "e-rapor" database has been used.

☑ **Births at Hospitals, (%):** It is the ratio of number of births in hospital to the number of live births in the given year.

☑ **Proportions of Cesarean Sections Among Live Births, (%):** It is the ratio of number of Cesarean Sections to the number of live births in the given year.

☑ **Proportions of Primary Cesarean Sections Among Live Births, (%):** It is the ratio of number of Primary Cesarean Sections to the number of live births in the given year.

☑ **Proportions of Cesarean Sections Among Births in Hospitals, (%):** It is the ratio of number of Cesarean Sections to the number of all births procedure in hospital in the given year.

☑ **Proportions of Primary Cesarean Sections Among Births in Hospitals, (%):** It is the ratio of number of Primary Cesarean Sections to the number of all births procedure in hospital in the given year.

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

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

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

Pregnancy follow-up periods and intervals;

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

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

Infant follow-up periods and intervals;

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

9. Follow-up: 9 months (Between 250th-290th days)

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

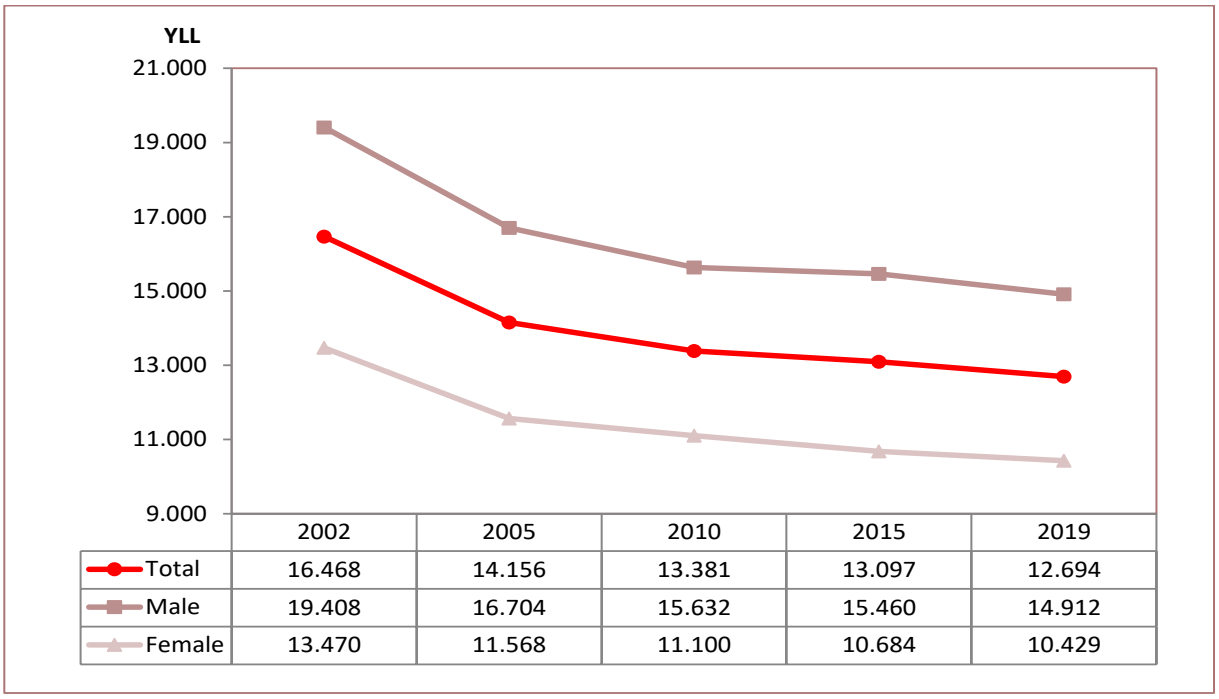
Child follow-up period and time intervals;

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

CHAPTER 6

Global Burden of Disease 2019 Turkey Results

Figure 6.1. YLL per 100.000 Population by Years and Sex



	2002	2005	2010	2015	2019
Total	16.468	14.156	13.381	13.097	12.694
Male	19.408	16.704	15.632	15.460	14.912
Female	13.470	11.568	11.100	10.684	10.429

Source: IHME, Global Burden of Disease Study 2019

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

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

Source: IHME, Global Burden of Disease Study 2019

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

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

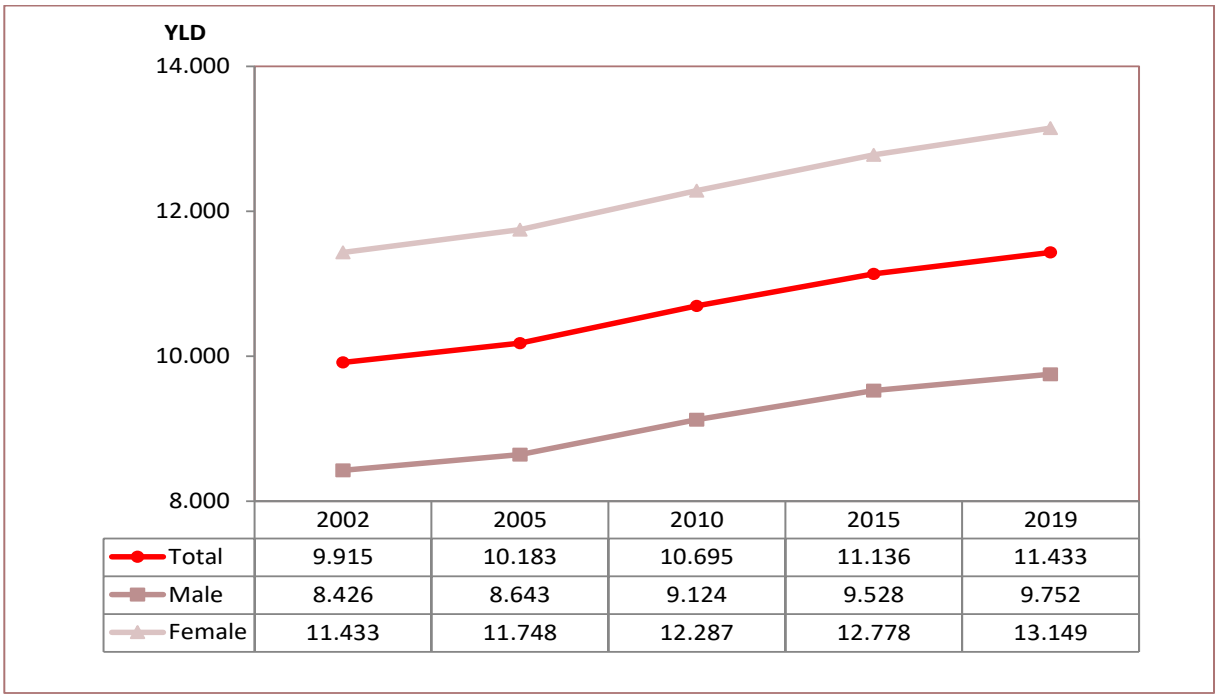
Source: IHME, Global Burden of Disease Study 2019

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

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

Source: IHME, Global Burden of Disease Study 2019

Figure 6.2. YLD per 100.000 Population by Years and Sex



	2002	2005	2010	2015	2019
Total	9.915	10.183	10.695	11.136	11.433
Male	8.426	8.643	9.124	9.528	9.752
Female	11.433	11.748	12.287	12.778	13.149

Source: IHME, Global Burden of Disease Study 2019

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

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

Source: IHME, Global Burden of Disease Study 2019

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

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

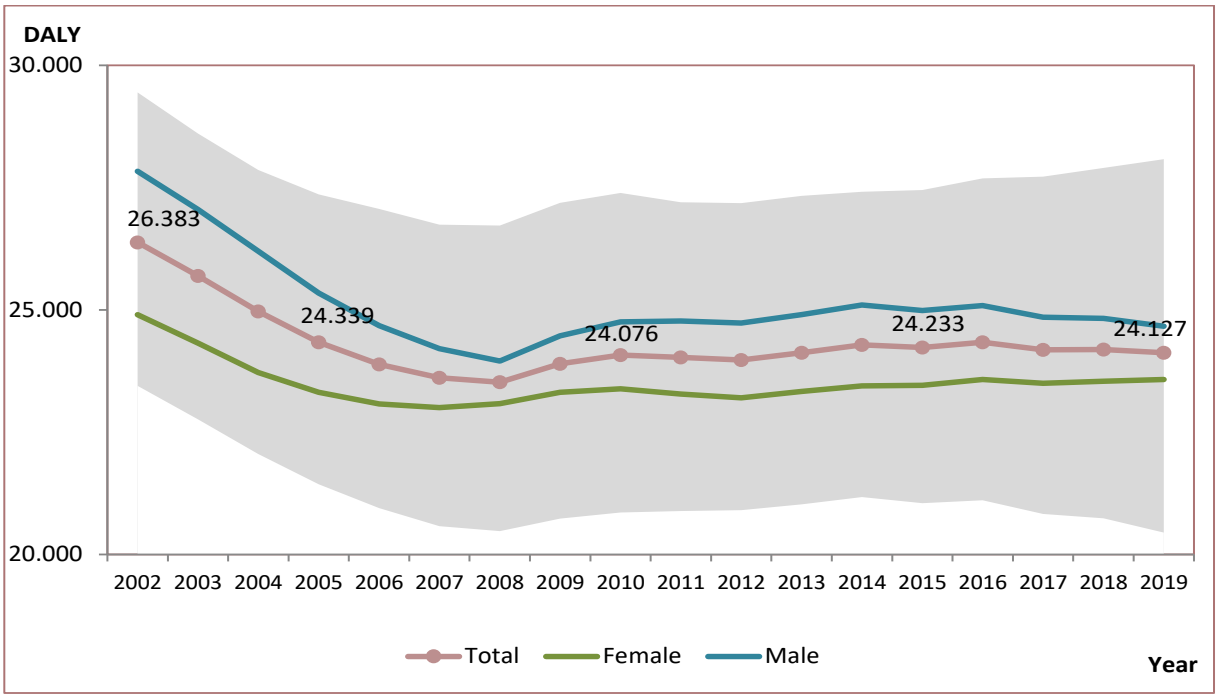
Source: IHME, Global Burden of Disease Study 2019

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

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

Source: IHME, Global Burden of Disease Study 2019

Figure 6.3. DALY per 100.000 Population by Years



Source: IHME, Global Burden of Disease Study 2019
Note: The shadow area in the figure shows confidence interval for the total DALY estimates.

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

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

Source: IHME, Global Burden of Disease Study 2019

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

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

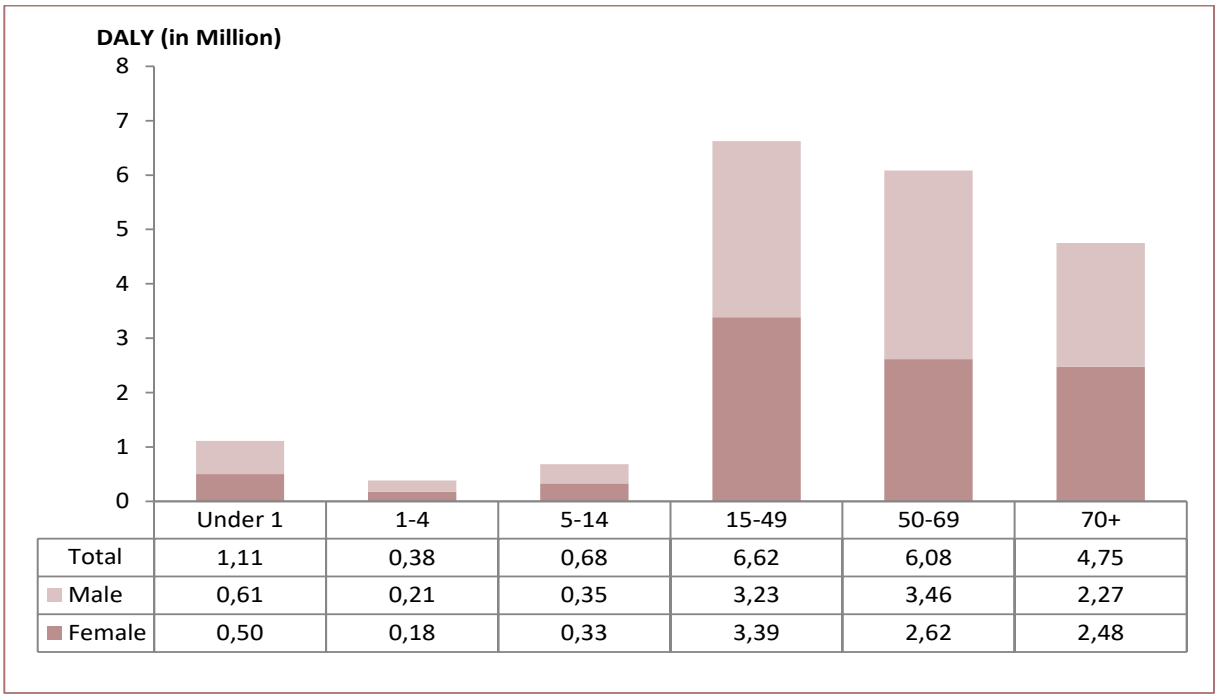
Source: IHME, Global Burden of Disease Study 2019

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

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

Source: IHME, Global Burden of Disease Study 2019

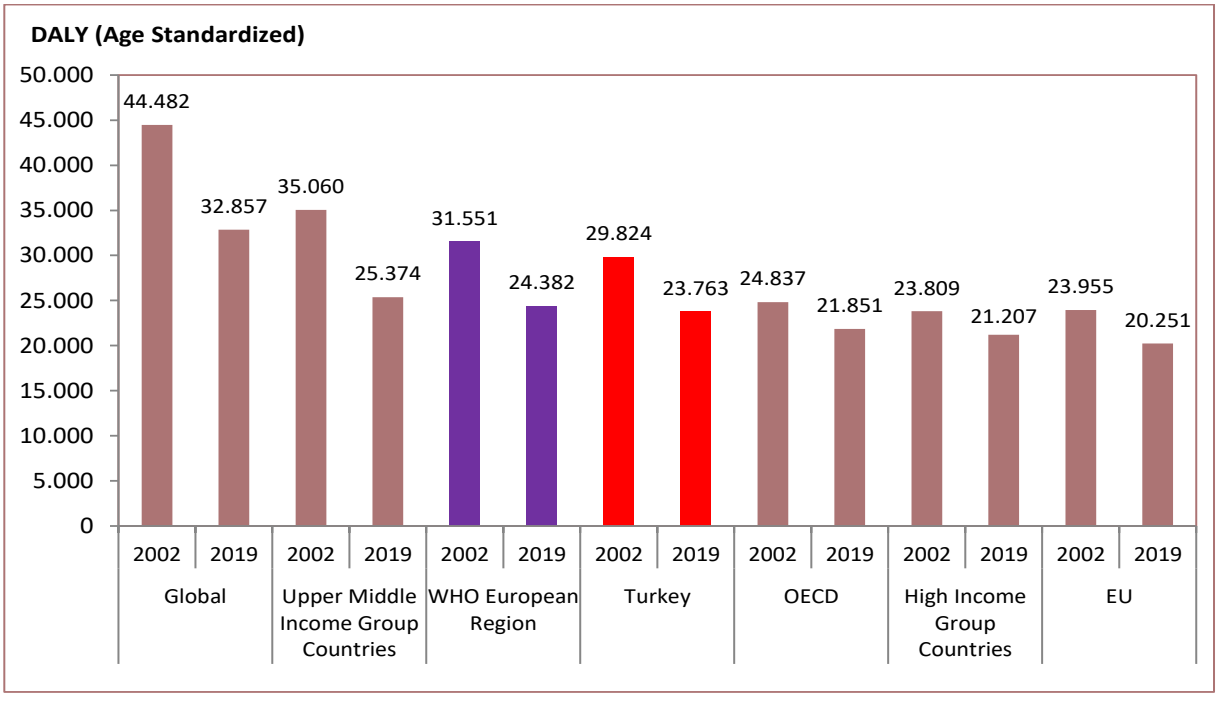
Figure 6.4. DALY by Sex and Age Groups, (in Million), 2019



	Under 1	1-4	5-14	15-49	50-69	70+
Total	1,11	0,38	0,68	6,62	6,08	4,75
Male	0,61	0,21	0,35	3,23	3,46	2,27
Female	0,50	0,18	0,33	3,39	2,62	2,48

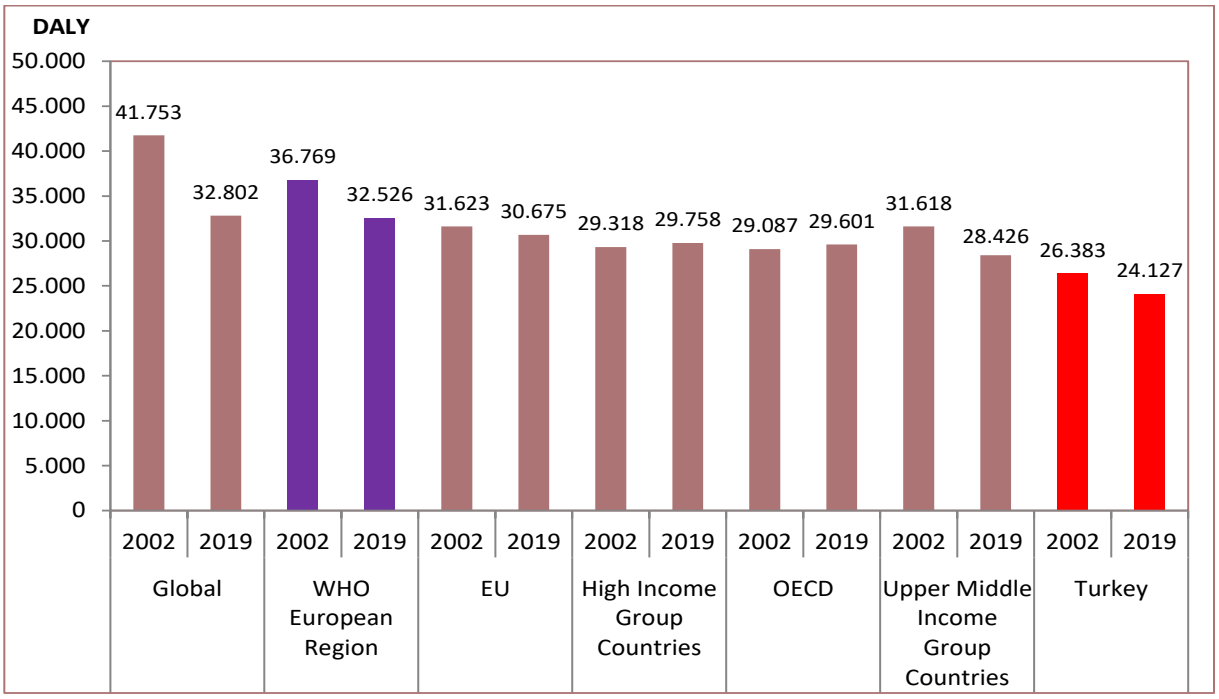
Source: IHME, Global Burden of Disease Study 2019

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



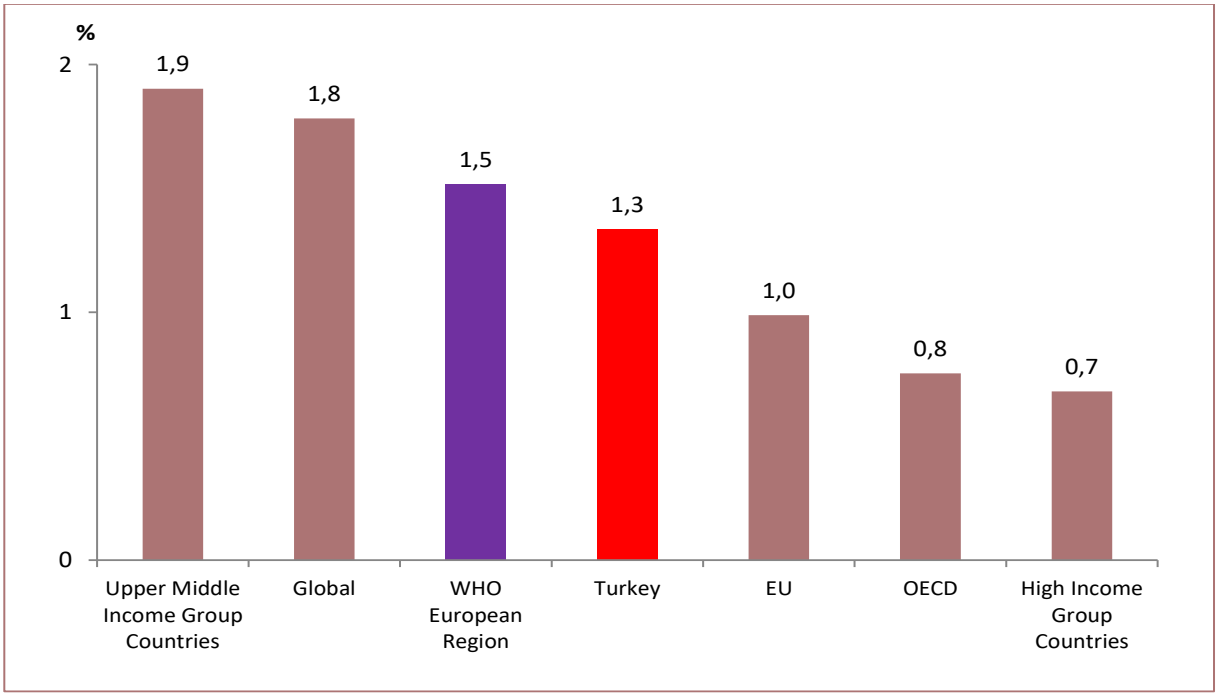
Source: IHME, Global Burden of Disease Study 2019
Note: To allow comparisons between countries and over time this metric is age-standardized.

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



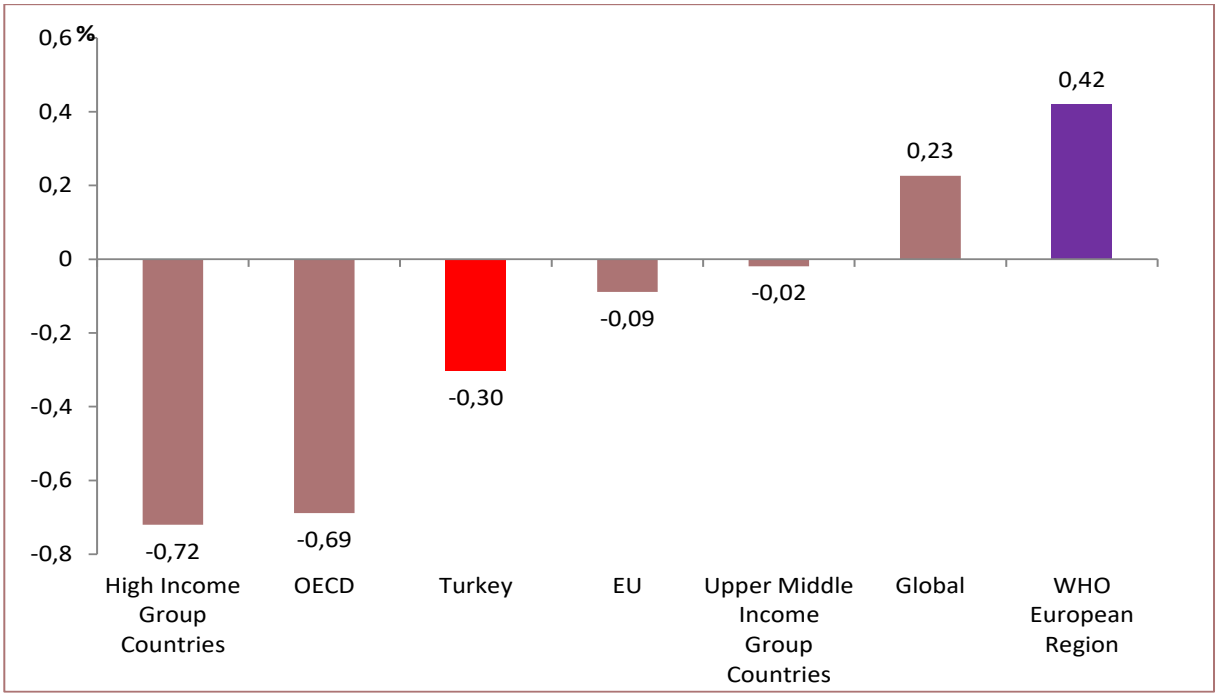
Source: IHME, Global Burden of Disease Study 2019
Note: Age standardization is not used to analyze effect of age pattern.

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



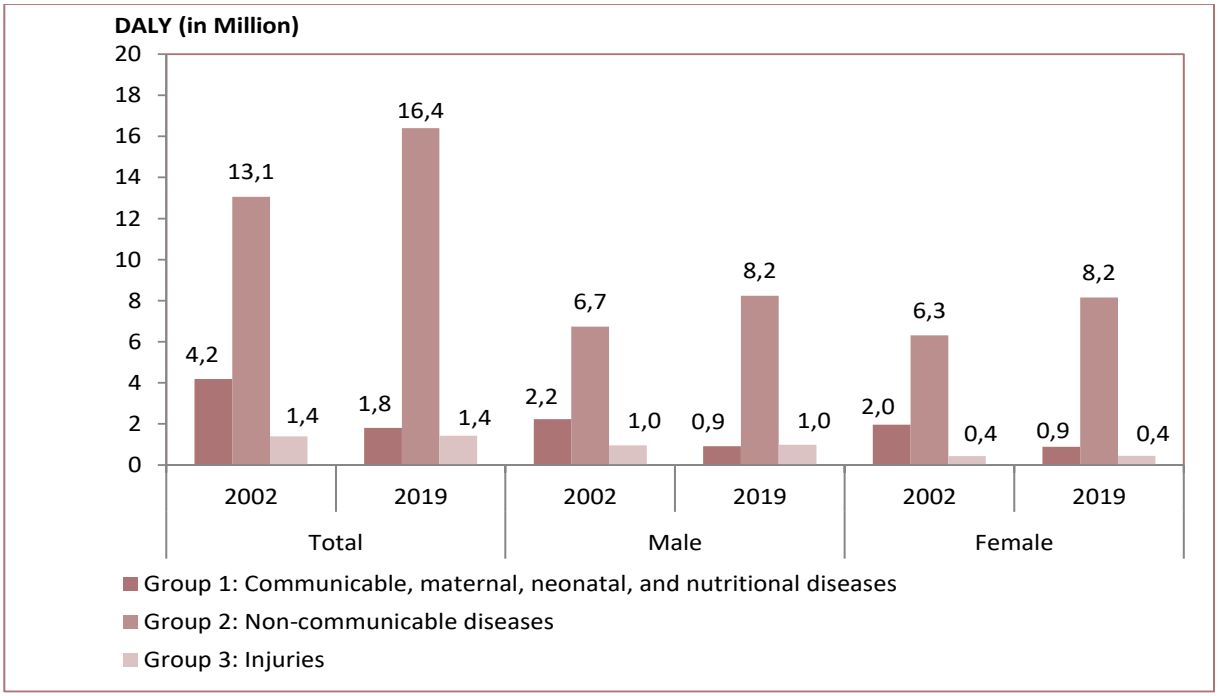
Source: IHME, Global Burden of Disease Study 2019
Note: To allow comparisons between countries and over time this metric is age-standardized.

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



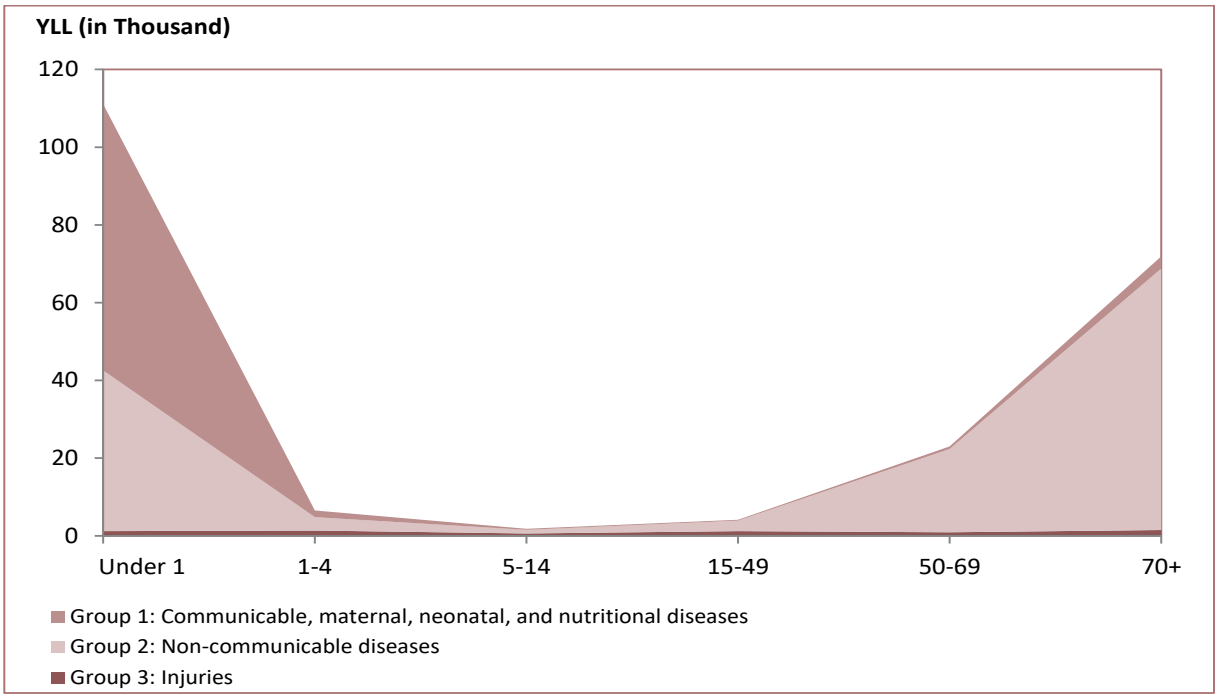
Source: IHME, Global Burden of Disease Study 2019
Note: Age standardization is not used to analyze effect of age pattern.

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



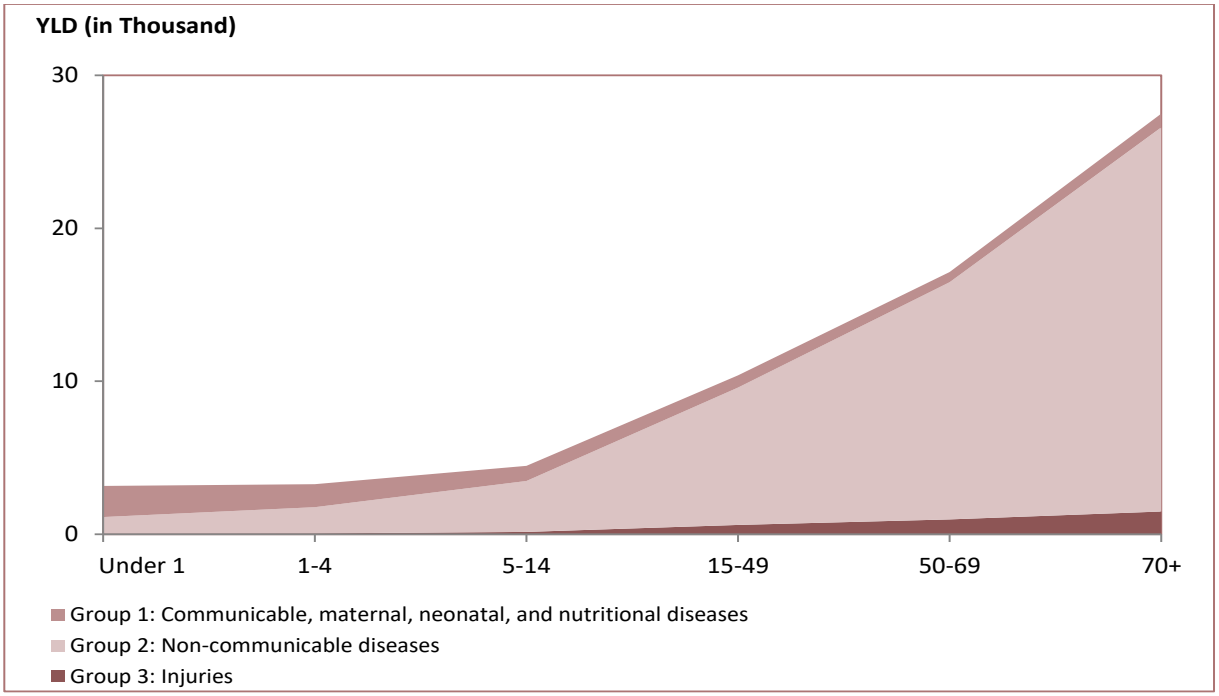
Source: IHME, Global Burden of Disease Study 2019

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



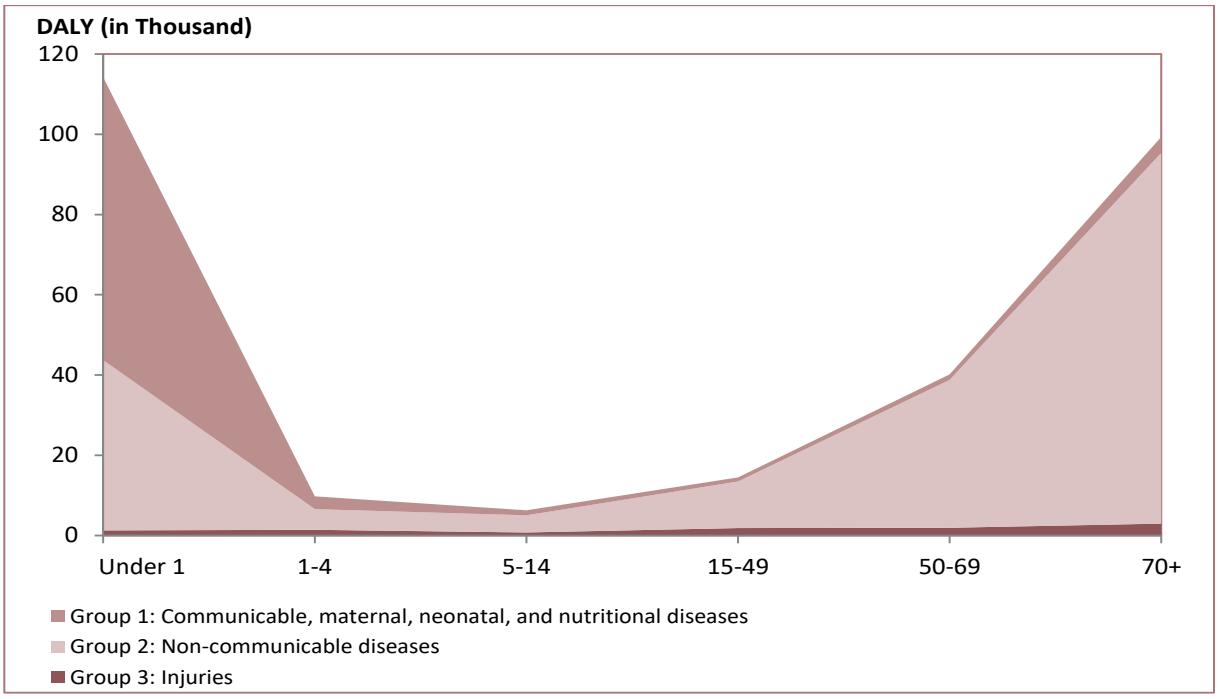
Source: IHME, Global Burden of Disease Study 2019

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



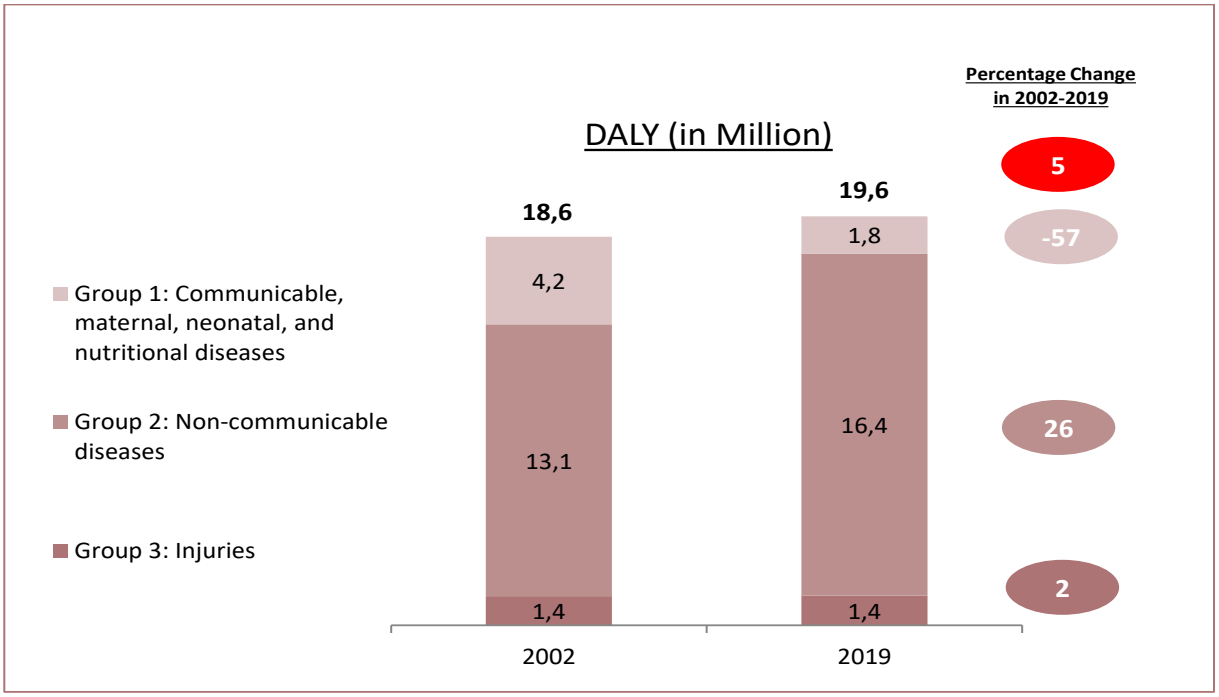
Source: IHME, Global Burden of Disease Study 2019

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



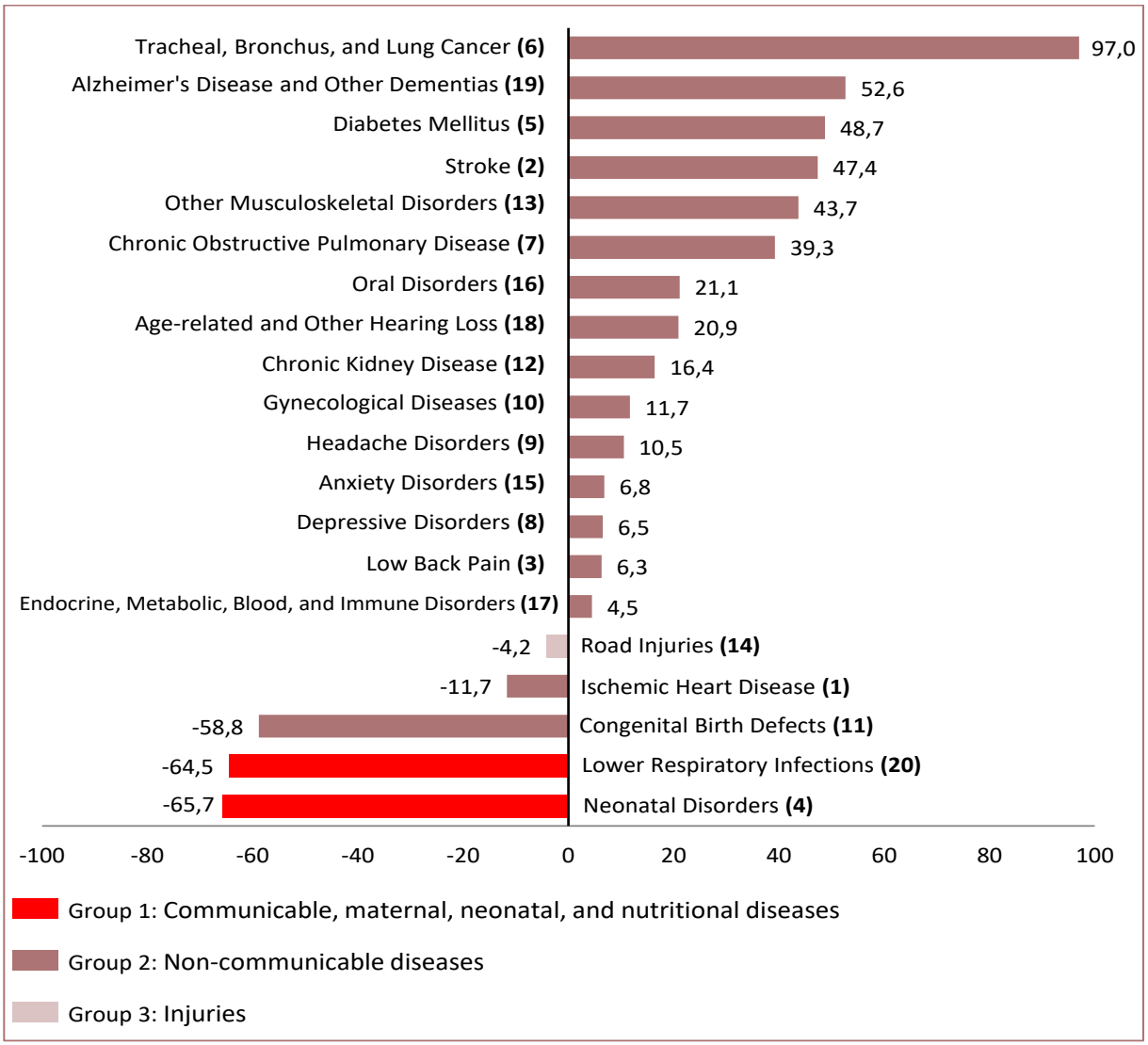
Source: IHME, Global Burden of Disease Study 2019

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



Source: IHME, Global Burden of Disease Study 2019

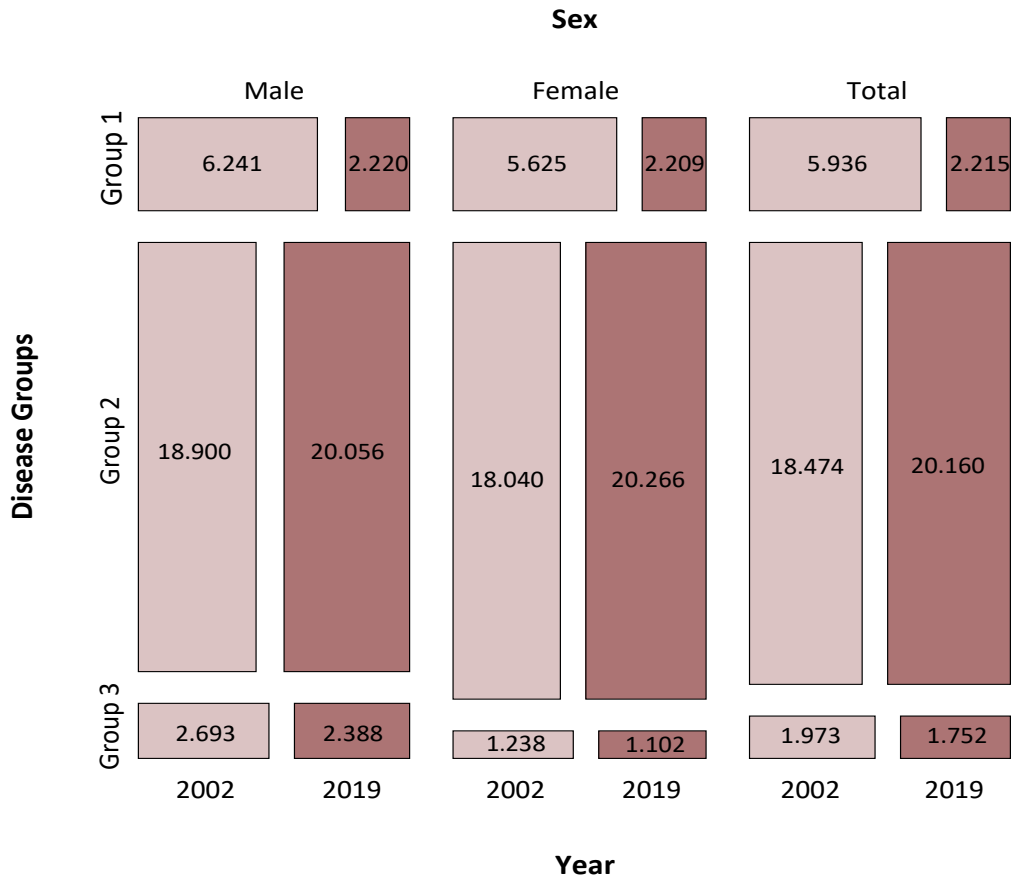
Figure 6.14. Change in Year of 2019 Top 20 DALY Causes Compared to Year of 2002, (%)



Source: IHME, Global Burden of Disease Study 2019

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

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



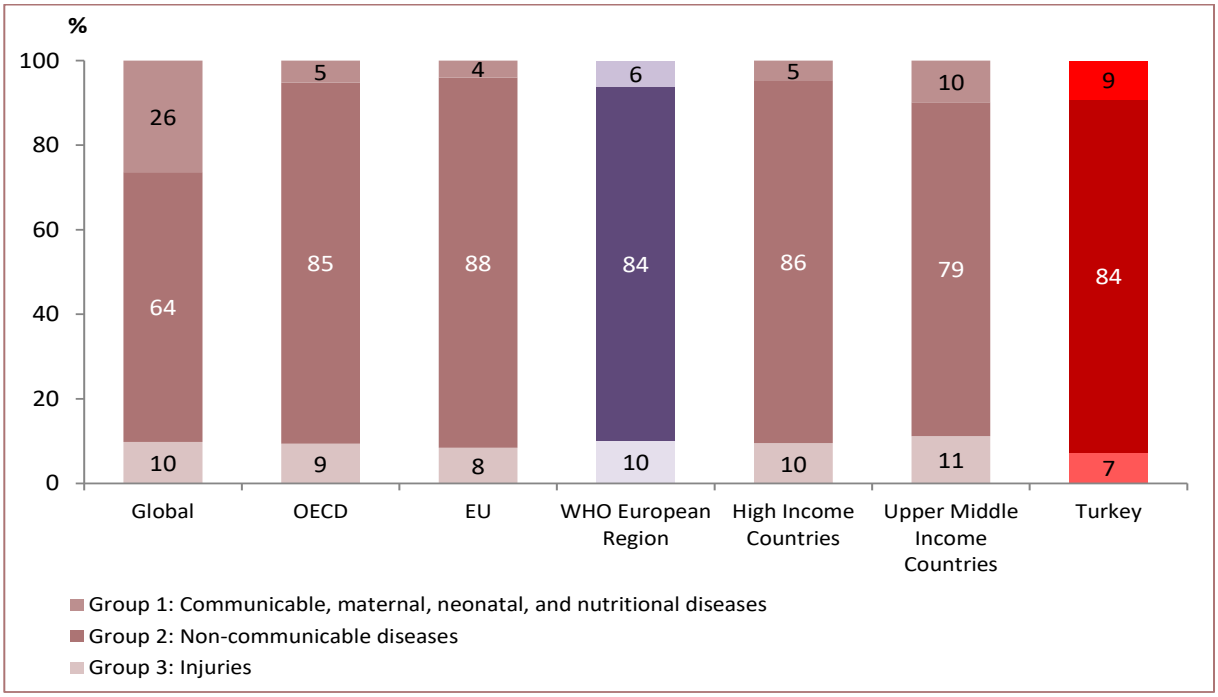
Group 1: Communicable, maternal, neonatal, and nutritional diseases

Group 2: Non-communicable diseases

Group 3: Injuries

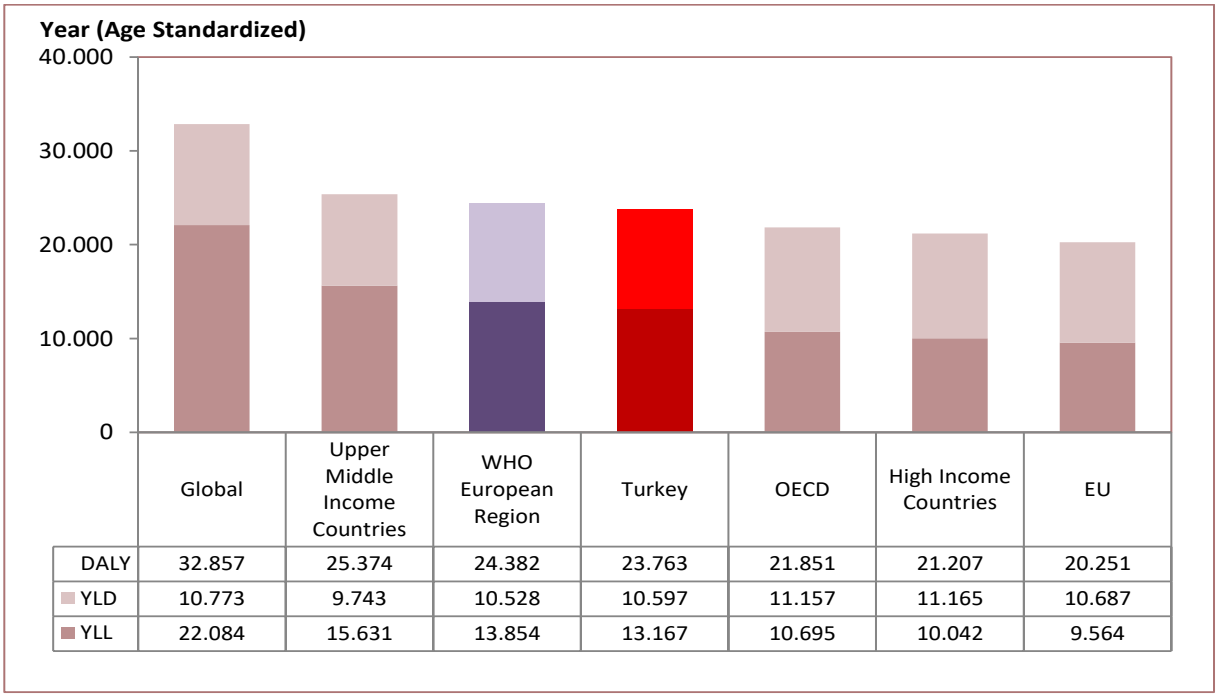
Source: IHME, Global Burden of Disease Study 2019

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



Source: IHME, Global Burden of Disease Study 2019

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



	Global	Upper Middle Income Countries	WHO European Region	Turkey	OECD	High Income Countries	EU
DALY	32.857	25.374	24.382	23.763	21.851	21.207	20.251
YLD	10.773	9.743	10.528	10.597	11.157	11.165	10.687
YLL	22.084	15.631	13.854	13.167	10.695	10.042	9.564

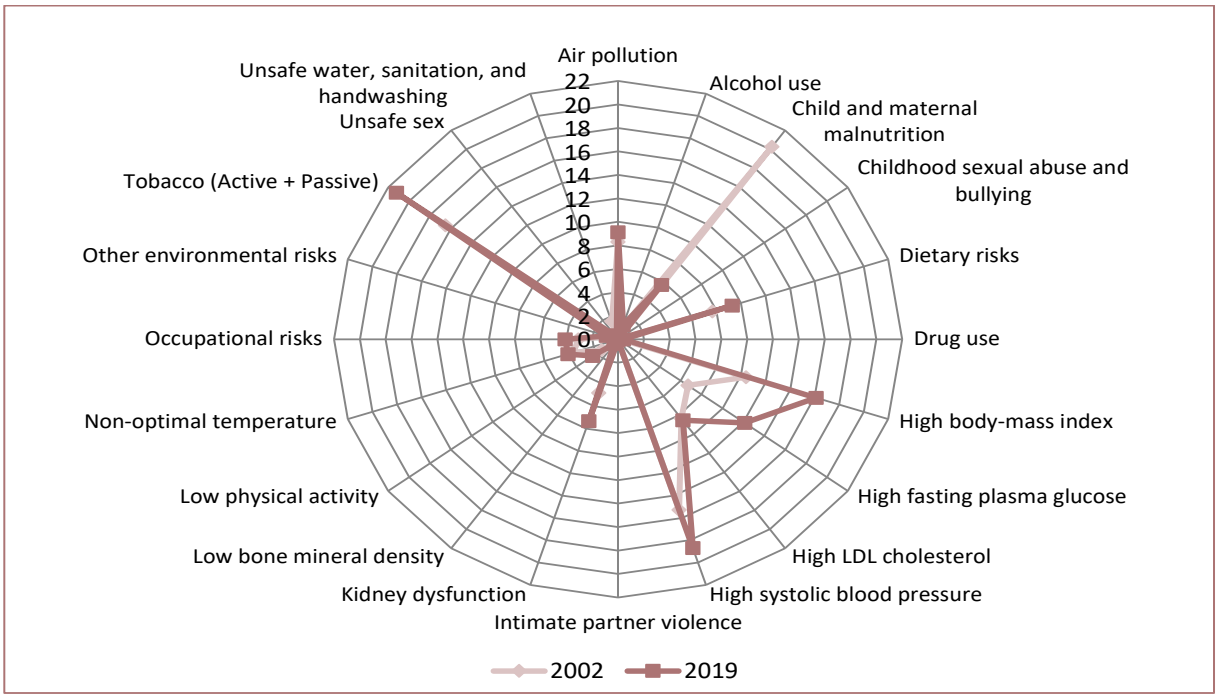
Source: IHME, Global Burden of Disease Study 2019
Note: To allow comparisons between countries and over time this metric is age-standardized.

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

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

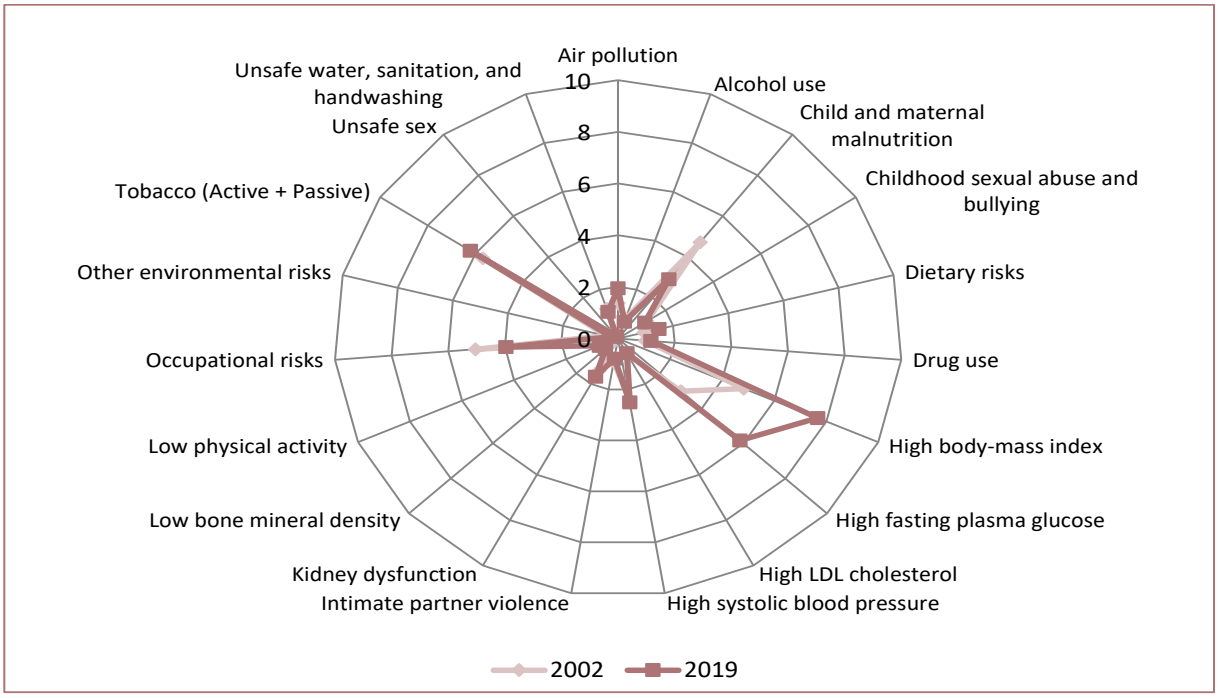
Source: IHME, Global Burden of Disease Study 2019

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



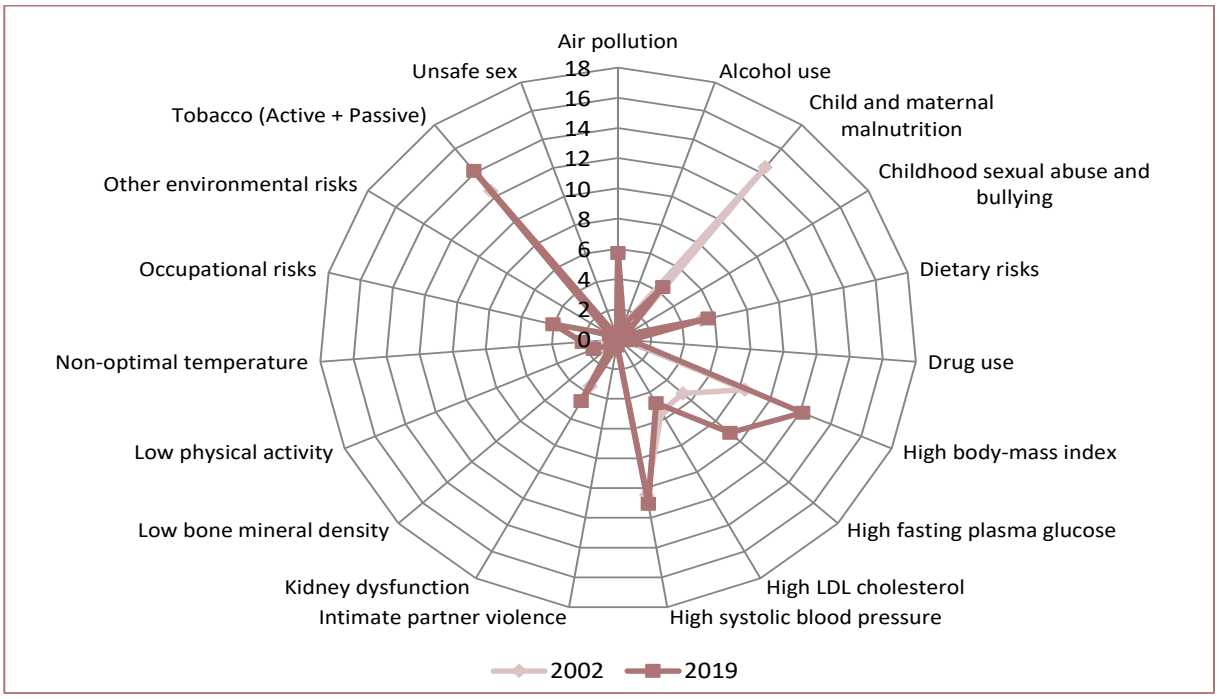
Source: IHME, Global Burden of Disease Study 2019

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



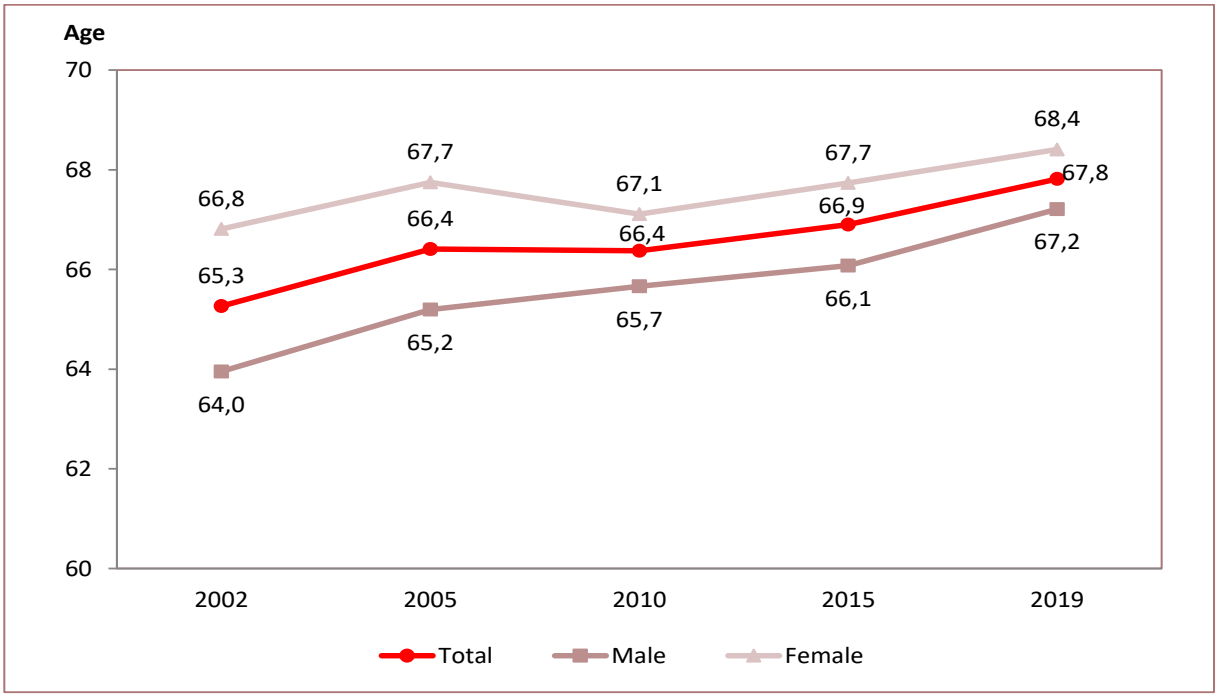
Source: IHME, Global Burden of Disease Study 2019

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



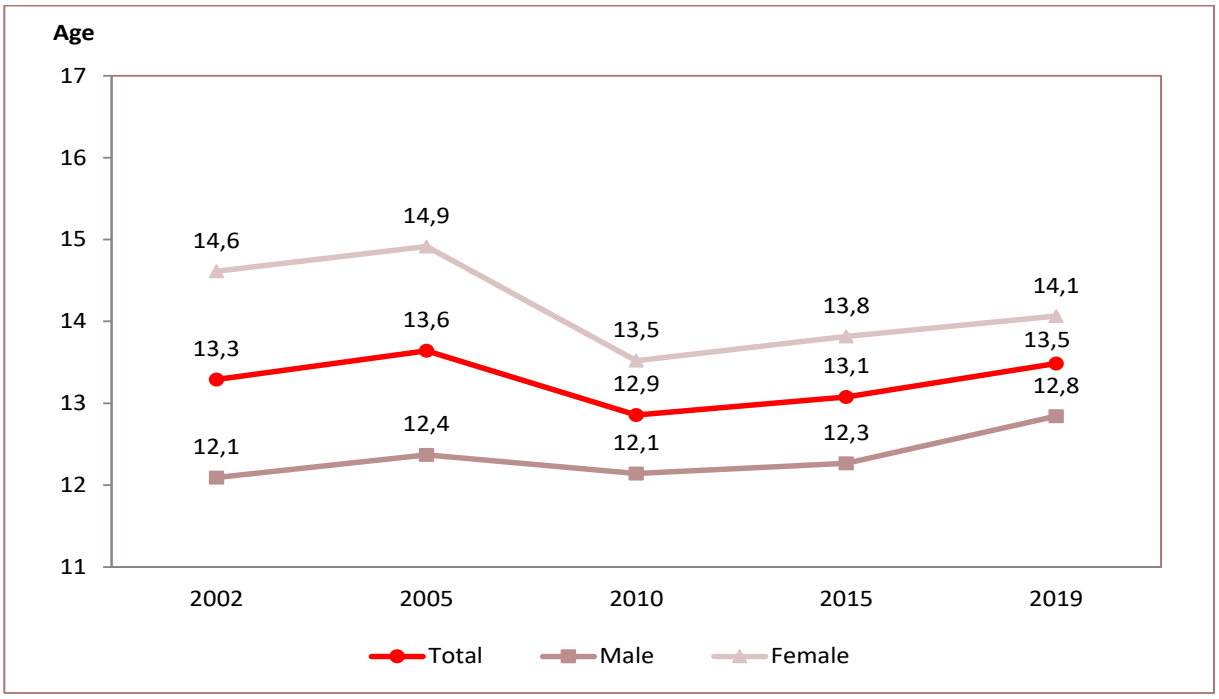
Source: IHME, Global Burden of Disease Study 2019

Figure 6.21. HALE at Birth by Years and Sex



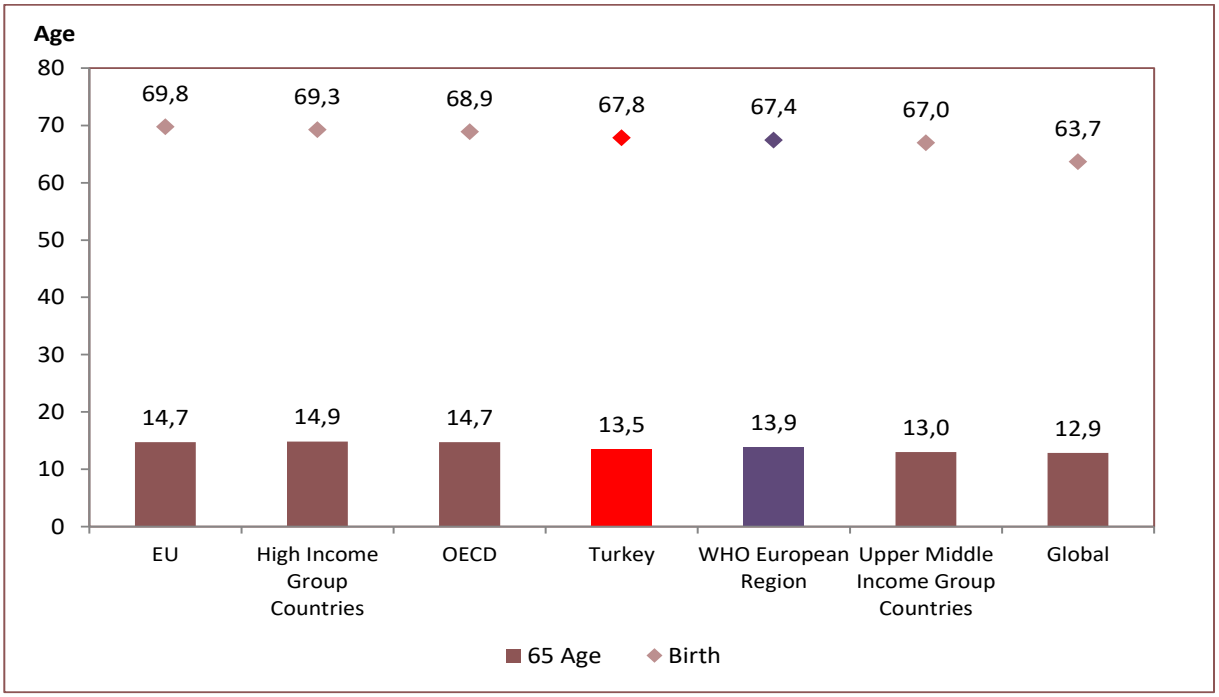
Source: IHME, Global Burden of Disease Study 2019

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



Source: IHME, Global Burden of Disease Study 2019

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



Source: IHME, Global Burden of Disease Study 2019

Explanations for Chapter 6

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

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

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

☑ DALY is the sum of two components;

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

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

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

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

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

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

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

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

Global Burden of Disease Study 2019

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

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

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

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

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

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

http://www.healthdata.org/results/gbd_summaries/2019/gynecological-diseases-level-3-cause

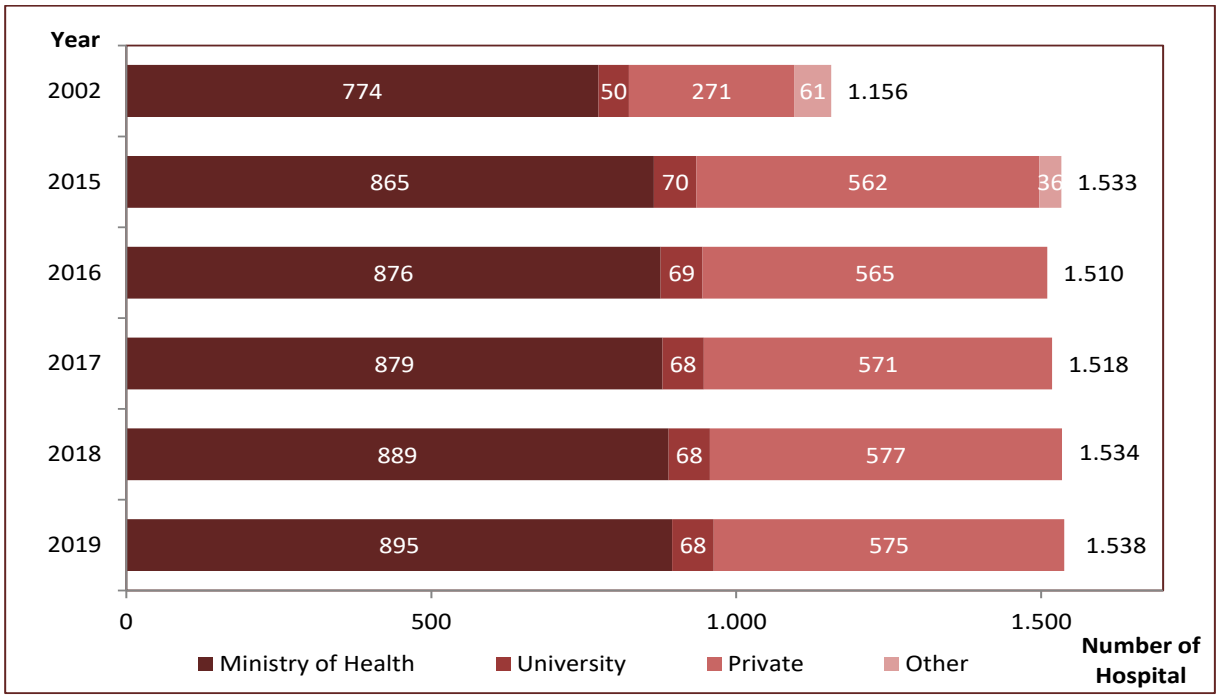
http://www.healthdata.org/results/gbd_summaries/2019/other-gynecological-diseases-level-4-cause



CHAPTER 7

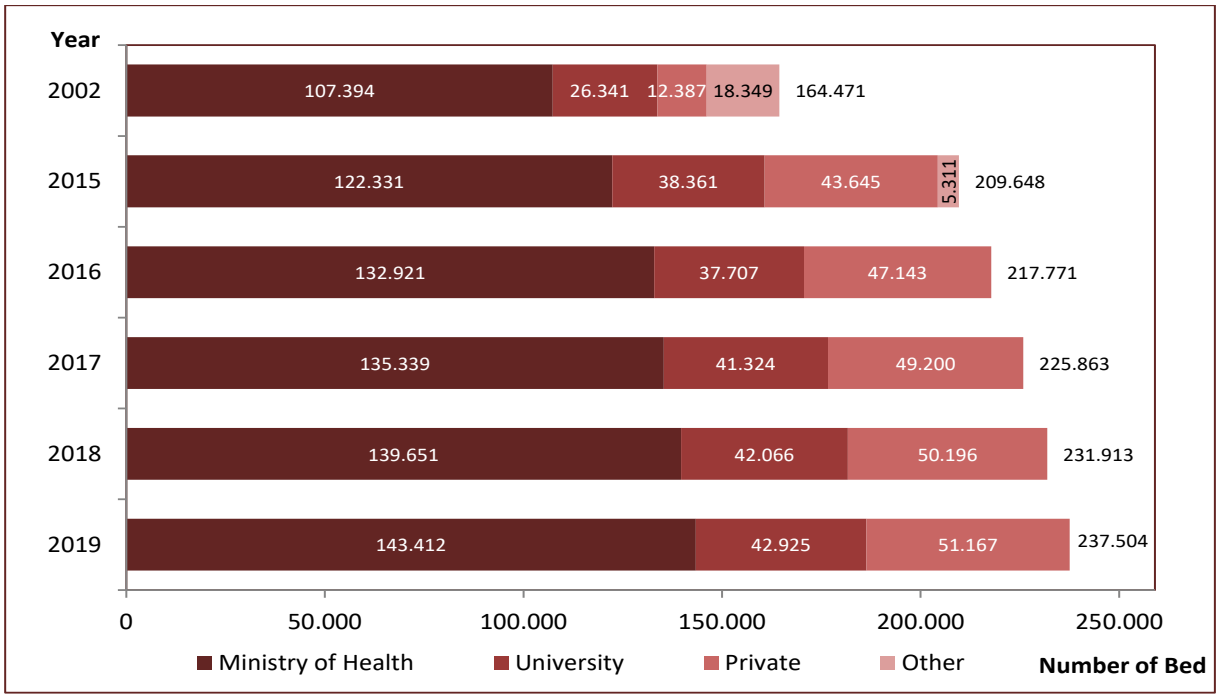
Health Care Facilities and Infrastructures

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



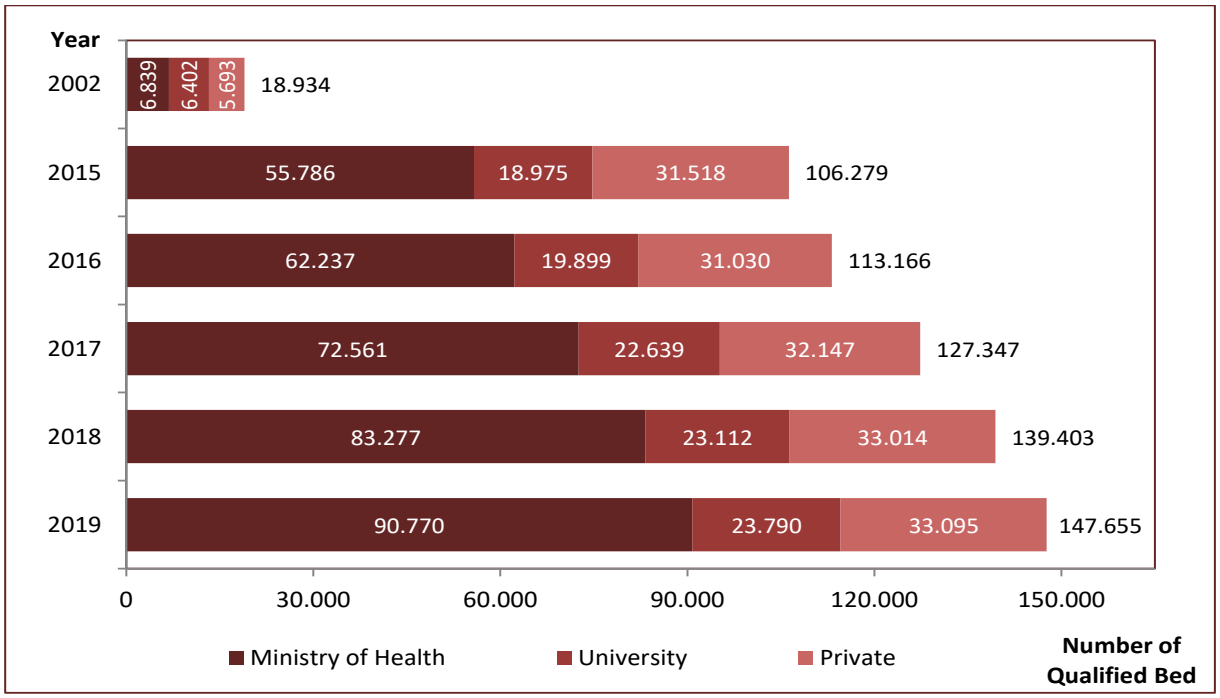
Source: General Directorate of Health Services

Table 7.1. Number of Hospitals and Beds by Branches, 2019

Branches	Hospital	Bed
General Hospital	**1.427**	**218.989**
Integrated District State Hospital	289	1.703
City Hospital	10	13.120
Municipal Hospital	2	333
General Training Hospital	120	81.494
Other General Hospital	1.006	122.339
Ophthalmology Hospital	26	341
Obstetric and Child Hospital	23	3.952
Physical Treatment and Rehabilitation Center	20	2.999
Chest Diseases Hospital	11	3.510
Psychiatry Hospital	11	3.932
Child Diseases Hospital	4	1.409
Cardiovascular Diseases Hospital	4	599
Bone Diseases Hospital	3	436
Oncology Hospital	3	907
Occupational Diseases Hospital	2	234
Orthopedics and Traumatology Hospital	1	33
Leprosy Hospital	1	34
Hospital for Children with Leukemia	1	75
Spastic Children's Hospital and Rehab Center	1	54
Total	1.538	237.504

Source: General Directorate of Health Services

Figure 7.3. Number of Qualified Beds by Years and Sectors



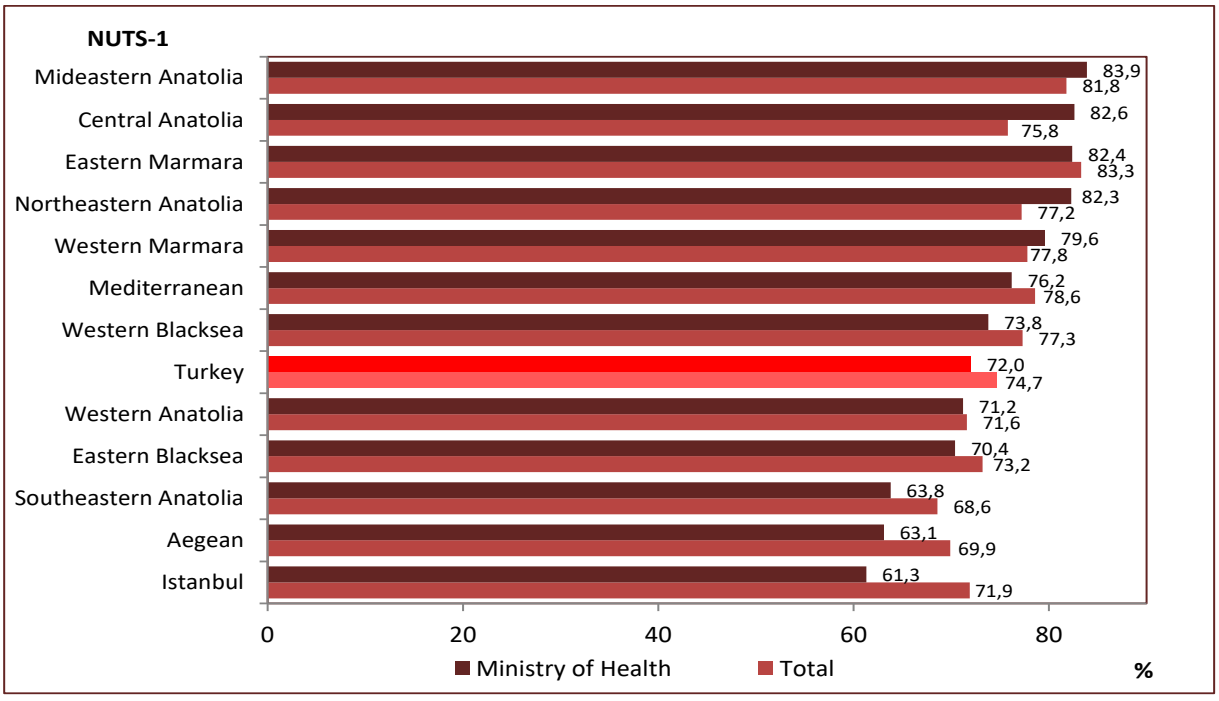
Source: General Directorate of Health Services

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

	Ministry of Health	University	Private	Total
2002	6,4	24,6	19,1	11,7
2015	50,8	57,5	89,1	59,7
2016	52,2	61,6	93,7	61,3
2017	60,3	63,8	95,1	67,2
2018	67,4	64,2	96,5	71,9
2019	72,0	64,8	95,1	74,7

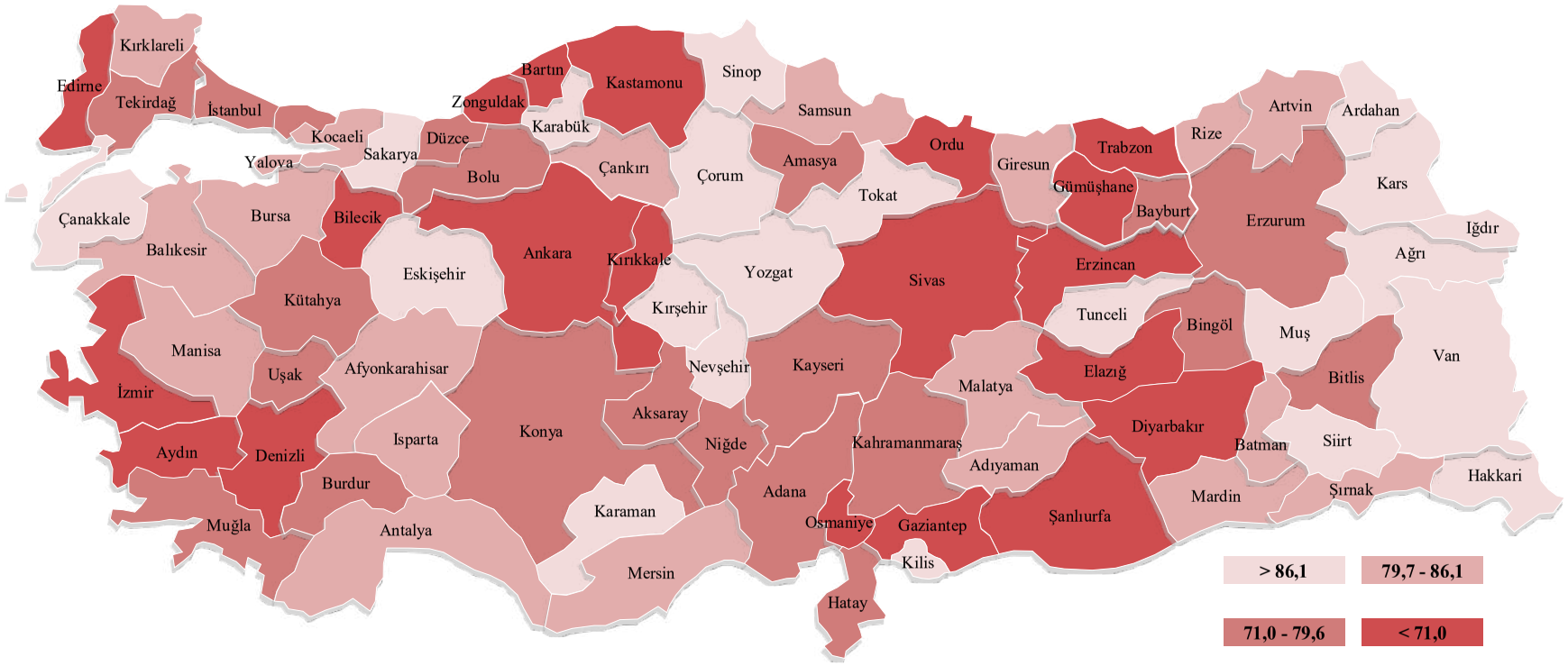
Source: General Directorate of Health Services
Note: Intensive care unit beds are not included.

Figure 7.4. Proportion of Qualified Beds Among Total Beds, (%), All Sectors, Ministry of Health, 2019



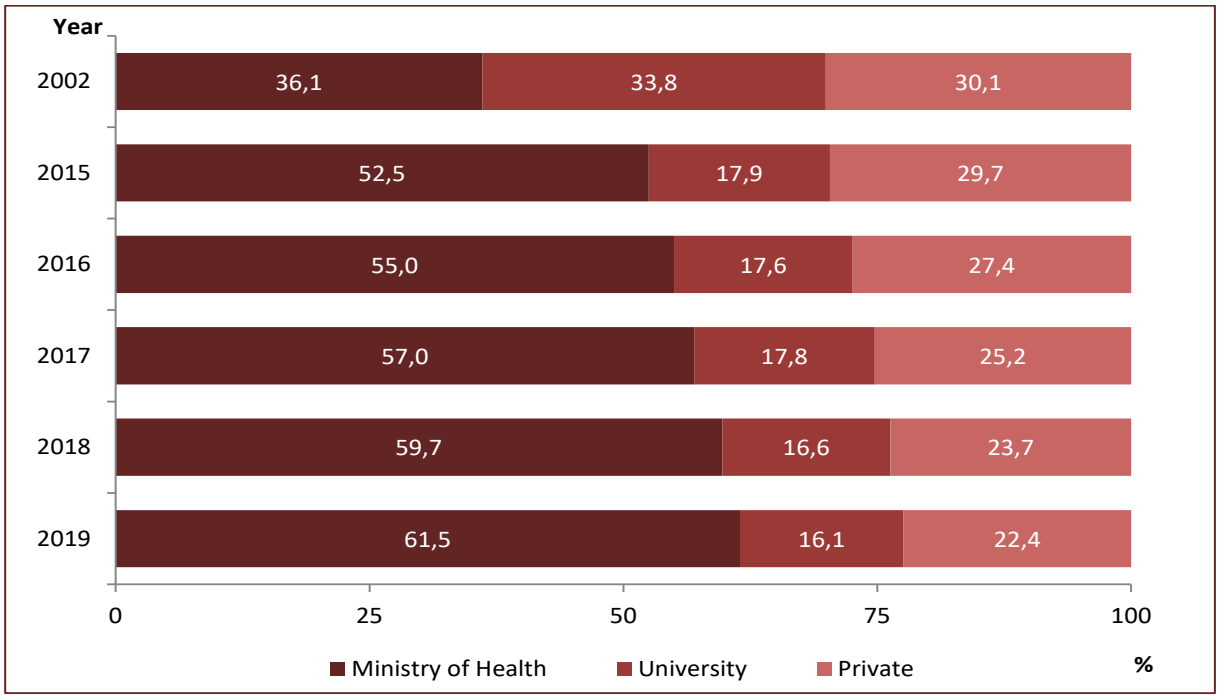
Source: General Directorate of Health Services
Note: Intensive care unit beds are not included.

Map 7.1. Proportion of Qualified Beds Among Total Beds by Provinces, (%), All Sectors, 2019



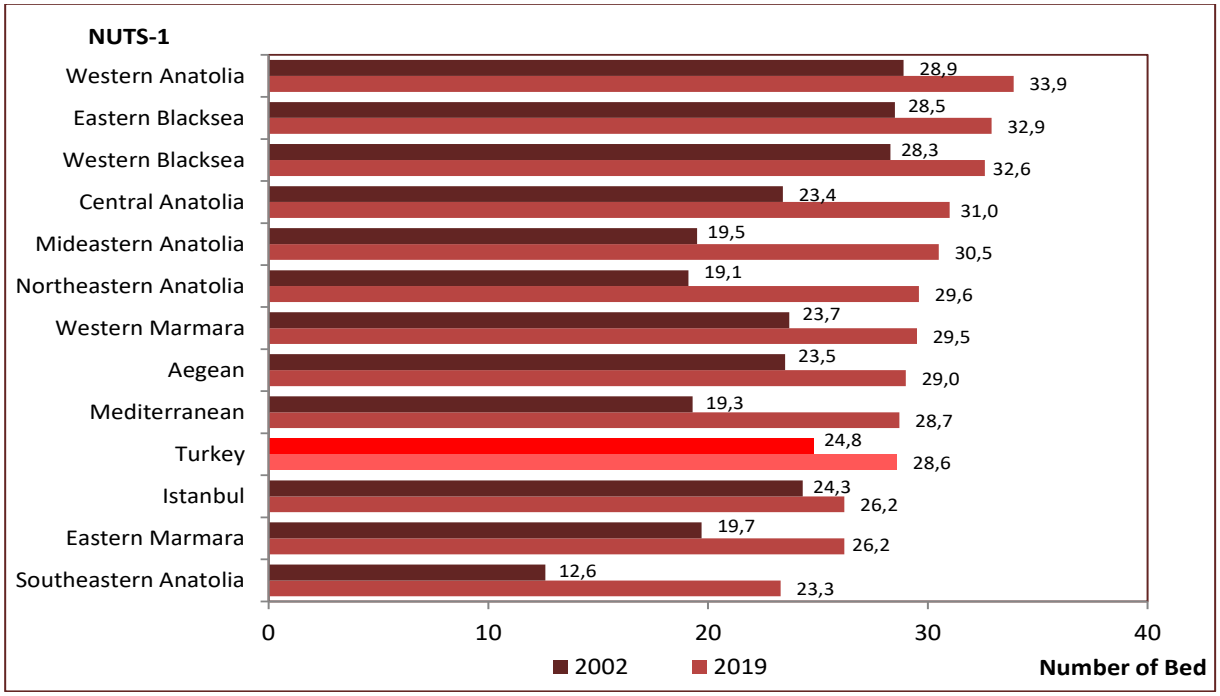
Source: General Directorate of Health Services
Note: Intensive care unit beds are not included.

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



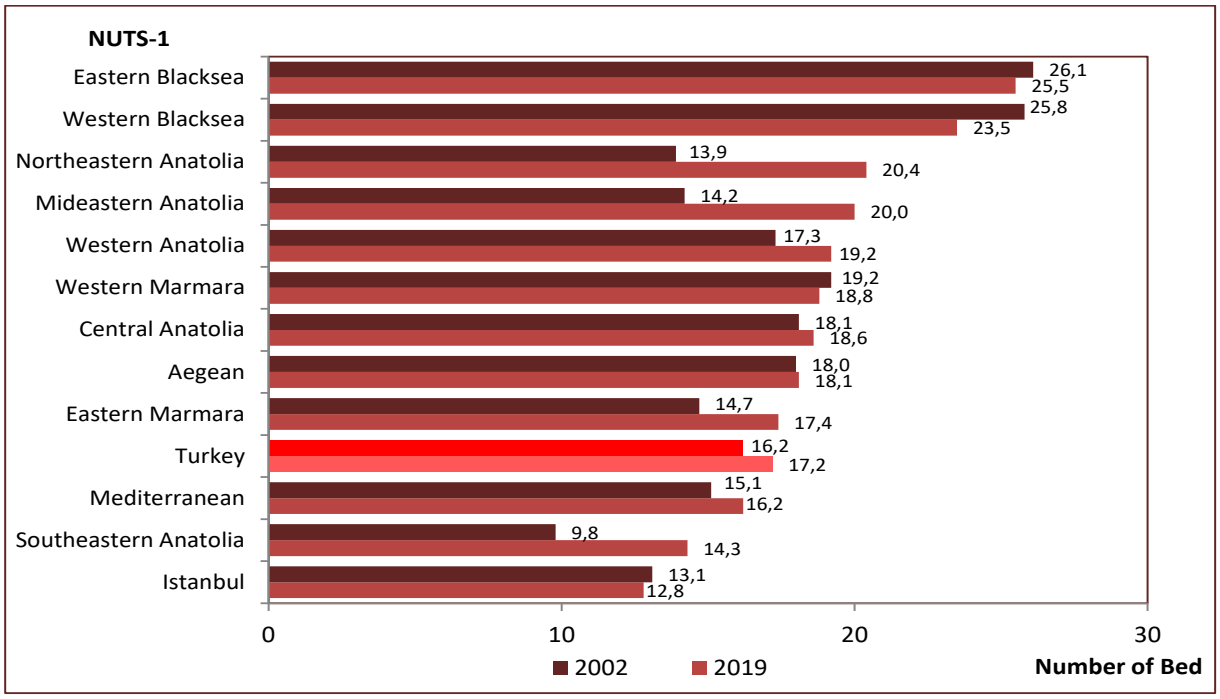
Source: General Directorate of Health Services

Figure 7.6. Number of Hospital Beds per 10.000 Population by NUTS-1, All Sectors, 2002, 2019



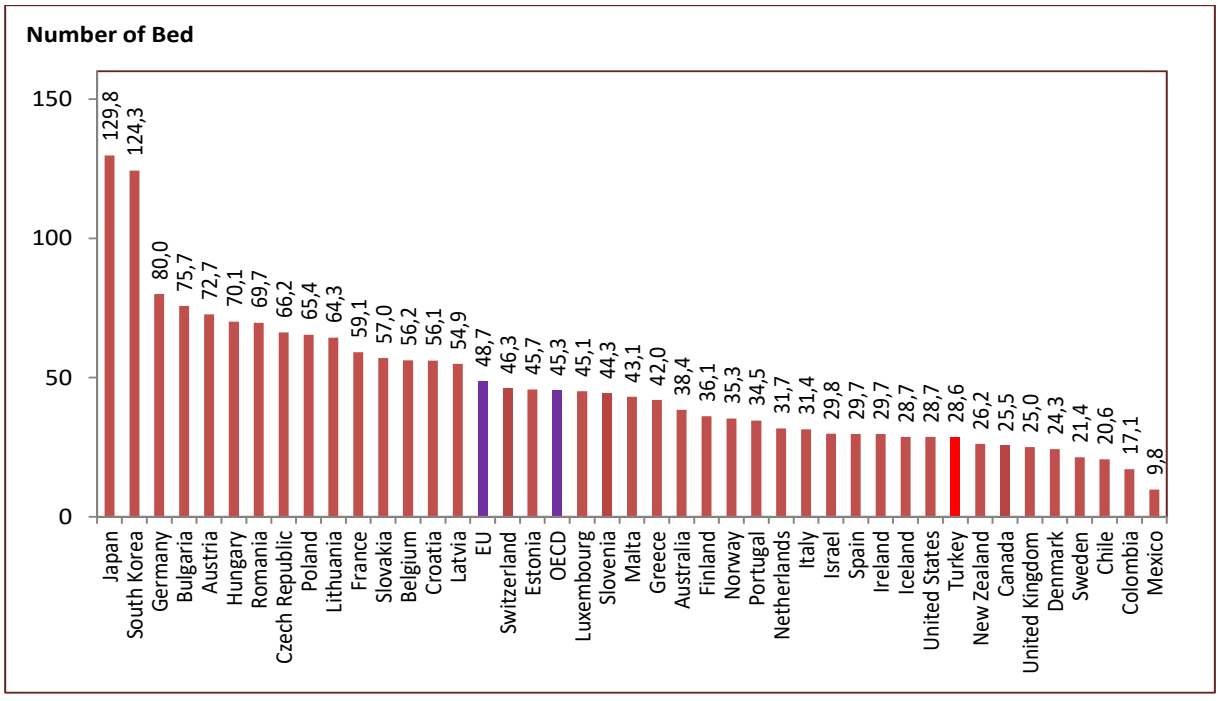
Source: General Directorate of Health Services

Figure 7.7. Number of Hospital Beds per 10.000 Population by NUTS-1, Ministry of Health, 2002, 2019



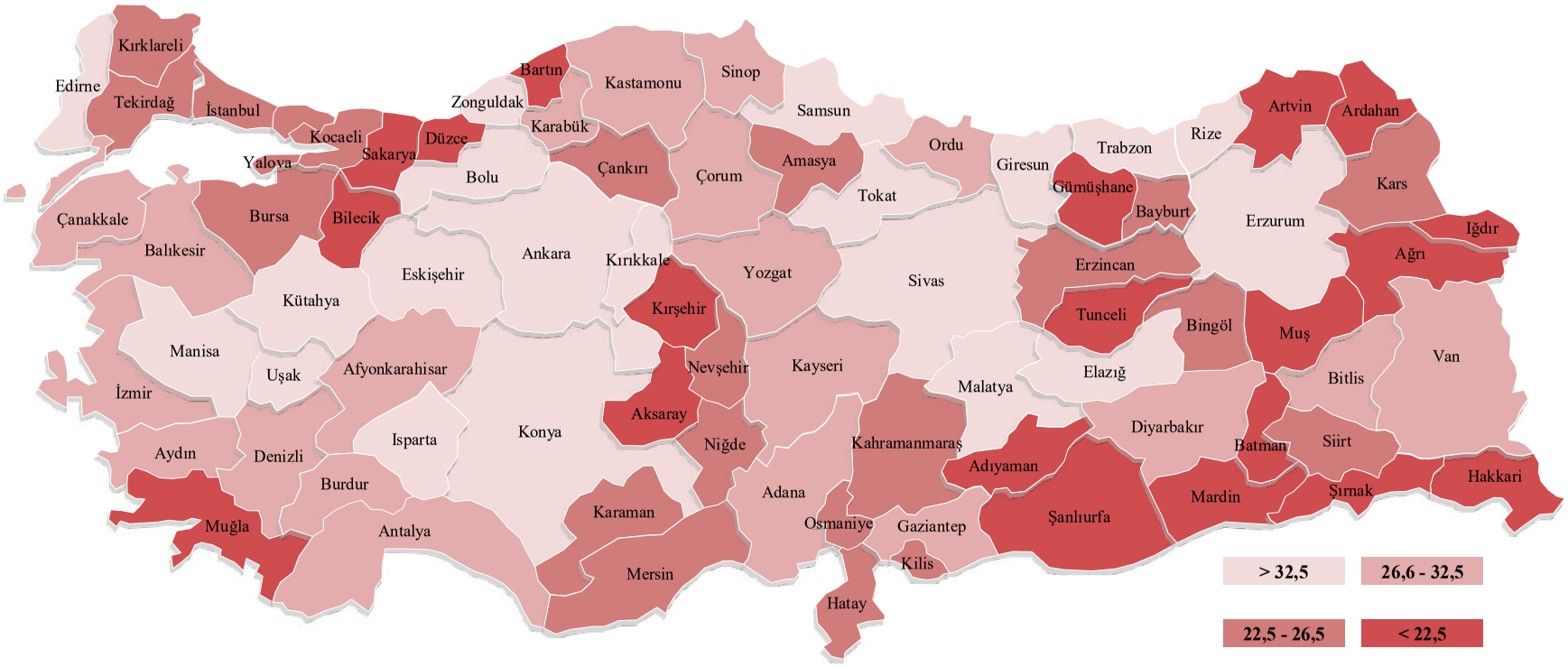
Source: General Directorate of Health Services

Figure 7.8. International Comparison of Number of Hospital Beds per 10.000 Population, 2018



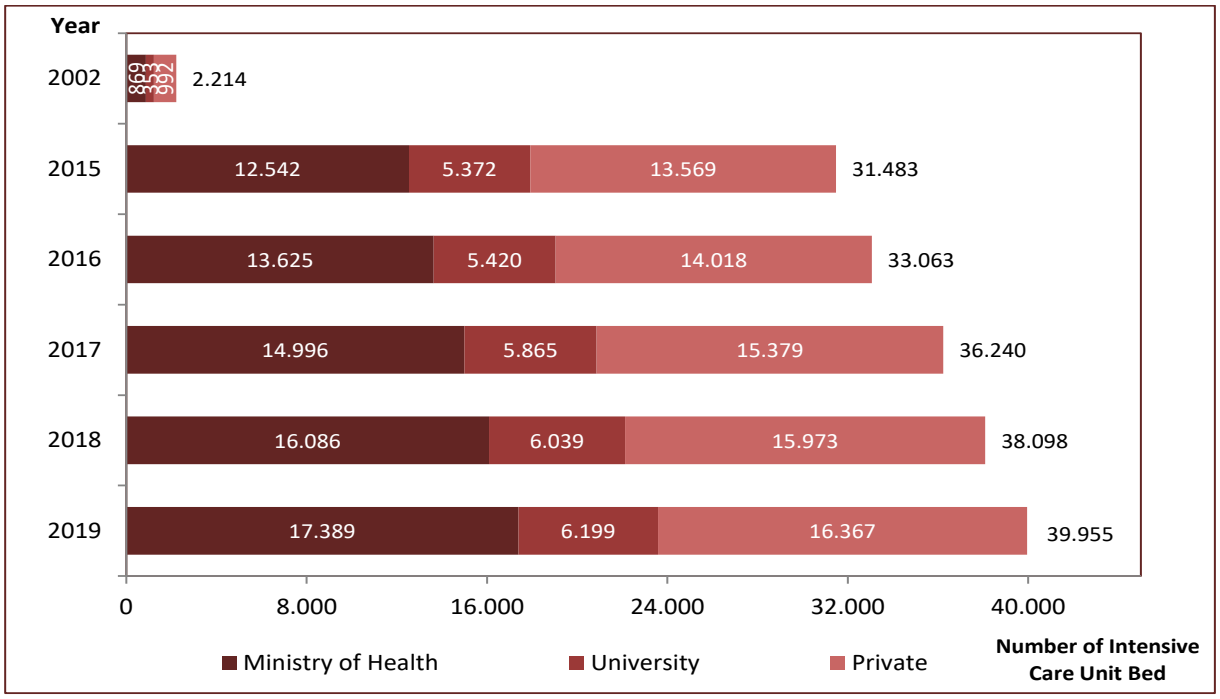
Source: General Directorate of Health Services, EUROSTAT Database, OECD Health Data 2020
Note: Turkey's data belong to the year 2019. Countries' data belong to the year of 2018 or nearest.

Map 7.2. Number of Hospital Beds per 10.000 Population by Provinces, All Sectors, 2019



Source: General Directorate of Health Services

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



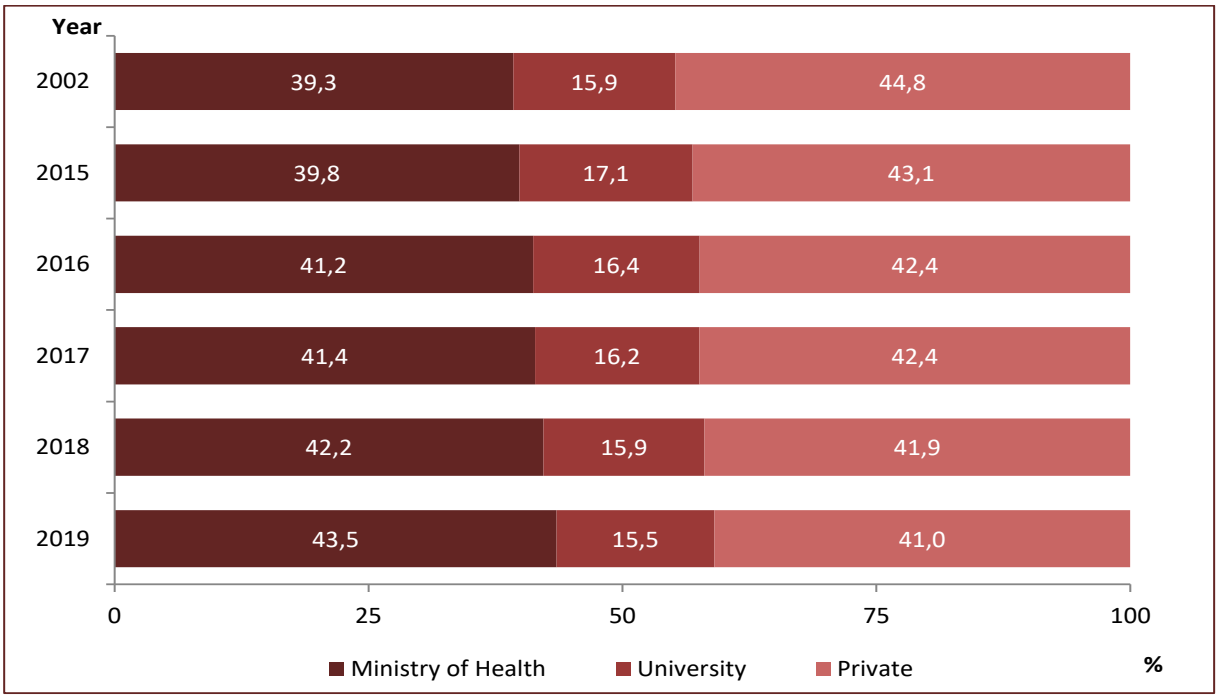
Source: General Directorate of Health Services

Table 7.3. Number and Distribution (%) of Intensive Care Unit Beds by Types and Sectors, 2019

	Ministry of Health		University		Private		Total	
	Number	%	Number	%	Number	%	Number	%
Adult	12.136	69,8	4.168	67,2	9.060	55,4	25.364	63,5
Child	1.043	6,0	588	9,5	147	0,9	1.778	4,5
Neonatal	4.210	24,2	1.443	23,3	7.160	43,7	12.813	32,1
Total	17.389	100	6.199	100	16.367	100	39.955	100

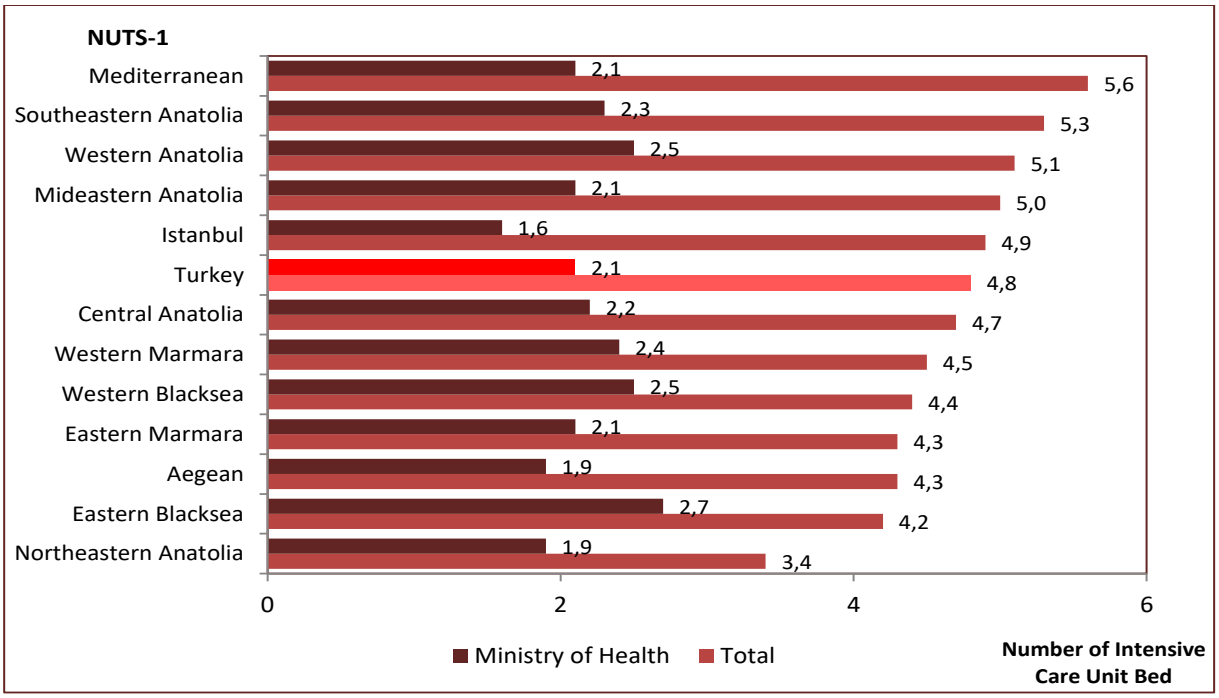
Source: General Directorate of Health Services

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



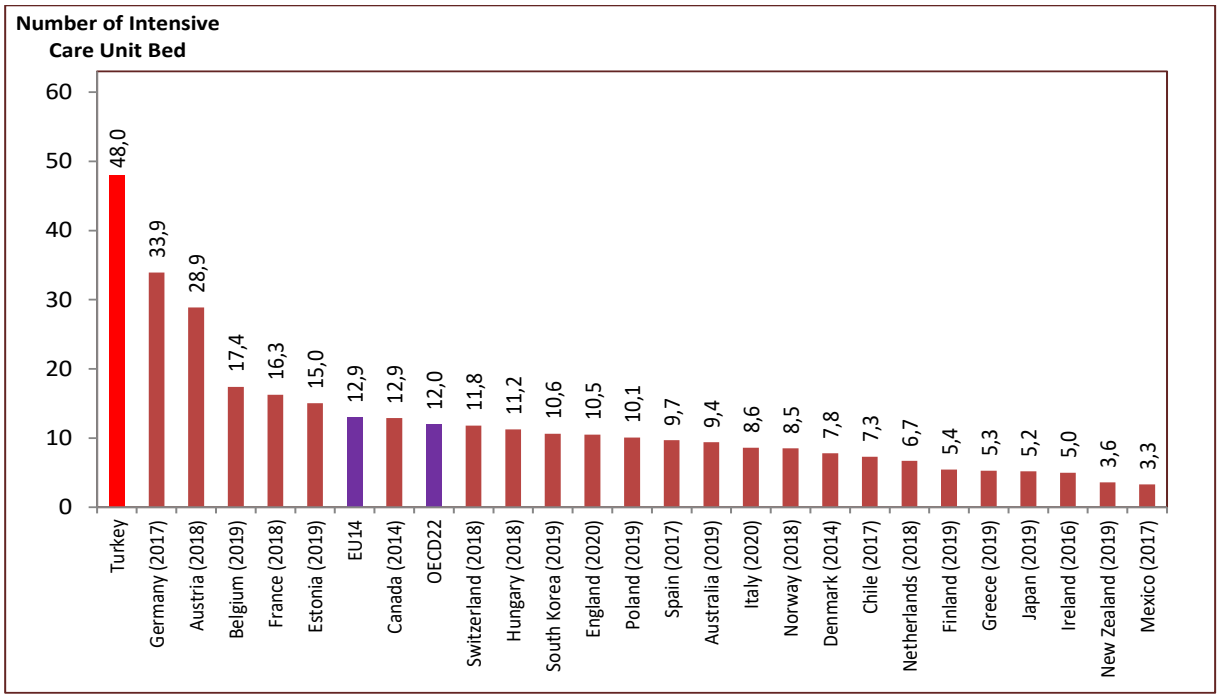
Source: General Directorate of Health Services

Figure 7.11. Number of Intensive Care Unit Beds per 10.000 Population by NUTS-1, All Sectors, Ministry of Health, 2019



Source: General Directorate of Health Services

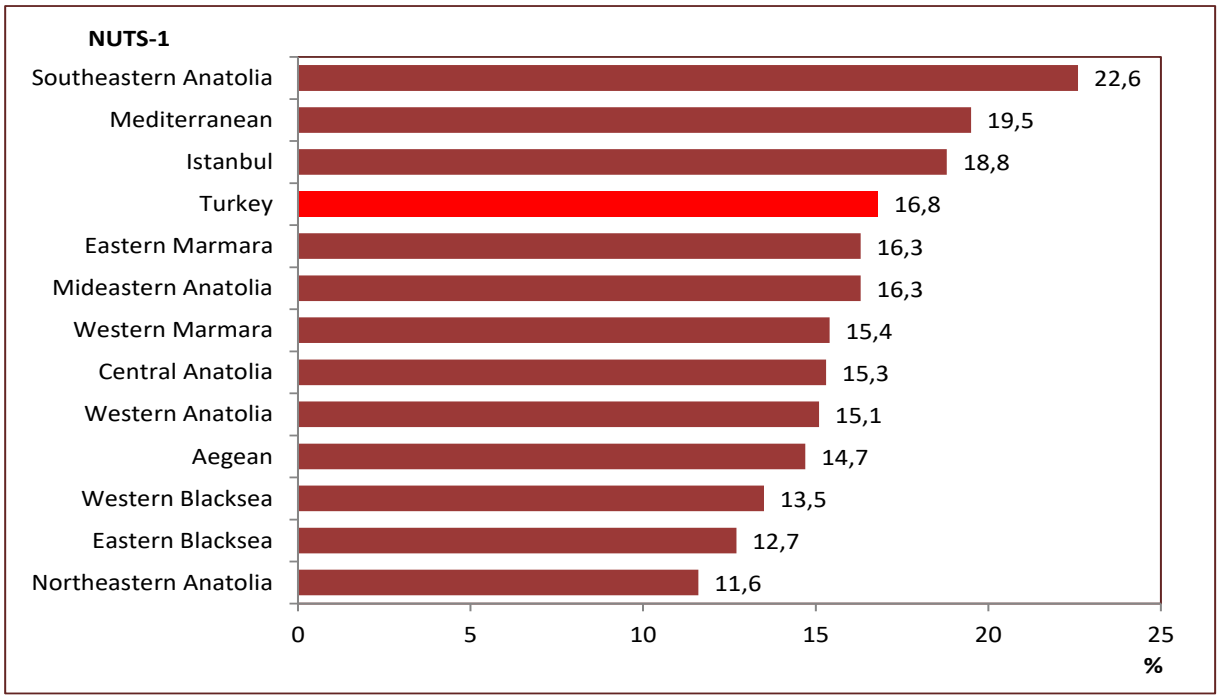
Figure 7.12. International Comparison of Number of Intensive Care Unit Beds per 100.000 Population, 2019



Source: General Directorate of Health Services, OECD Health at a Glance: Europe 2020, OECD Policy Brief on the response to the Covid-19 crisis

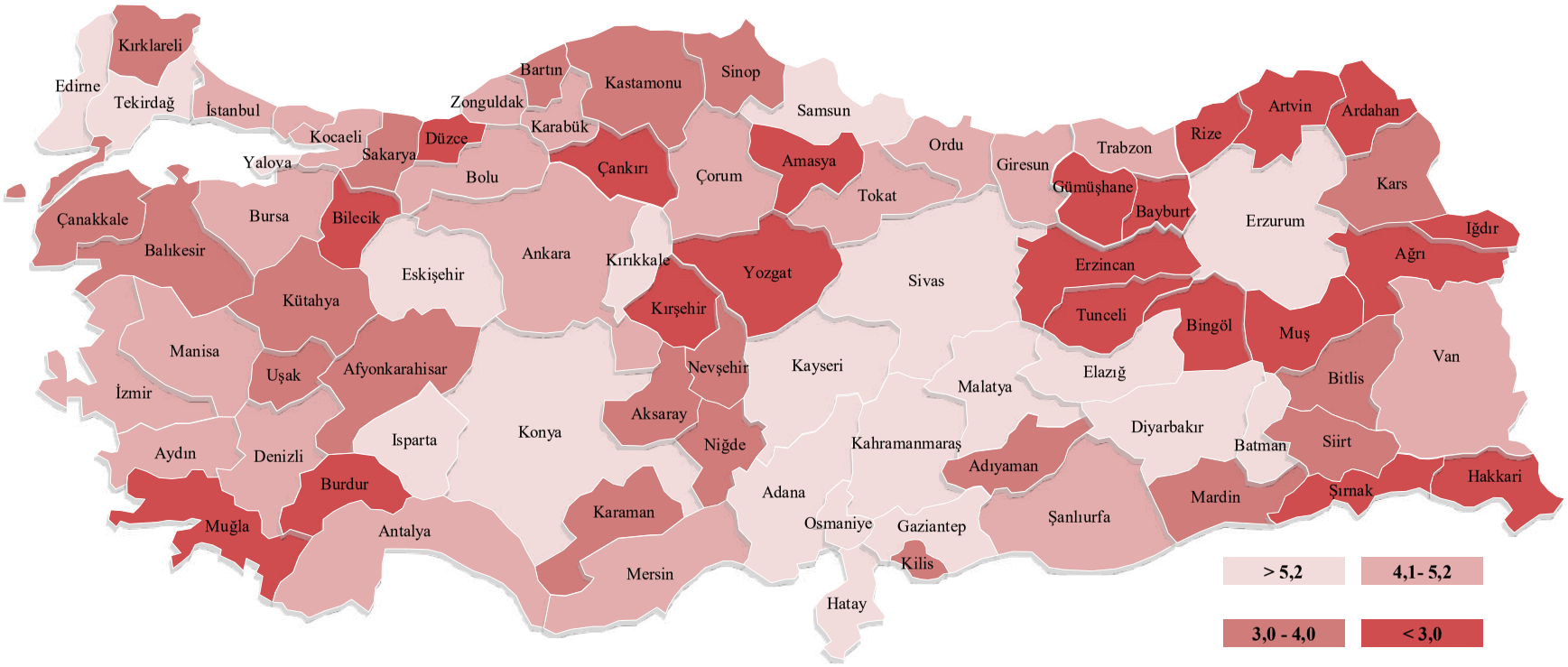
Note: Data for Belgium, Ireland and Canada cover only the number of adult intensive care beds. Countries' data belong to year in the parentheses. Data for 2020 year, like other year data, show before the COVID-19 pandemic. Turkey's data belong to the year 2019.

Figure 7.13. Proportion of Intensive Care Unit Beds to All Beds by NUTS-1, (%), All Sectors, 2019



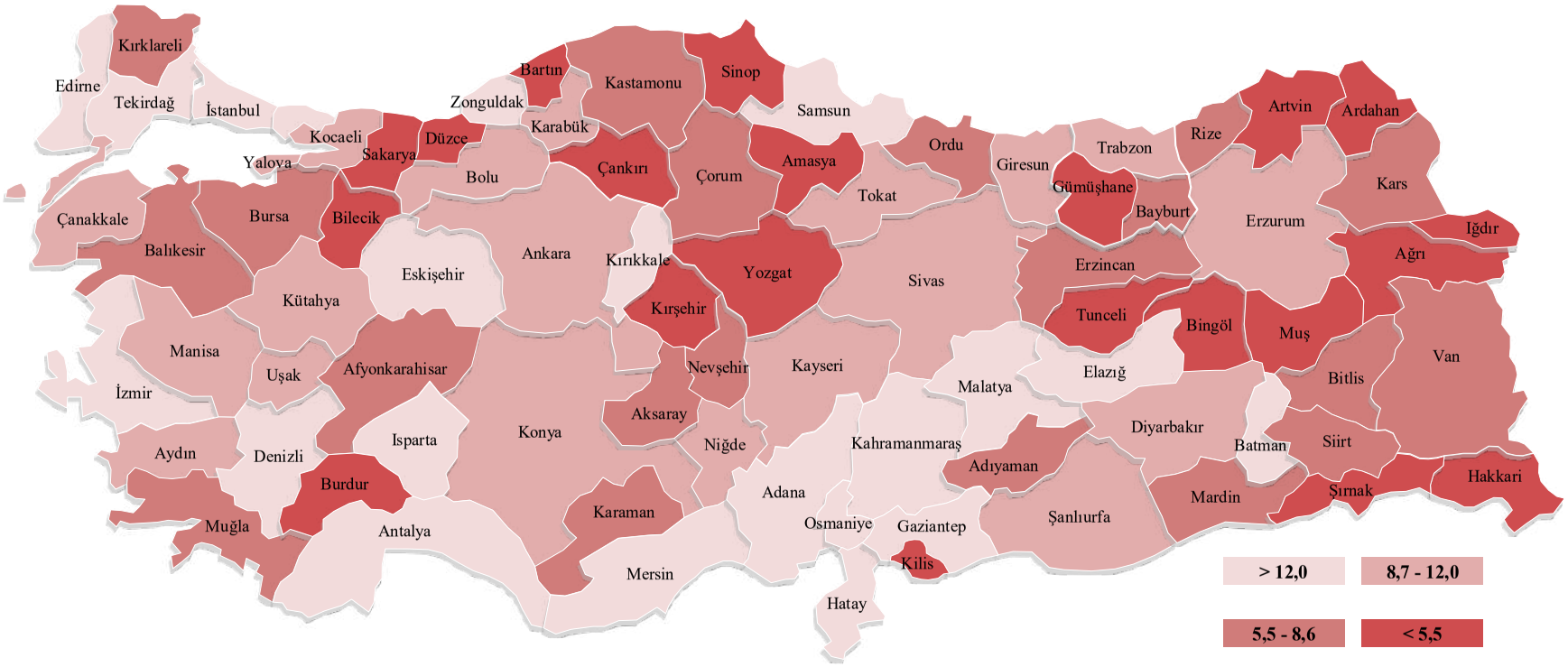
Source: General Directorate of Health Services

Map 7.3. Number of Intensive Care Unit Beds per 10.000 Population by Provinces, All Sectors, 2019



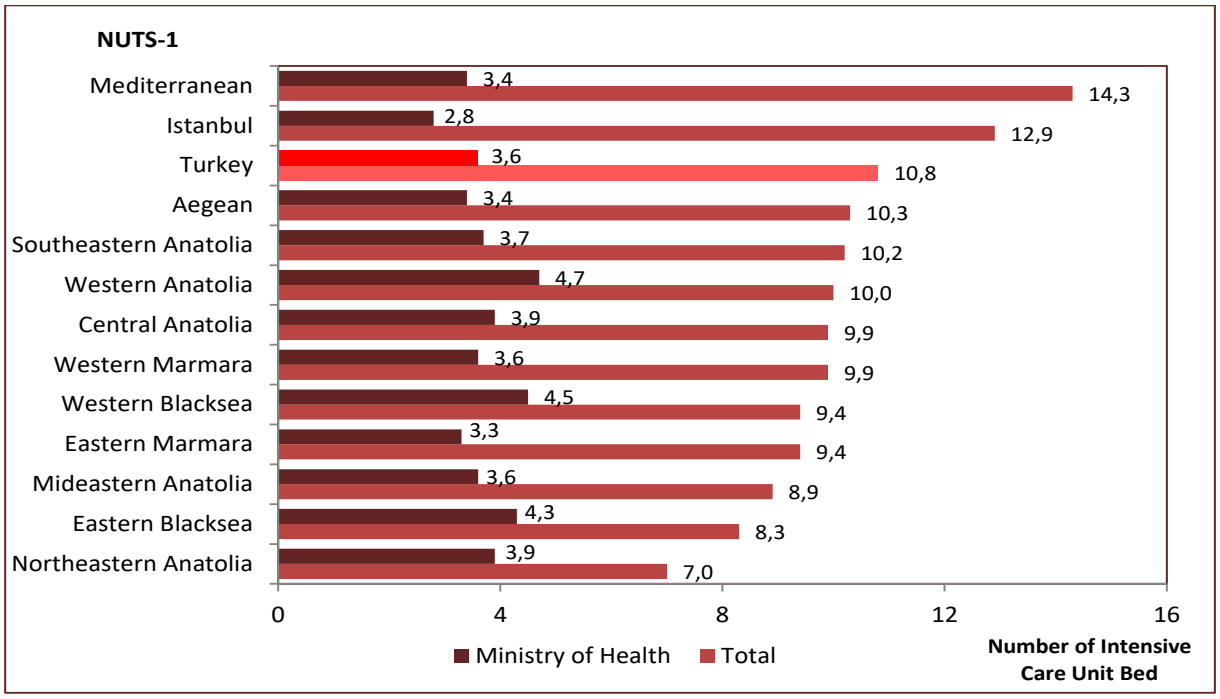
Source: General Directorate of Health Services

Map 7.4. Number of Neonatal Intensive Care Unit Beds per 1.000 Live Births by Provinces, All Sectors, 2019



Source: General Directorate of Health Services, TURKSTAT

Figure 7.14. Number of Neonatal Intensive Care Unit Beds per 1.000 Live Births by NUTS-1, All Sectors, Ministry of Health, 2019



Source: General Directorate of Health Services, TURKSTAT

Table 7.4. Infrastructure of Operating Services in Hospitals by Sectors, 2019

	Ministry of Health	University	Private	Total
Surgery	1.084	166	833	2.083
Operation Theatre	3.562	1.066	2.156	6.784
Operation Table	3.614	1.076	2.186	6.876

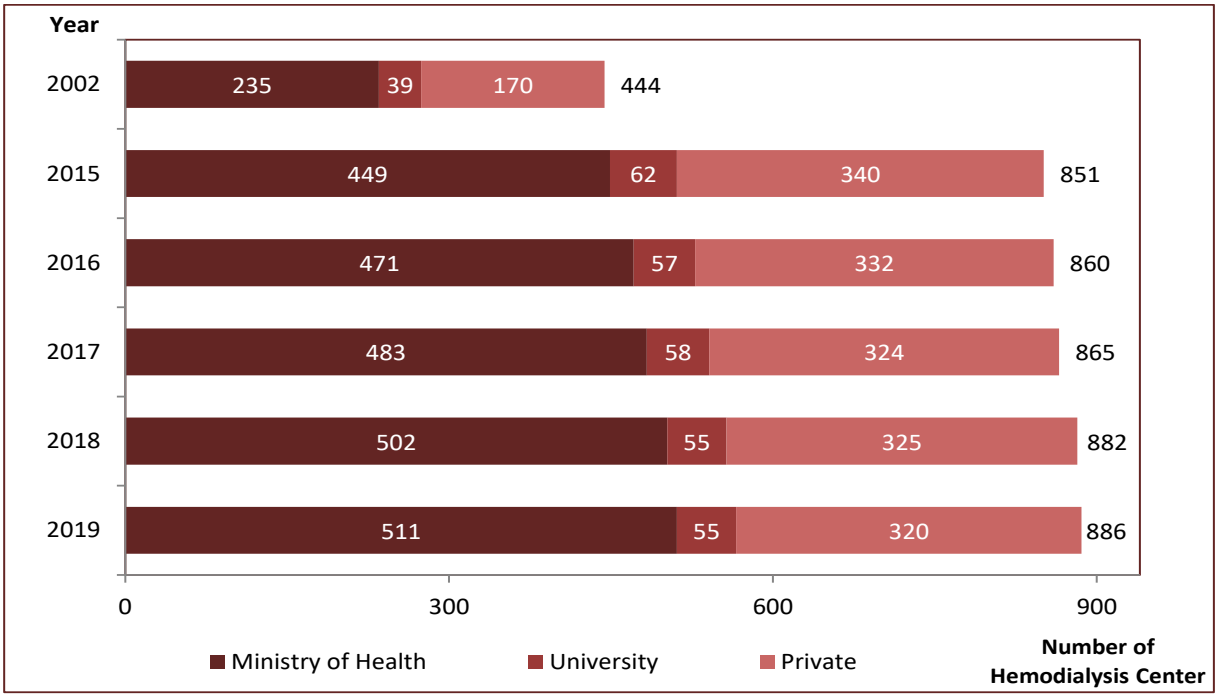
Source: General Directorate of Health Services

Table 7.5. Indicators Regarding to Health Care Facilities Actively Providing Health Care Services on 31.12.2019 by Sectors

Indicators	Ministry of Health	University	Private	Total
Number of Hospitals	897	68	561	1.526
Number of Hospital Beds	145.403	42.925	51.031	239.359
Number of Hospital Beds per 10.000 Population	17,5	5,2	6,1	28,8
Number of Qualified Beds	91.573	23.790	33.113	148.476
Proportion of Qualified Beds Among Total Beds, (%)*	71,5	64,8	95,0	74,4
Number of Adult Intensive Care Unit Beds	12.136	4.168	8.983	25.287
Number of Child Intensive Care Unit Beds	1.043	588	147	1.778
Number of Neonatal Intensive Care Unit Beds	4.210	1.443	7.051	12.704
Total Number of Intensive Care Unit Beds	17.389	6.199	16.181	39.769
Proportion of Intensive Care Unit Beds to All Beds, (%)	12,0	14,4	31,7	16,6
Total Number of Intensive Care Unit Beds per 10.000 Population	2,1	0,7	1,9	4,8
Surgery	1.084	166	825	2.075
Operation Theatre	4.146	1.183	2.229	7.558
Operation Table	4.139	1.152	2.220	7.511
Private Outpatient Clinic	-	-	308	308
Speciality Medical Center	-	-	636	636

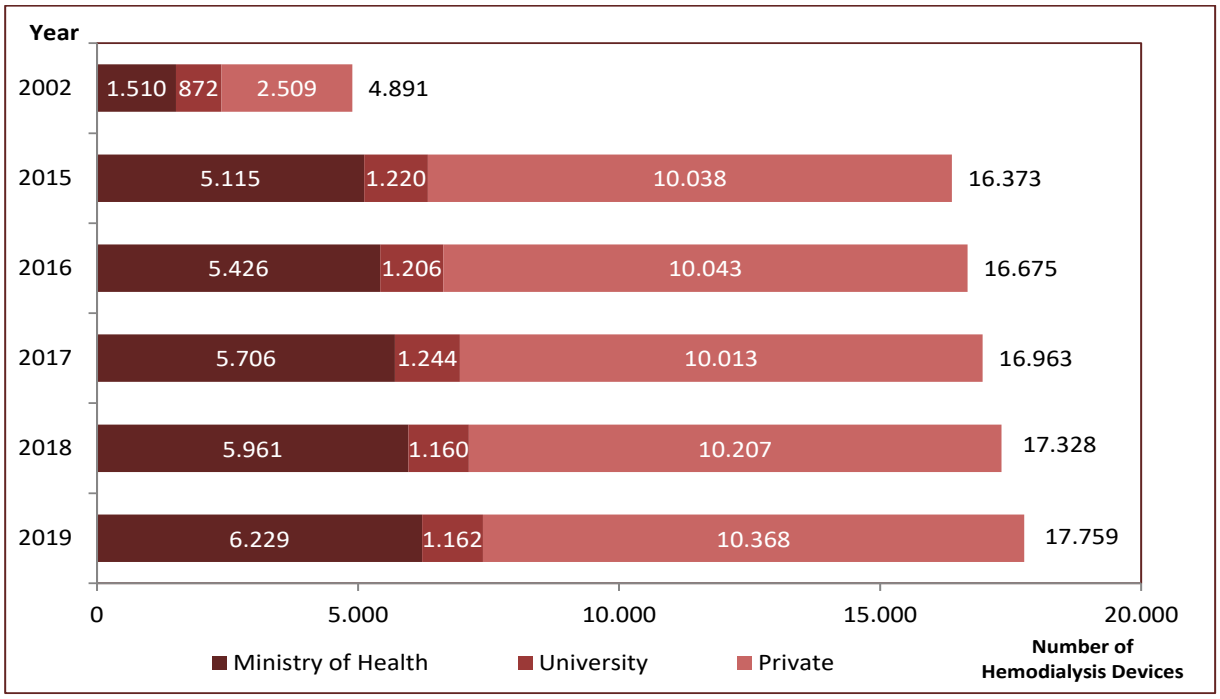
Source: General Directorate of Health Services
**Intensive care unit beds are not included.*

Figure 7.15. Number of Hemodialysis Centers by Years and Sectors



Source: General Directorate of Health Services

Figure 7.16. Number of Actively Used Hemodialysis Devices by Years and Sectors



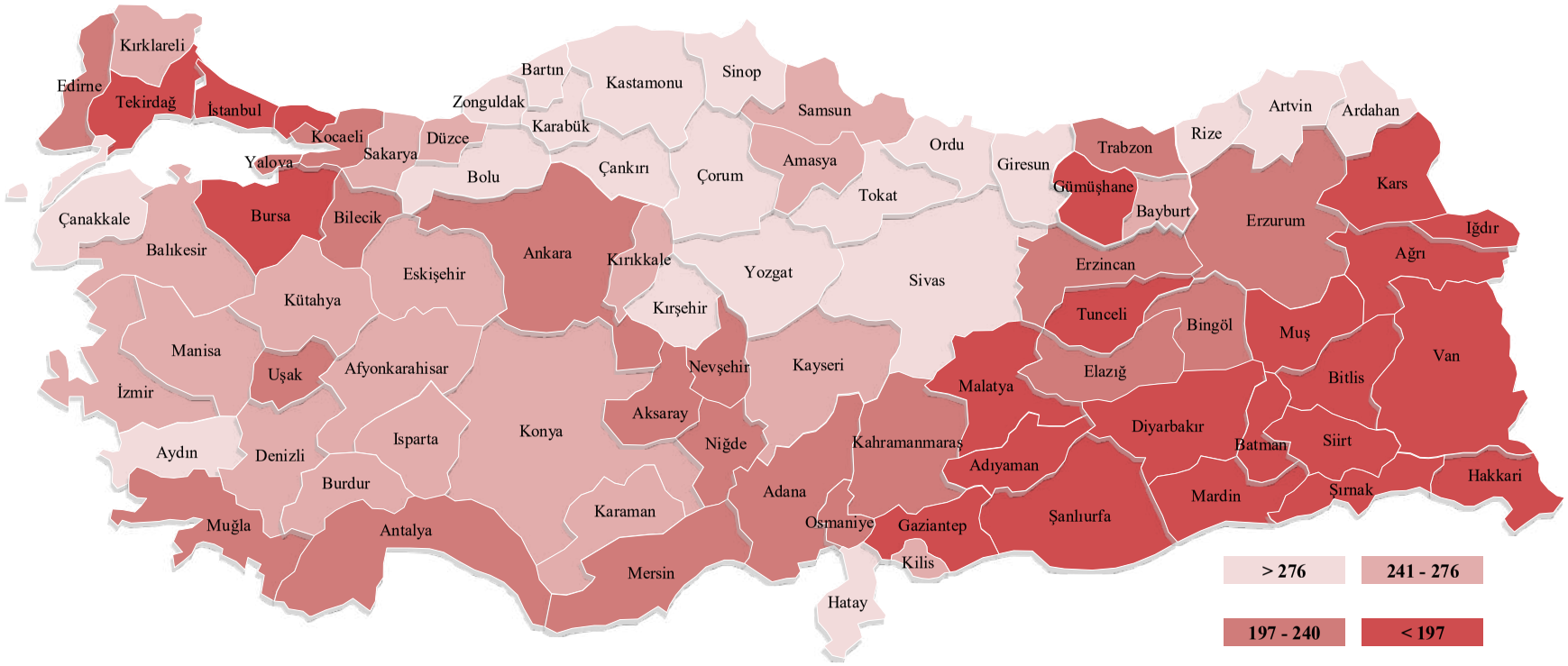
Source: General Directorate of Health Services

Table 7.6. Actively Used Hemodialysis Devices per 1.000.000 Population by NUTS-1 and Sectors, 2019

NUTS-1	Ministry of Health	University	Private	Total
Western Blacksea	152,8	17,4	124,5	294,7
Central Anatolia	104,8	15,9	153,3	274,1
Eastern Blacksea	171,0	4,8	92,2	268,0
Aegean	75,8	12,5	168,6	256,9
Western Marmara	99,7	6,9	124,1	230,7
Mediterranean	76,9	20,7	130,4	228,0
Western Anatolia	49,6	33,7	140,3	223,6
Eastern Marmara	75,2	10,6	136,7	222,5
Turkey	**74,9**	**14,0**	**124,7**	**213,6**
Istanbul	21,5	6,1	151,2	178,8
Northeastern Anatolia	140,0	10,0	21,4	171,4
Mideastern Anatolia	94,4	20,4	46,3	161,1
Southeastern Anatolia	69,2	7,7	51,7	128,6

Source: General Directorate of Health Services

Map 7.5. Actively Used Hemodialysis Devices per 1.000.000 Population by Provinces, All Sectors, 2019



Source: General Directorate of Health Services

Table 7.7. Number of Devices in Hospitals by Years

	2002	2015	2016	2017	2018	2019
MRI	58	794	836	884	915	902
CT	323	1.119	1.152	1.186	1.211	1.213
Ultrasound	1.005	5.518	5.470	5.635	5.846	6.098
Doppler Ultrasound	681	4.015	4.679	4.892	5.557	6.383
ECHO	259	1.897	2.121	2.269	2.520	2.714
Mammography	647*	896	931	947	966	961

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, 2019

	Ministry of Health	University	Private	Total
MRI	338	112	452	902
CT	550	139	524	1.213
Ultrasound	2.580	898	2.620	6.098
Doppler Ultrasound	4.066	642	1.675	6.383
ECHO	1.647	297	770	2.714
Mammography	403	73	485	961

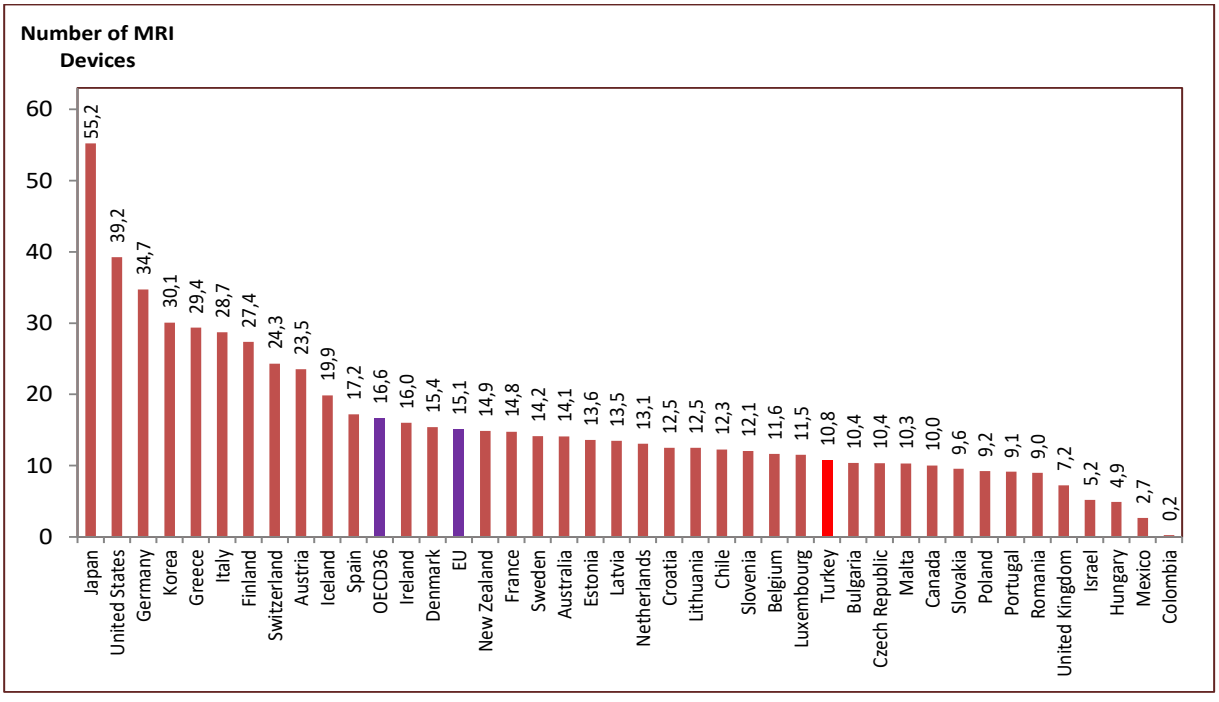
Source: General Directorate of Health Services

Table 7.9. Number of MRI Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2019

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

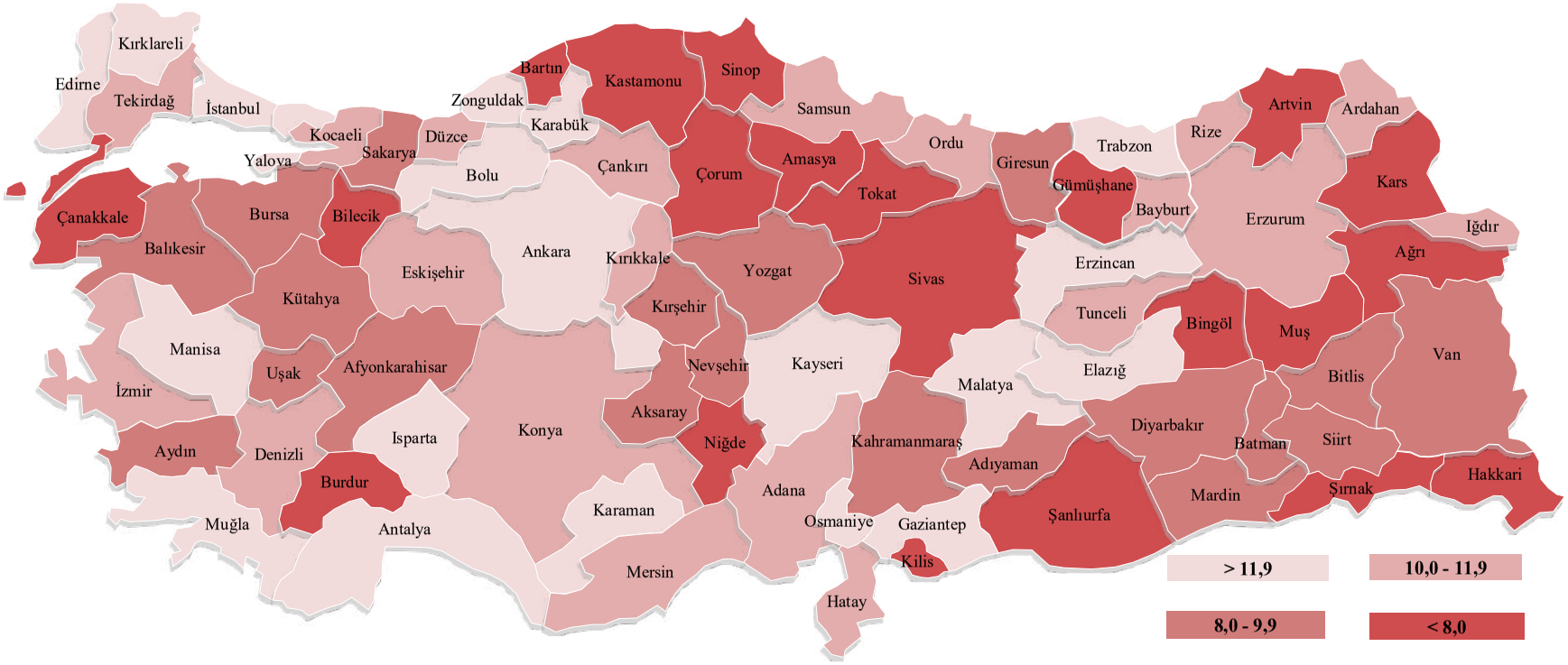
Source: General Directorate of Health Services

Figure 7.17. International Comparison of Number of MRI Devices per 1.000.000 Population, 2018



Source: General Directorate of Health Services, EUROSTAT Database, OECD Health Data 2020
Note: Turkey's data belong to the year 2019. Countries' data belong to the year of 2018 or nearest.

Map 7.6. Number of MRI Devices in Hospitals per 1.000.000 Population by Provinces, All Sectors, 2019



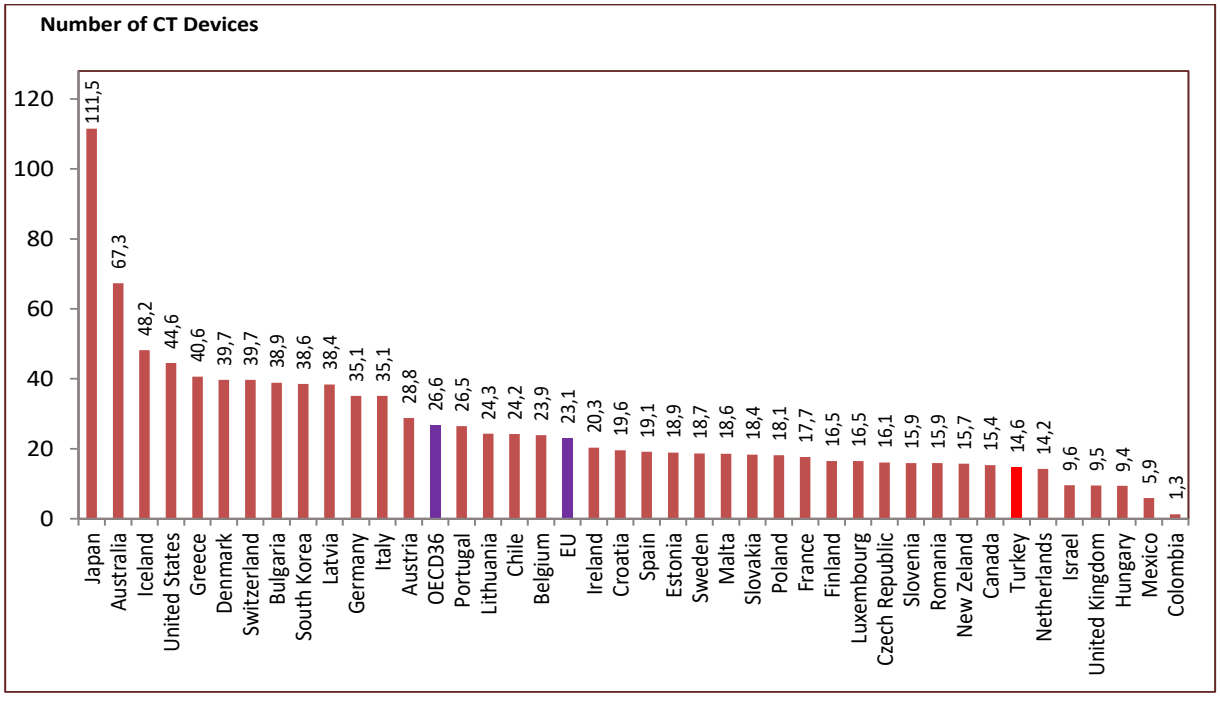
Source: General Directorate of Health Services

Table 7.10. Number of CT Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2019

NUTS-1	Ministry of Health	University	Private	Total
Western Anatolia	7,8	3,4	5,7	16,9
Western Marmara	8,1	1,9	6,4	16,4
Mediterranean	5,9	2,0	8,5	16,4
Northeastern Anatolia	10,5	2,3	3,2	15,9
Istanbul	4,8	1,7	9,2	15,7
Eastern Blacksea	10,0	0,7	4,8	15,6
Turkey	**6,6**	**1,7**	**6,3**	**14,6**
Western Blacksea	8,6	1,7	4,3	14,6
Aegean	6,6	1,1	5,5	13,2
Mideastern Anatolia	6,9	1,5	4,6	13,0
Central Anatolia	6,4	1,7	4,7	12,8
Southeastern Anatolia	6,4	0,8	5,2	12,4
Eastern Marmara	6,2	1,2	4,9	12,3

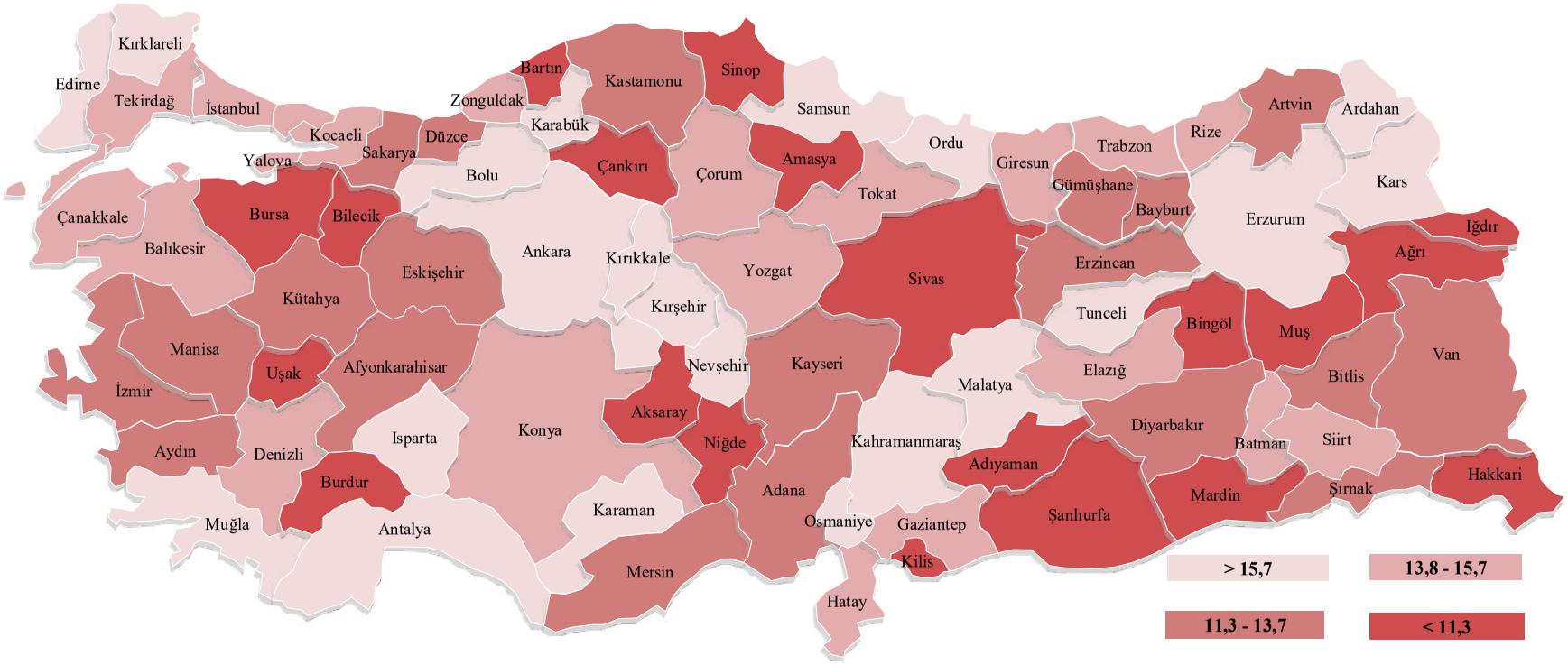
Source: General Directorate of Health Services

Figure 7.18. International Comparison of Number of CT Devices per 1.000.000 Population, 2018



Source: General Directorate of Health Services, EUROSTAT Database, OECD Health Data 2020
Note: Turkey's data belong to the year 2019. Countries' data belong to the year of 2018 or nearest.

Map 7.7. Number of CT Devices in Hospitals per 1.000.000 Population by Provinces, All Sectors, 2019



KSource: General Directorate of Health Services

Table 7.11. Number of Ultrasound Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2019

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	23,5	9,3	62,7	95,4
Northeastern Anatolia	60,0	10,0	8,2	78,2
Aegean	33,4	18,6	24,6	76,7
Central Anatolia	37,5	8,8	28,0	74,3
Turkey	**31,0**	**10,8**	**31,5**	**73,3**
Mediterranean	26,7	11,6	32,0	70,3
Western Marmara	38,0	10,3	20,8	69,1
Western Anatolia	30,5	15,0	23,0	68,6
Western Blacksea	42,9	3,2	20,8	66,9
Eastern Blacksea	34,9	14,5	16,7	66,2
Southeastern Anatolia	27,3	10,2	27,3	64,8
Mideastern Anatolia	43,0	8,1	13,2	64,4
Eastern Marmara	24,5	4,7	26,2	55,4

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, 2019

NUTS-1	Ministry of Health	University	Private	Total
Western Anatolia	67,1	22,2	16,2	105,5
Istanbul	49,5	6,1	37,4	92,9
Central Anatolia	51,8	14,2	23,3	89,3
Turkey	**48,9**	**7,7**	**20,1**	**76,8**
Eastern Marmara	50,2	6,5	18,2	75,0
Aegean	44,4	7,4	19,7	71,5
Mediterranean	48,0	4,6	17,5	70,1
Western Blacksea	45,6	10,5	12,6	68,8
Eastern Blacksea	57,2	0,7	8,9	66,9
Western Marmara	42,8	7,5	13,3	63,6
Mideastern Anatolia	44,8	4,1	12,2	61,1
Northeastern Anatolia	42,3	11,4	6,4	60,0
Southeastern Anatolia	40,4	1,1	14,7	56,3

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, 2019

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	21,5	3,7	15,9	41,0
Central Anatolia	22,3	5,2	7,9	35,3
Eastern Blacksea	27,1	0,7	5,9	33,8
Turkey	**19,8**	**3,6**	**9,3**	**32,6**
Western Blacksea	23,6	3,2	5,8	32,6
Mediterranean	18,5	3,3	10,1	31,9
Aegean	20,6	2,5	8,7	31,8
Eastern Marmara	19,3	2,3	9,8	31,5
Western Anatolia	14,2	8,0	8,9	31,0
Northeastern Anatolia	22,3	5,9	1,4	29,5
Western Marmara	19,4	3,6	6,1	29,2
Mideastern Anatolia	19,6	3,1	5,6	28,2
Southeastern Anatolia	17,4	1,9	5,7	25,0

Source: General Directorate of Health Services

Table 7.14. Number of Mammography Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2019

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

Source: General Directorate of Health Services

Table 7.15. Number of Specialty Medical Center and Private Outpatient Clinic by NUTS-1, 2019

NUTS-1	Specialty Medical Center	Private Outpatient Clinic
Istanbul	240	145
Western Marmara	12	4
Aegean	109	57
Eastern Marmara	61	18
Western Anatolia	83	49
Mediterranean	65	36
Central Anatolia	8	5
Western Blacksea	19	6
Eastern Blacksea	9	5
Northeastern Anatolia	3	0
Mideastern Anatolia	11	1
Southeastern Anatolia	35	3
Turkey	655	329

Source: General Directorate of Health Services

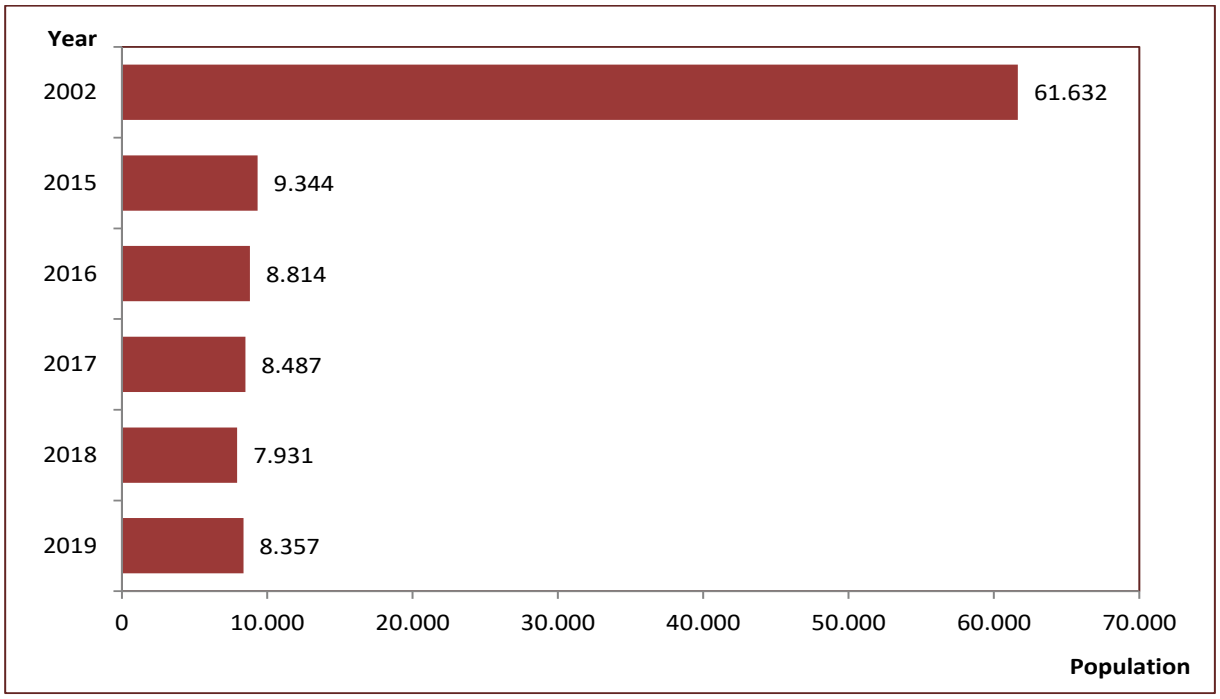
Table 7.16. Number of the Institution Providing Oral and Dental Health Care Services by Sectors, 2019

	Ministry of Health		University		Private		Total	
	Institution	Unit	Institution	Unit	Institution	Unit	Institution	Unit
Oral and Dental Health Center	131	4.411	-	-	83	909	214	5.320
Dental Hospital	29	2.052	-	-	3	85	32	2.137
Dental Training Hospital	3	265	50	5.504	-	-	53	5.769
Dental Policlinic (Hospital)	820	3.222	15	368	211	477	1.046	4.067
Dental Policlinic	-	-	-	-	2.123	8.701	2.123	8.701
Total	983	9.950	65	5.872	2.420	10.172	3.468	25.994

Source: General Directorate of Health Services

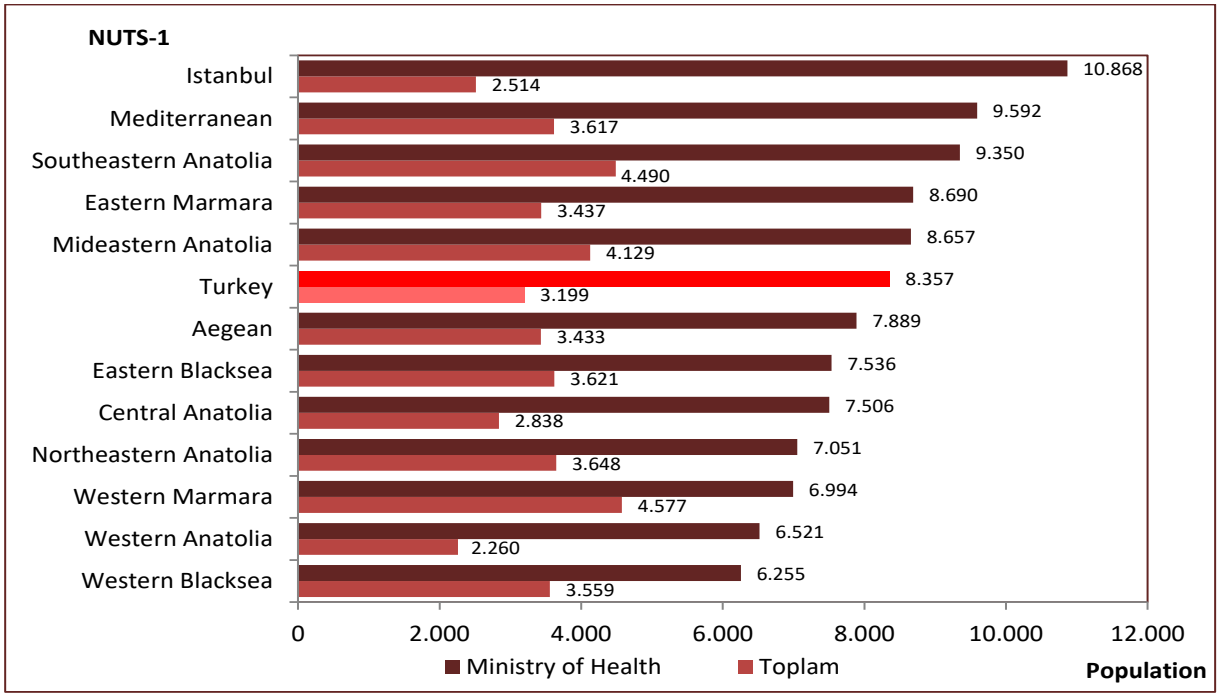
Note: Data related to dental clinic and dental prosthesis center belonging to oral and dental health center and hospital exist in Dental Policlinic (Hospital).

Figure 7.19. Population per Dental Unit by Years, Ministry of Health



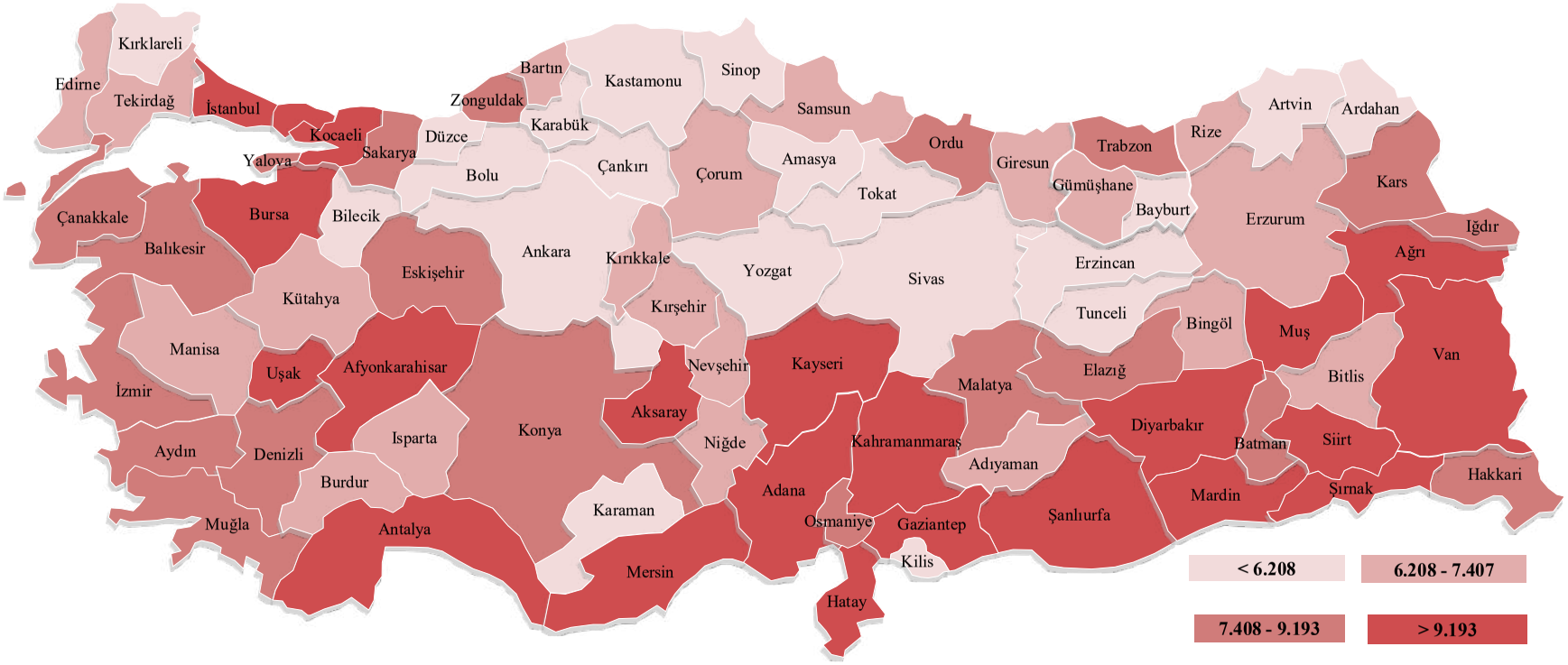
Source: General Directorate of Health Services

Figure 7.20. Population per Dental Unit by NUTS-1, All Sectors, Ministry of Health, 2019



Source: General Directorate of Health Services

Map 7.8. Population per Dental Unit by Provinces, Ministry of Health, 2019



Source: General Directorate of Health Services

Table 7.17. Indicators Regarding to Institution Actively Provide Oral and Dental Health Care Services on 31.12.2019 by Sectors

	Ministry of Health		University		Private		Total	
	Institution	Unit	Institution	Unit	Institution	Unit	Institution	Unit
Oral and Dental Health Center	131	4.411	-	-	80	889	211	5.300
Dental Hospital	29	2.052	-	-	3	85	32	2.137
Dental Training Hospital	3	265	50	5.504	-	-	53	5.769
Dental Policlinic (Hospital)	820	3.222	15	368	208	474	1.043	4.064
Dental Policlinic	-	-	-	-	2.092	8.590	2.092	8.590
Total	983	9.950	65	5.872	2.383	10.038	3.431	25.860

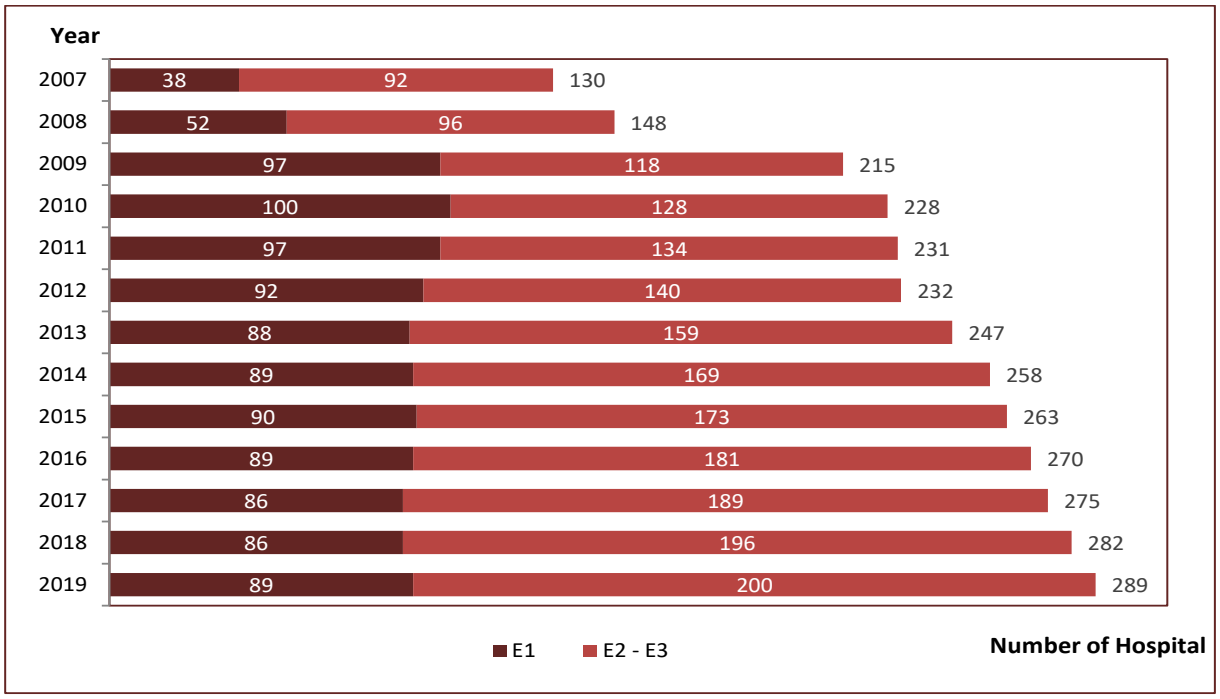
Source: General Directorate of Health Services
Note: Data related to dental clinic and dental prosthesis center belonging to oral and dental health center and hospital exist in Dental Policlinic (Hospital).

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

	2002	2015	2016	2017	2018	2019
Health Center	5.055	-	-	-	-	-
Family Medicine Unit	-	21.696	24.428	25.198	26.252	26.476
Family Health Center	-	6.902	7.636	7.774	7.979	7.997
Community Health Center*	-	970	970	972	776	778
Health House	2.899	5.544	5.419	5.320	5.259	5.078
Child, Adolescent, Women and Reproductive Health Unit (CEKUS)	298	182	181	177	172	167
Tuberculosis Control Dispensary	277	181	181	177	173	174
Cancer Early Diagnosis, Screening and Training Centers (KETEM)	84	156	159	166	175	178
E2-E3 Integrated District State Hospitals**	-	173	181	189	196	200
Number of Public Health Laboratories	-	83	83	83	83	83

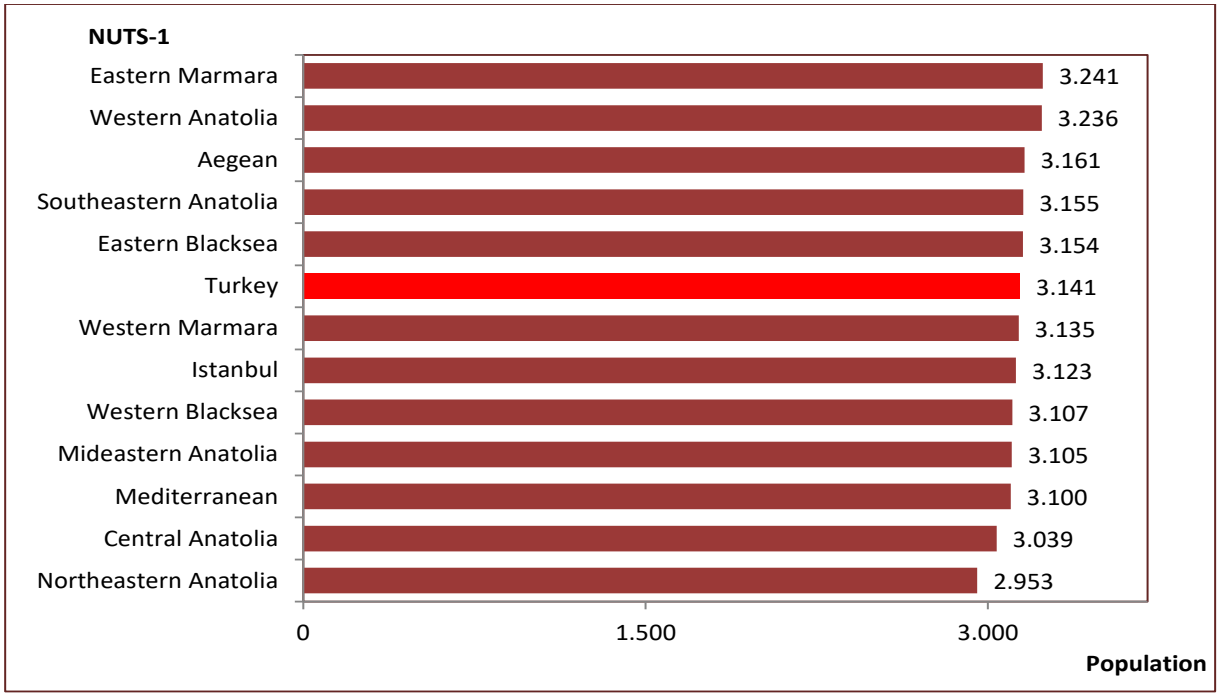
Source: General Directorate of Public Health, General Directorate of Health Services
** In districts with a population of 30.000 or more, 425 District Health Directorates, which provide the same services, included the number of Community Health Centers.*
***According to the Circular "Staging Health Service Providers" published by the Ministry of Health, General Directorate of Health Services on 31/05/2019, E2-E3 Integrated District State Hospitals were defined as primary health care institutions and E1 Integrated District State Hospitals as secondary health institutions.*

Figure 7.21. Number of Integrated District State Hospitals by Years



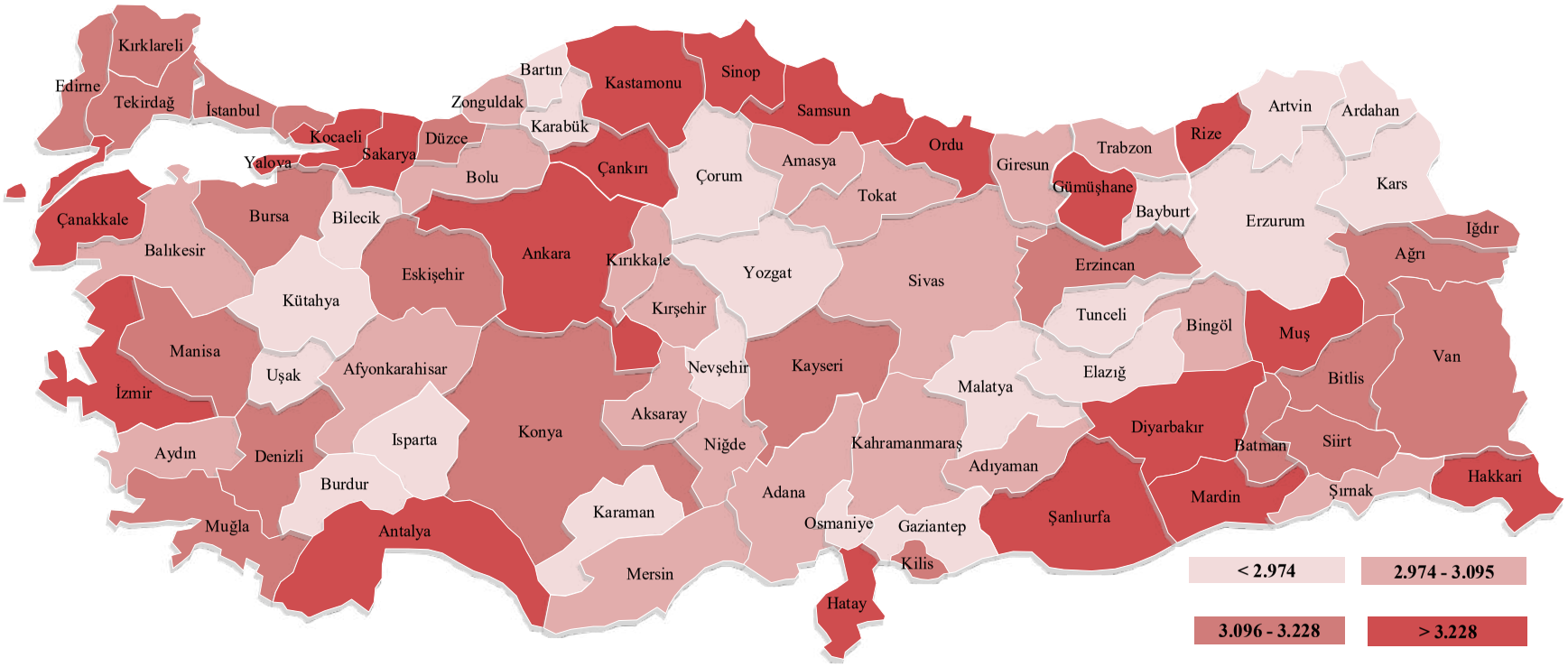
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 7.22. Population per Family Medicine Unit by NUTS-1, 2019



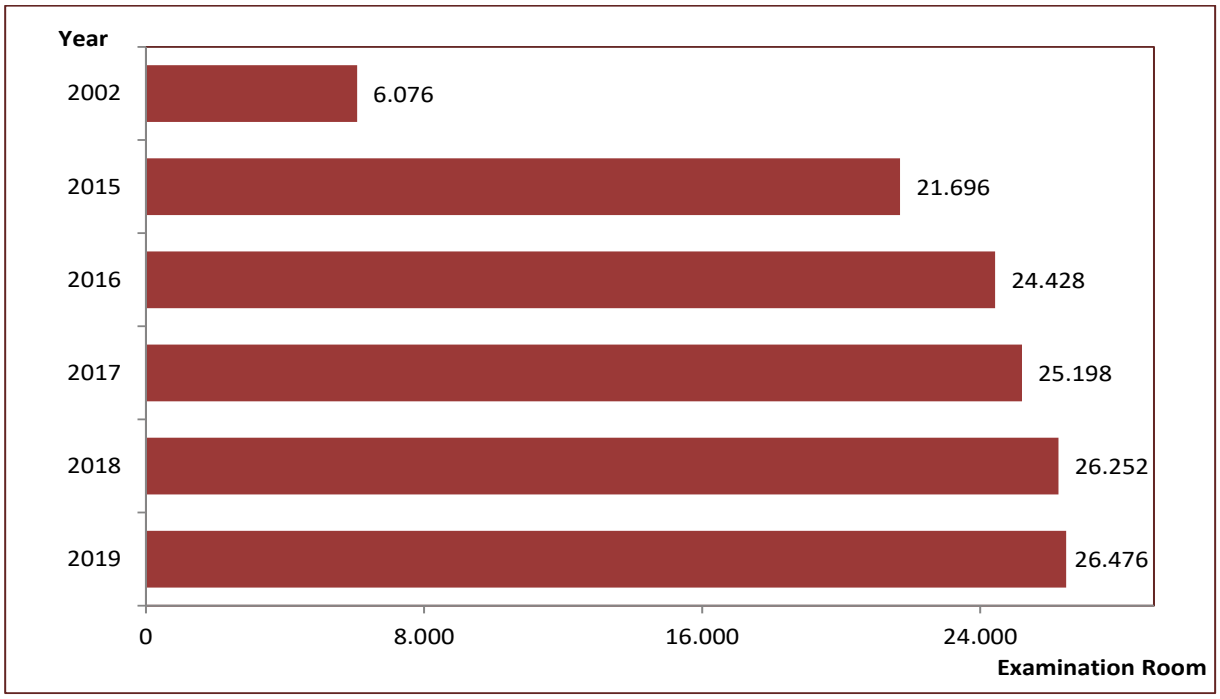
Source: General Directorate of Public Health

Map 7.9. Population per Family Medicine Unit by Provinces, 2019



Source: General Directorate of Public Health

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



Source: General Directorate of Public Health

Table 7.19. Some Health Indicators by Provinces, 2019

City	Number of Hospital	Number of Bed	Number of Hospital Bed per 10.000 Population	Number of Qualified Bed	Number of Intensive Care Unit Bed	Proportion of Qualified Bed (Intensive care unit beds are not included.)	Intensive Care Unit Bed per 10.000 Population	Number of Family Medicine Unit	Population per Family Medicine Unit
Adana	32	7.137	31,9	4.198	1.412	73,3	6,3	729	3.070
Adıyaman	12	1.351	21,6	924	244	83,5	3,9	210	2.983
Afyonkarahisar	22	2.185	30	1.602	248	82,7	3,4	240	3.040
Ağrı	10	878	16,4	715	108	92,9	2	168	3.192
Amasya	7	835	24,7	554	77	73,1	2,3	112	3.016
Ankara	83	19.326	34,3	11.266	2.835	68,3	5	1.721	3.277
Antalya	47	7.390	29,4	4.960	1.190	80	4,7	777	3.233
Artvin	8	346	20,2	271	31	86	1,8	59	2.896
Aydın	24	3.164	28,5	1.809	511	68,2	4,6	359	3.095
Balıkesir	25	3.334	27,1	2.323	492	81,7	4	410	2.997
Bilecik	8	335	15,3	111	44	38,1	2	74	2.965
Bingöl	8	705	25,2	486	61	75,5	2,2	92	3.041
Bitlis	8	988	28,4	627	133	73,3	3,8	111	3.136
Bolu	11	1.460	46,2	1.015	158	78	5	103	3.069
Burdur	9	758	28	538	76	78,9	2,8	92	2.943
Bursa	42	8.079	26,4	5.595	1.245	81,9	4,1	953	3.207
Çanakkale	14	1.685	31,1	1.299	212	88,2	3,9	166	3.266
Çankırı	9	465	23,8	359	36	83,7	1,8	59	3.318
Çorum	16	1.658	31,2	1.235	245	87,4	4,6	184	2.885
Denizli	23	3.249	31,3	1.821	531	67	5,1	333	3.115
Diyarbakır	27	4.759	27,1	2.048	1.018	54,7	5,8	531	3.308
Edirne	11	1.936	46,8	1.040	229	60,9	5,5	131	3.160
Elazığ	11	2.991	50,6	1.797	436	70,3	7,4	200	2.955
Erzincan	10	540	23	316	54	65	2,3	75	3.130
Erzurum	23	3.623	47,5	2.275	417	71	5,5	274	2.781
Eskişehir	15	3.507	39,5	2.648	526	88,8	5,9	281	3.158
Gaziantep	31	6.265	30,3	3.009	1.489	63	7,2	709	2.919
Giresun	17	1.575	35,1	1.082	234	80,7	5,2	146	3.071
Gümüşhane	6	327	19,9	175	26	58,1	1,6	50	3.290
Hakkari	4	410	14,6	352	51	98,1	1,8	82	3.427
Hatay	25	4.204	25,8	2.615	870	78,4	5,3	502	3.245
Isparta	15	2.022	45,4	1.340	432	84,3	9,7	158	2.816
Mersin	27	4.770	25,9	3.316	917	86,1	5	604	3.047
İstanbul	235	40.697	26,2	23.750	7.658	71,9	4,9	4.970	3.123
İzmir	60	12.248	28	6.440	1.904	62,3	4,4	1.348	3.240
Kars	8	743	26	567	92	87,1	3,2	97	2.942
Kastamonu	18	1.090	28,7	693	112	70,9	3	116	3.271
Kayseri	27	4.573	32,5	2.908	878	78,7	6,2	452	3.114
Kırklareli	10	912	25,2	611	145	79,7	4	115	3.146
Kırşehir	5	472	19,4	406	66	100	2,7	81	2.999
Kocaeli	28	4.559	23,3	3.091	930	85,2	4,8	579	3.373

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

Table 7.19. Some Health Indicators by Provinces, 2019 - Continued

City	Number of Hospital	Number of Bed	Number of Hospital Bed per 10.000 Population	Number of Qualified Bed	Number of Intensive Care Unit Bed	Proportion of Qualified Bed (Intensive care unit beds are not included.)	Intensive Care Unit Bed per 10.000 Population	Number of Family Medicine Unit	Population per Family Medicine Unit
Konya	45	7.597	34	4.952	1.235	77,8	5,5	697	3.203
Kütahya	13	1.886	32,6	1.209	217	72,4	3,7	195	2.971
Malatya	18	2.954	36,9	1.925	598	81,7	7,5	271	2.953
Manisa	29	4.730	32,8	3.223	721	80,4	5,0	451	3.194
Kahramanmaraş	18	2.947	25,5	1.665	740	75,4	6,4	378	3.053
Mardin	12	1.446	17,2	951	303	83,2	3,6	256	3.276
Muğla	21	2.065	21	1.420	251	78,3	2,6	308	3.192
Muş	7	770	18,8	599	101	89,5	2,5	126	3.245
Nevşehir	10	697	23	591	96	98,3	3,2	102	2.971
Niğde	8	888	24,5	594	120	77,3	3,3	122	2.974
Ordu	17	2.229	29,6	1.302	341	69	4,5	227	3.322
Rize	11	1.121	32,7	861	100	84,3	2,9	103	3.332
Sakarya	19	1.936	18,8	1.479	316	91,3	3,1	314	3.279
Samsun	26	4.935	36,6	3.357	772	80,6	5,7	414	3.257
Siirt	9	858	26	673	124	91,7	3,8	105	3.146
Sinop	7	585	26,8	468	77	92,1	3,5	65	3.358
Sivas	20	2.630	41,2	1.332	353	58,5	5,5	210	3.043
Tekirdağ	19	2.748	26	1.711	557	78,1	5,3	327	3.228
Tokat	15	2.249	36,7	1.783	250	89,2	4,1	199	3.079
Trabzon	21	3.242	40,1	1.962	389	68,8	4,8	268	3.019
Tunceli	6	150	17,7	132	18	100	2,1	29	2.919
Şanlıurfa	19	3.980	19,2	2.051	1.023	69,4	4,9	619	3.350
Uşak	8	1.235	33,3	820	147	75,4	4,0	125	2.964
Van	14	3.020	26,6	2.290	558	93	4,9	355	3.202
Yozgat	16	1.286	30,5	1.069	124	92	2,9	143	2.945
Zonguldak	12	2.252	37,8	1.015	305	52,1	5,1	195	3.057
Aksaray	10	834	20	534	139	76,8	3,3	137	3.039
Bayburt	1	200	23,6	134	23	75,7	2,7	31	2.737
Karaman	7	598	23,6	506	92	100	3,6	93	2.723
Kırıkkale	7	1.254	44,3	681	153	61,9	5,4	94	3.011
Batman	12	1.325	21,8	747	407	81,4	6,7	195	3.121
Şırnak	7	631	11,9	458	68	81,3	1,3	174	3.044
Bartın	3	432	21,8	156	69	43	3,5	74	2.679
Ardahan	3	210	21,6	186	24	100	2,5	36	2.703
Iğdır	4	313	15,7	249	36	89,9	1,8	64	3.116
Yalova	7	620	22,9	372	158	80,5	5,8	79	3.430
Karabük	6	691	27,8	533	114	92,4	4,6	84	2.958
Kilis	2	321	22,5	259	48	94,9	3,4	46	3.098
Osmaniye	10	1.295	24	688	312	70	5,8	188	2.866
Düzce	8	793	20,2	531	103	77	2,6	124	3.163
Turkey	1.538	237.504	28,6	147.655	39.955	74,7	4,8	26.476	3.141

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

Explanations for Chapter 7

☑ Except for the tables regarding to the actively hospitals on 31.12.2019 (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, graphics where the infrastructure and services of the hospitals are provided.

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

☑ The value of the provinces was rounded up to the closest whole number while making Map 7.5, Map 7.8 and Map 7.9 in the Chapter. The value of the provinces was rounded up to 1 decimal place while making Map 7.1, Map 7.2, Map 7.3, Map 7.4, Map 7.6 and Map 7.7 in in the Chapter. These whole numbers were considered while creating the Likert scales.

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

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

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

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

☑ According to the Circular "Staging Health Service Providers" published by the Ministry of Health, General Directorate of Health Services on 31/05/2019, E2-E3 Integrated District State Hospitals were defined as primary health care institutions and E1 Integrated District State Hospitals as secondary health institutions.

☑ Integrated District State Hospitals, which serve as primary health care institutions throughout the year, were included in the calculations in tables, figures and maps of the Ministry of Health hospitals.

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

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

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

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

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

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

☑ The number of KETEM is the fixed number of KETEM’s registered in CKYS.

☑ The data for Family Health Centers examination rooms belong to Health Center for 2002, and Family Health Centers for 2015-2019.



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	2015	2016	2017	2018	2019
Health Center	69.103.517	-	-	-	-	-
Family Medicine	-	208.538.951	205.549.931	228.098.527	258.436.607	278.043.149
Tuberculosis Control Dispensary	2.012.458	1.495.558	1.374.153	1.391.817	1.332.580	1.256.364
CEKUS Unit*	2.980.481	548.433	525.011	646.856	366.095	309.984
Other Examinations Made by CHCs*	-	3.457.520	8.080.631	4.496.425	4.821.348	3.959.746
Private Outpatient Clinics	731.132	523.694	461.013	501.993	539.593	629.221
E2-E3 Integrated District State Hospitals	-	2.916.890	3.205.116	3.356.809	3.577.348	3.903.402
Primary Health Care Facilities Total	**74.827.588**	**217.481.046**	**219.195.855**	**238.492.427**	**269.073.571**	**288.101.866**
Specialty Medical Centers	9.824.802	26.953.360	22.069.610	18.912.829	19.055.722	18.298.592
Hospitals**	**124.313.659**	**415.665.041**	**444.443.714**	**461.519.553**	**494.385.911**	**506.503.164**
Ministry of Health	109.793.128	303.908.634	336.875.423	350.347.005	377.045.707	387.622.848
University	8.823.361	34.539.363	36.420.413	38.963.933	42.665.139	46.211.148
Private	5.697.170	77.217.044	71.147.878	72.208.615	74.675.065	72.669.168
Secondary and Tertiary Health Care Total	**134.138.461**	**442.618.401**	**466.513.324**	**480.432.382**	**513.441.633**	**524.801.756**
Total	208.966.049	660.099.447	685.709.179	718.924.809	782.515.204	812.903.622

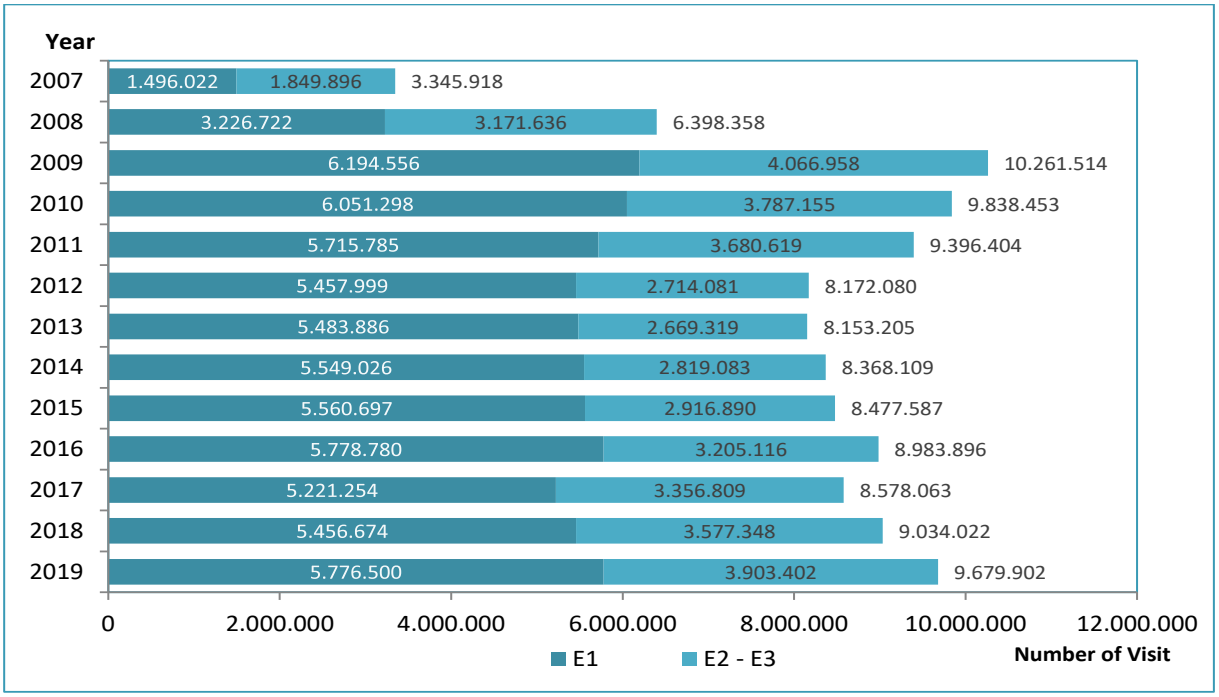
Source: General Directorate of Public Health, General Directorate of Health Services

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

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

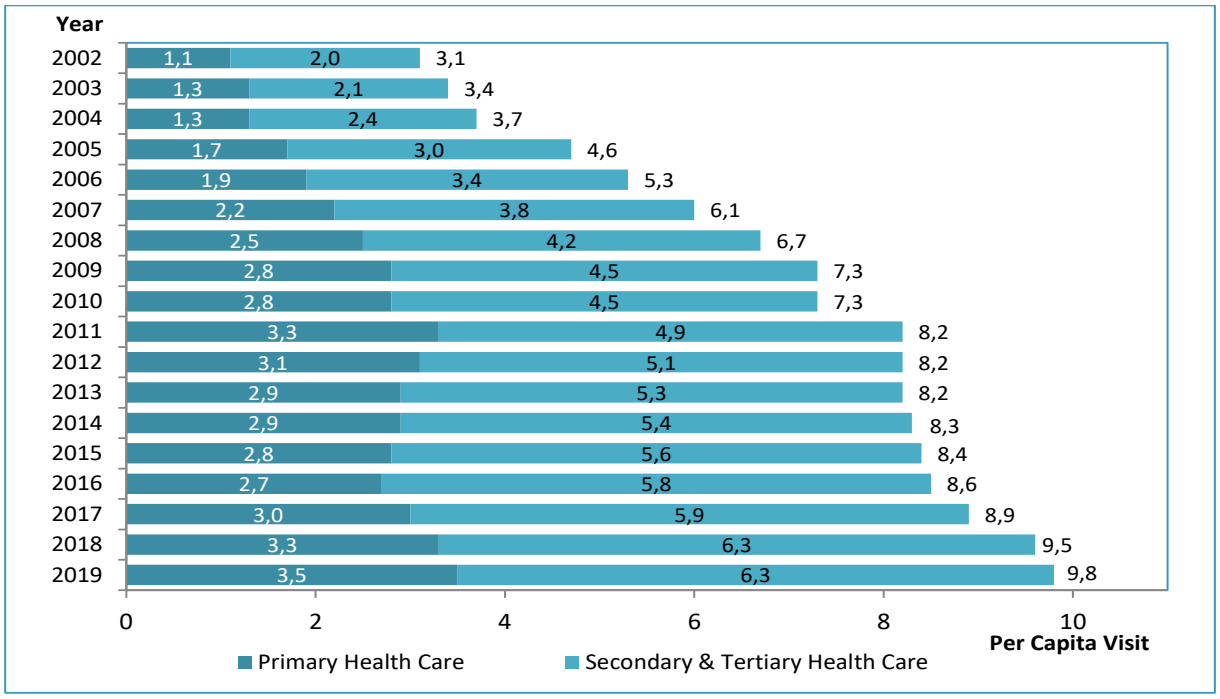
Note: The number of visits to a dentist is not included.

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



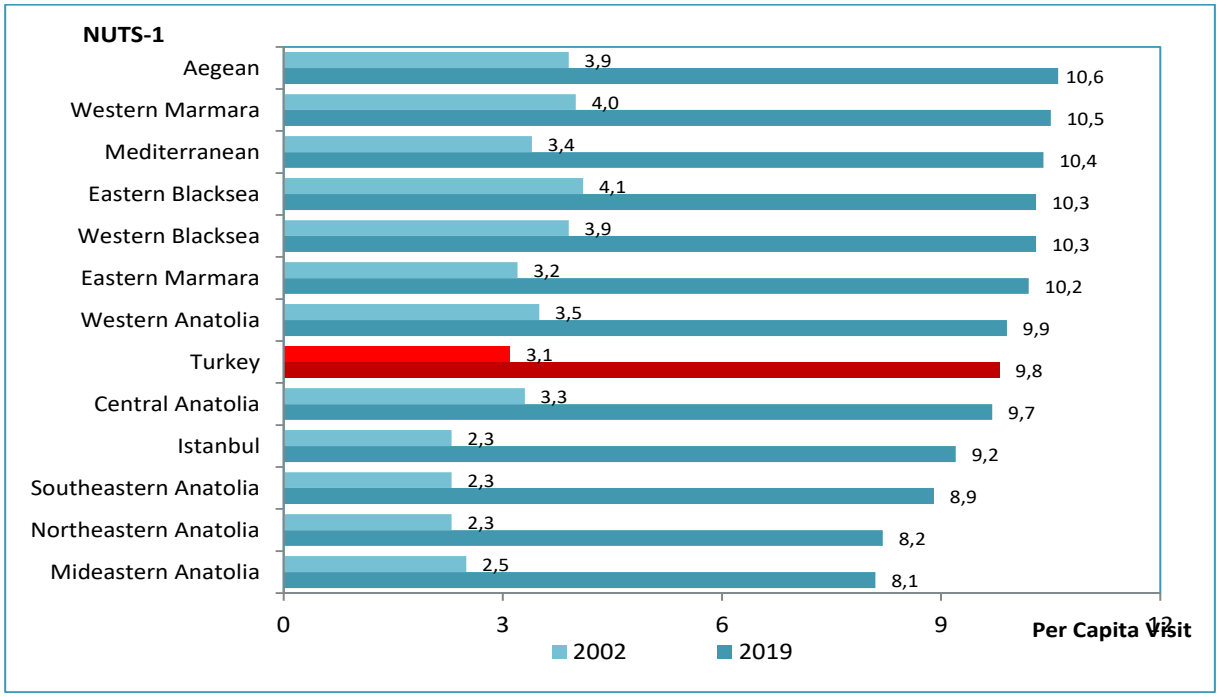
Source: General Directorate of Public Health, General Directorate of Health Services

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



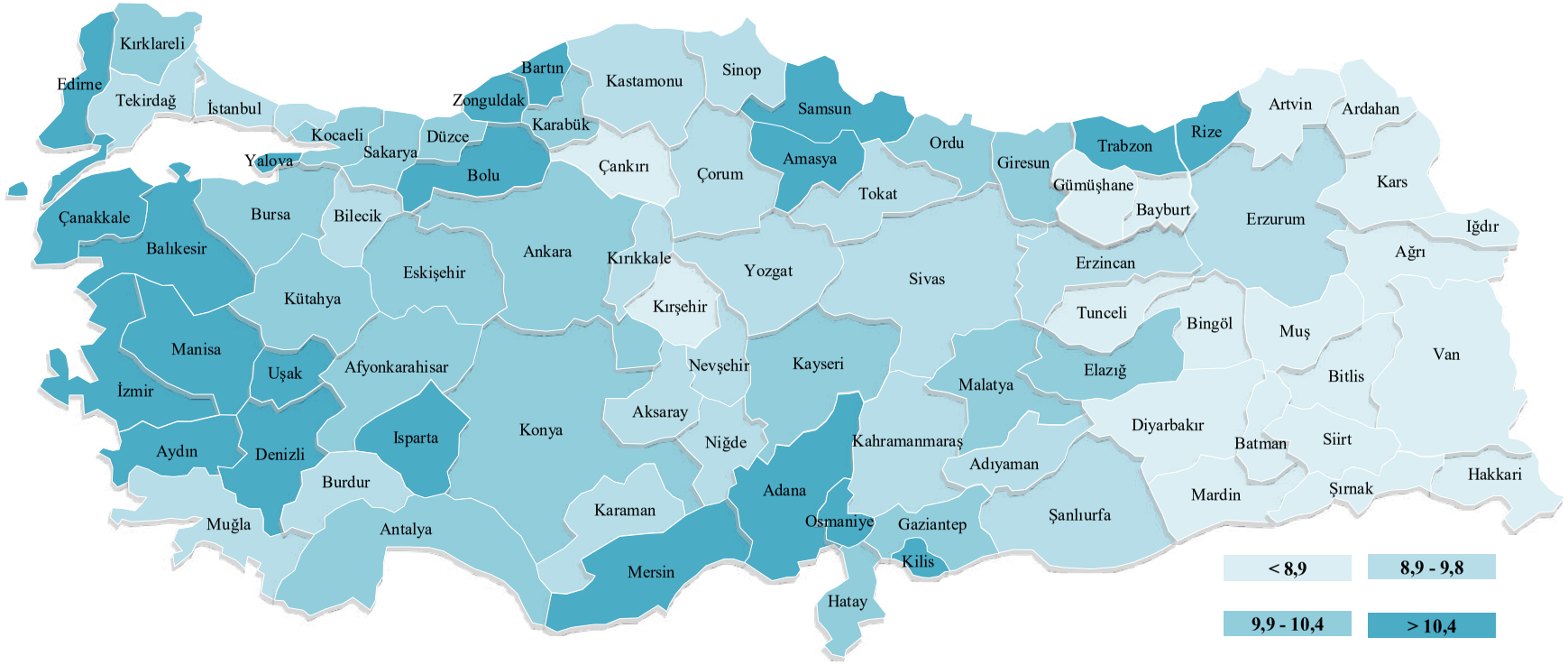
Source: General Directorate of Public Health, General Directorate of Health Services
Note: Prior year data changed due to categorize of integrated district state hospitals.

Figure 8.3. Per Capita Visits to a Physician in Health Care Facilities by NUTS-1, All Sectors, 2002, 2019



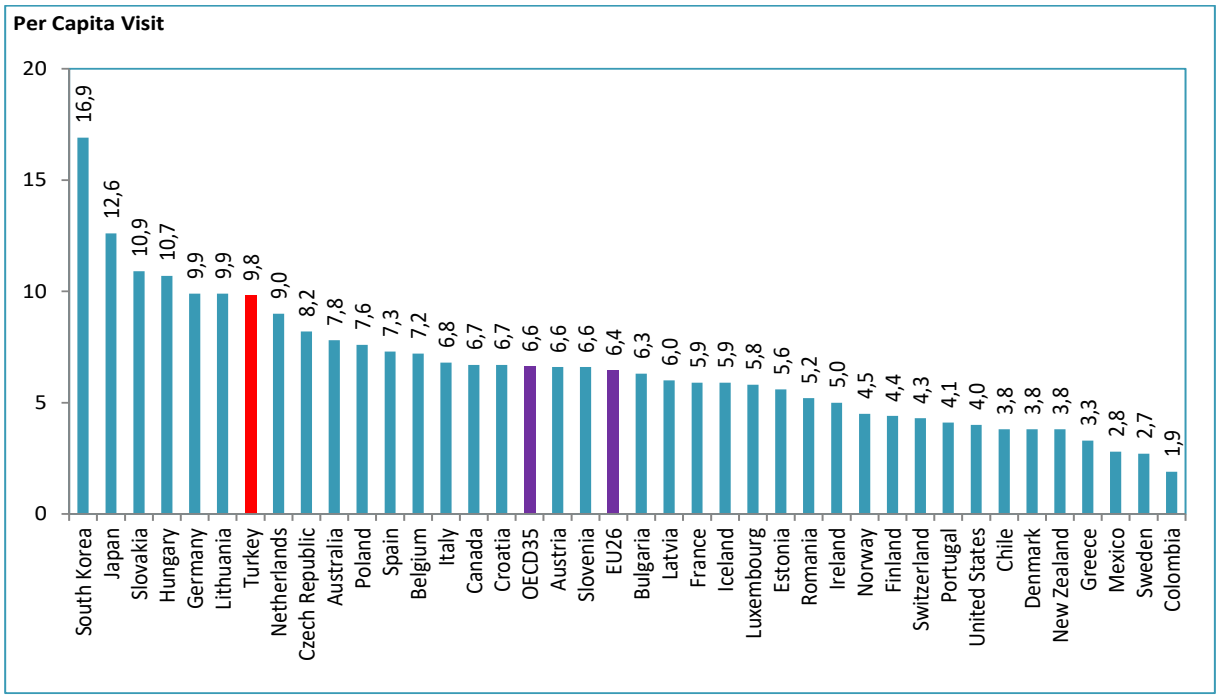
Source: General Directorate of Public Health, General Directorate of Health Services

Map 8.1. Per Capita Visits to a Physician in Health Care Facilities by Provinces, All Sectors, 2019



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

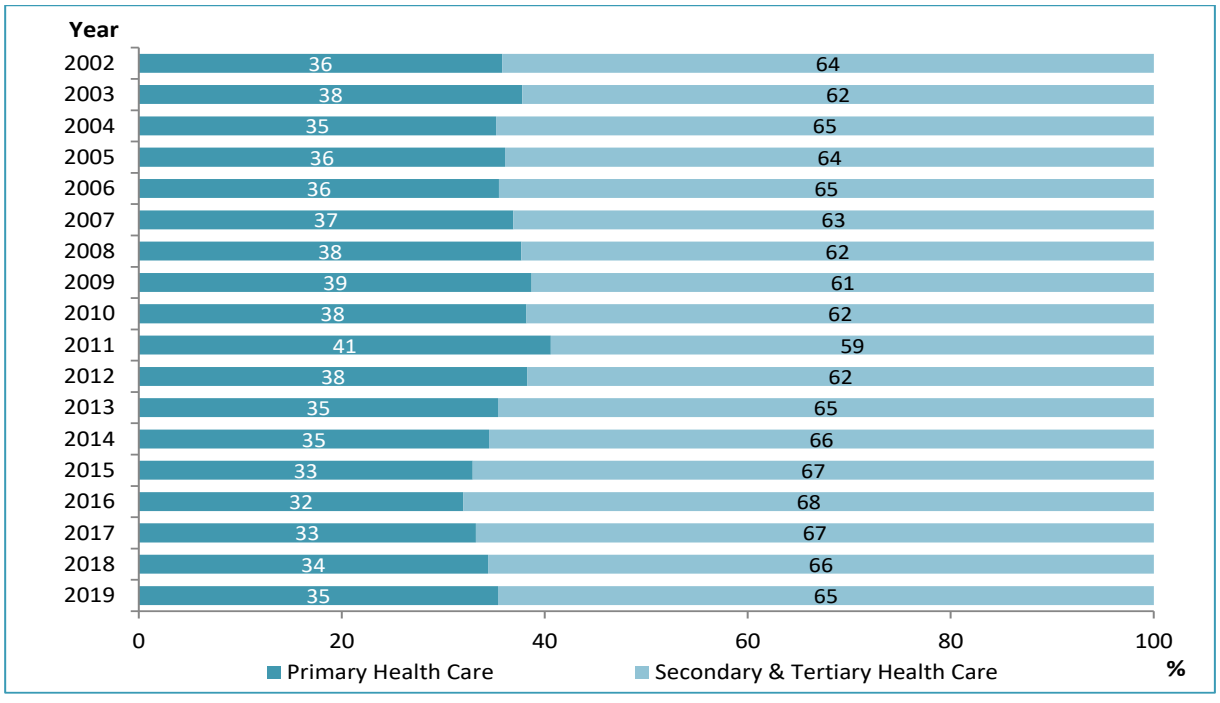
Figure 8.4. International Comparison of per Capita Visits to a Physician, 2018



Source: General Directorate of Public Health, General Directorate of Health Services, EUROSTAT Database, OECD Health Data 2020

Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

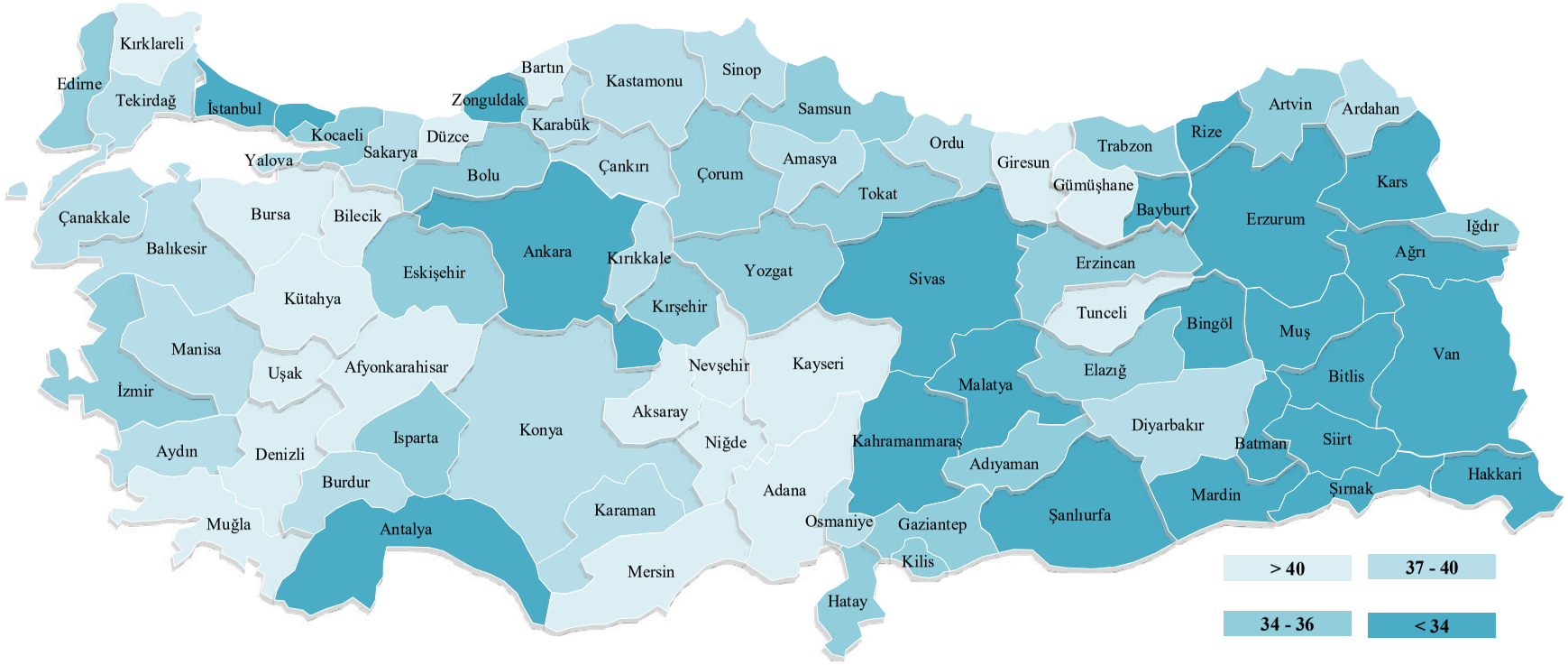
Figure 8.5. Ratio of Total Number of Visits to a Physician in Health Care Facilities by Years, (%), All Sectors



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

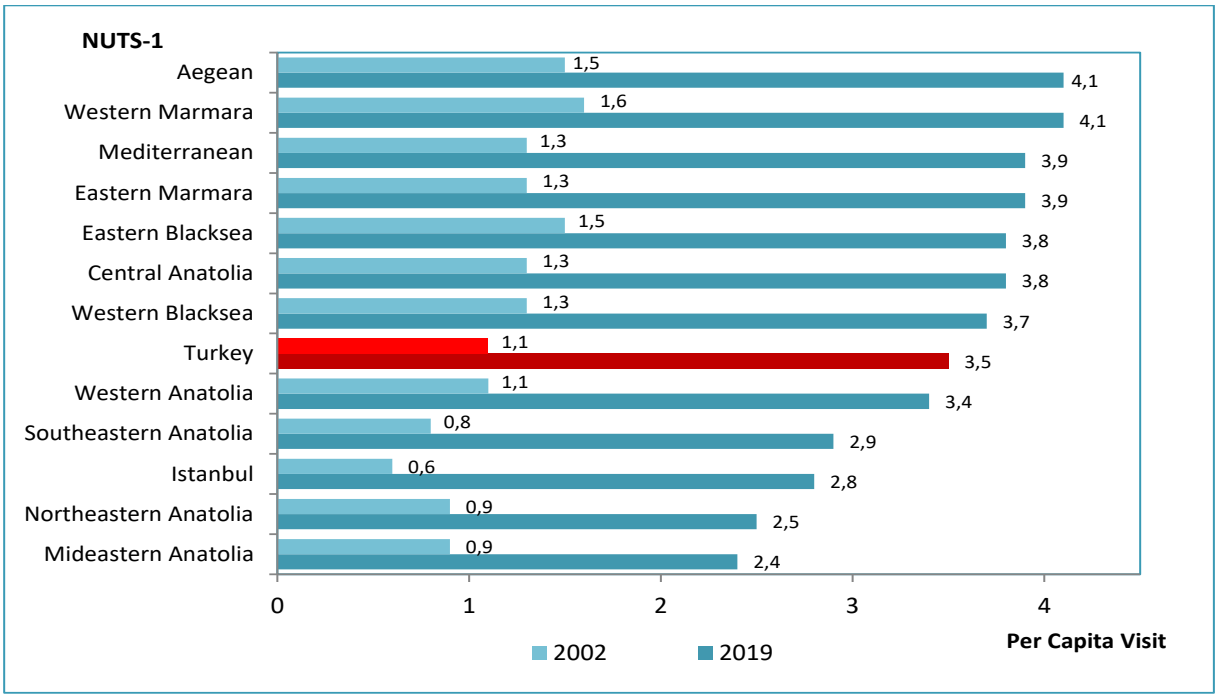
Note: Prior year data changed due to categorize of integrated district state hospitals.

Map 8.2. Proportion of Visits to a Physician at Primary Health Care Facilities to All Sectors by Provinces, (%), 2019



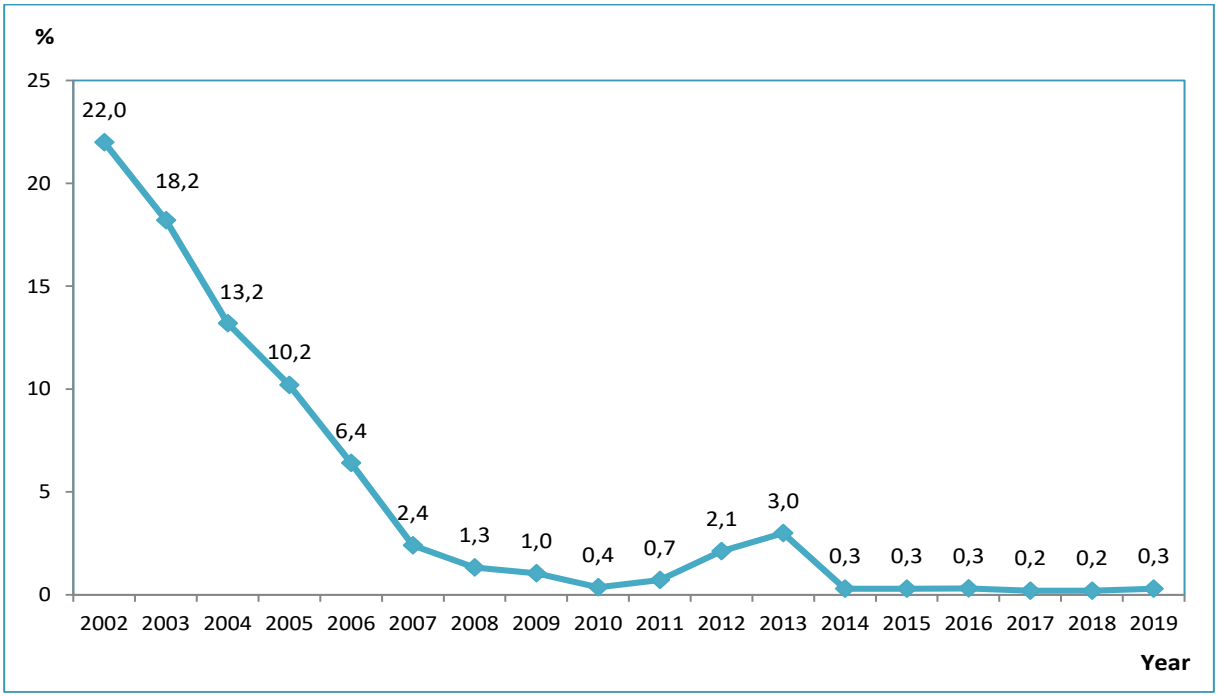
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.6. Per Capita Visits to a Physician at Primary Health Care Facilities by NUTS-1, All Sectors, 2002, 2019



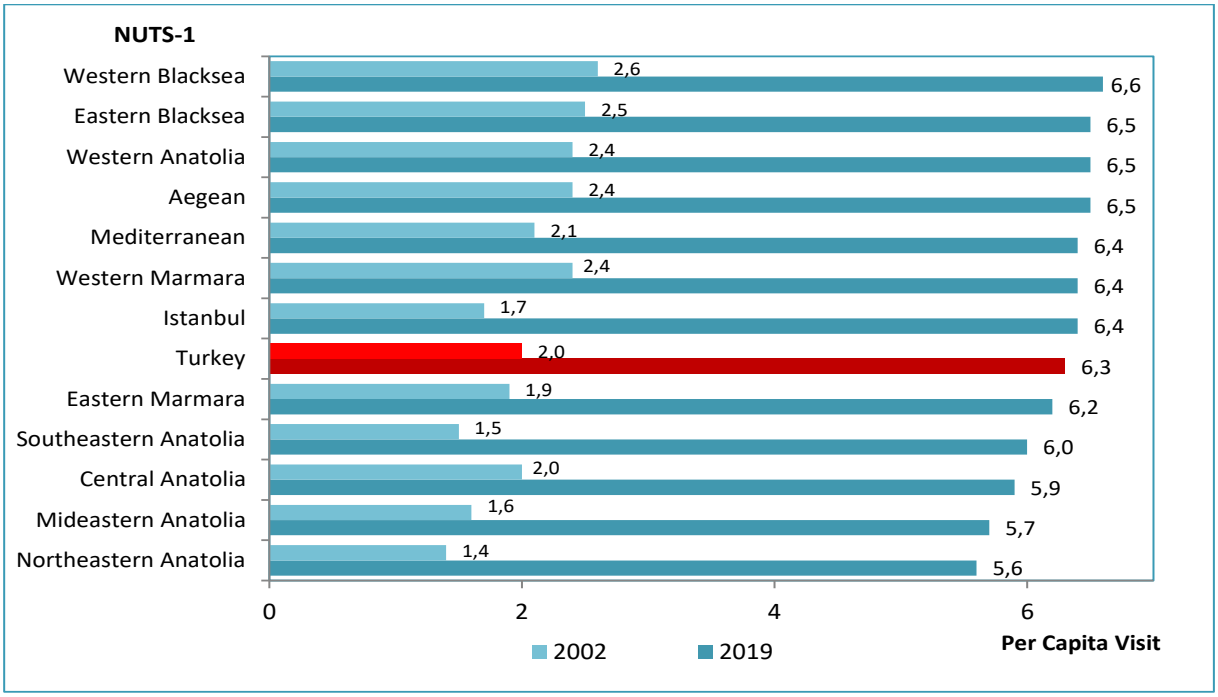
Source: General Directorate of Public Health, General Directorate of Health Services

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



Source: General Directorate of Public Health

Figure 8.8. Per Capita Visits to a Physician at Secondary and Tertiary Health Care Facilities by NUTS-1, All Sectors, 2002, 2019



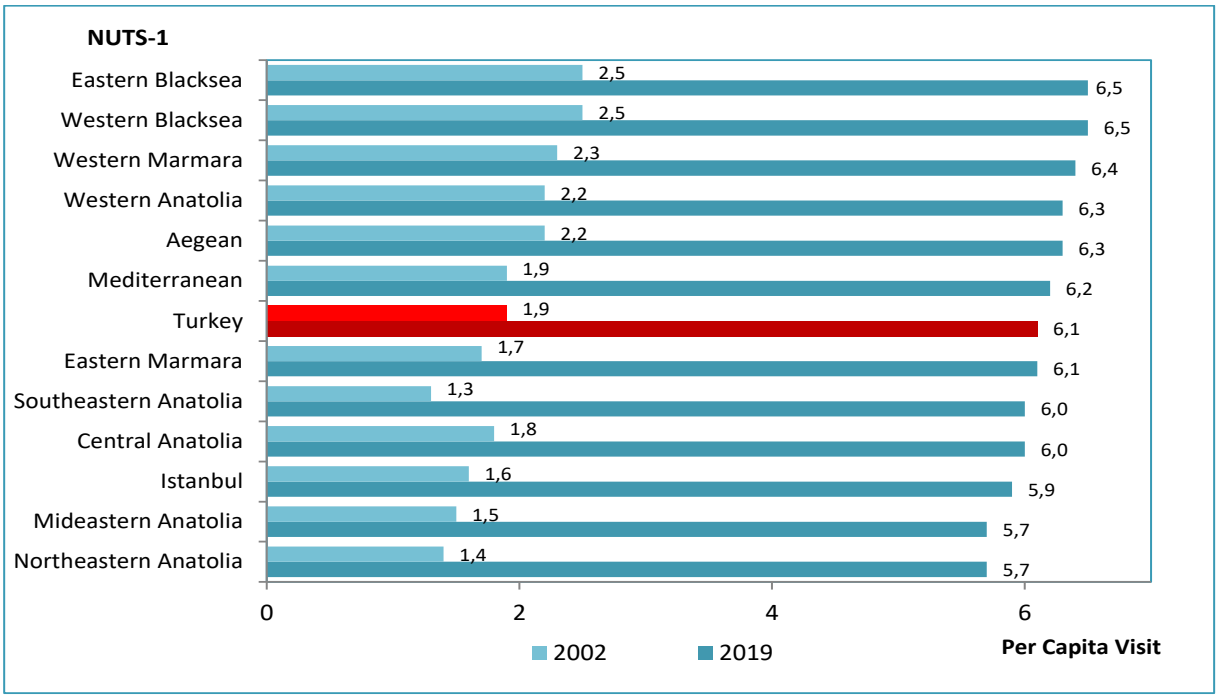
Source: General Directorate of Health Services

Table 8.2. Per Capita Hospital Visits by Years and Sectors

	2002	2015	2016	2017	2018	2019
Ministry of Health	1,7	3,9	4,3	4,4	4,6	4,7
University	0,1	0,4	0,5	0,5	0,5	0,6
Private	0,1	1,0	0,9	0,9	0,9	0,9
Total	1,9	5,3	5,6	5,8	6,1	6,1

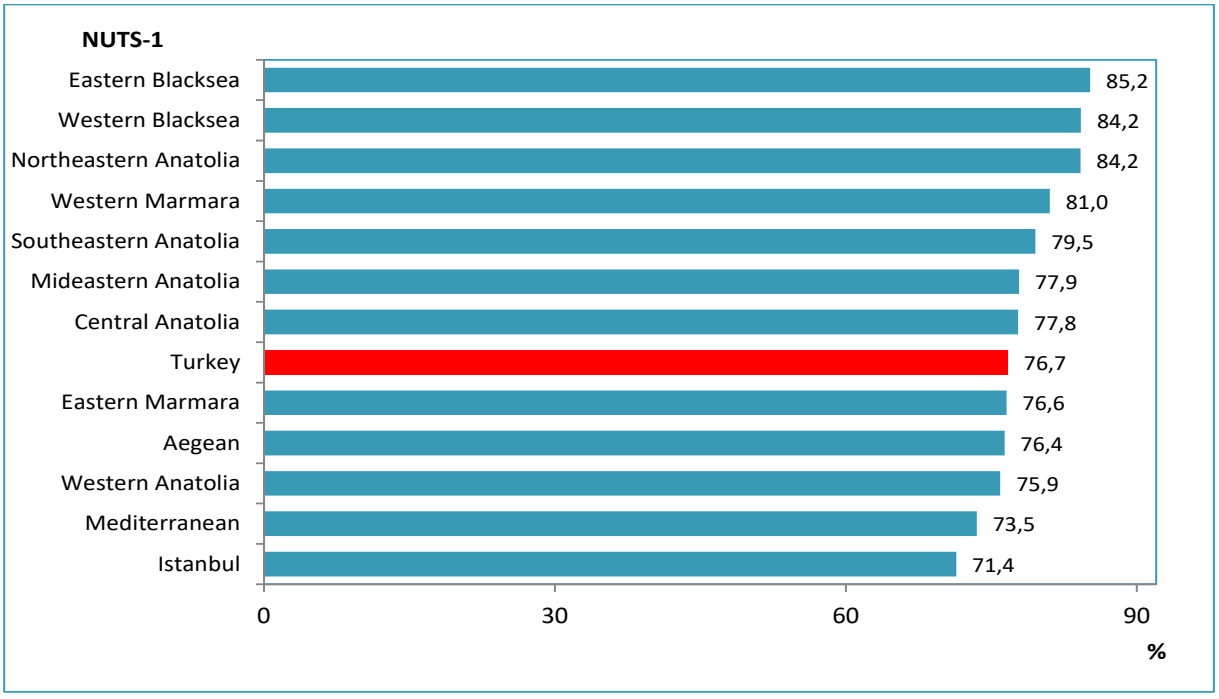
Source: General Directorate of Health Services
Note: The number of visits to E1, E2 and E3 Integrated District State Hospitals is included in the number of visits to a physician.

Figure 8.9. Per Capita Visits to Hospitals by NUTS-1, All Sectors, 2002, 2019



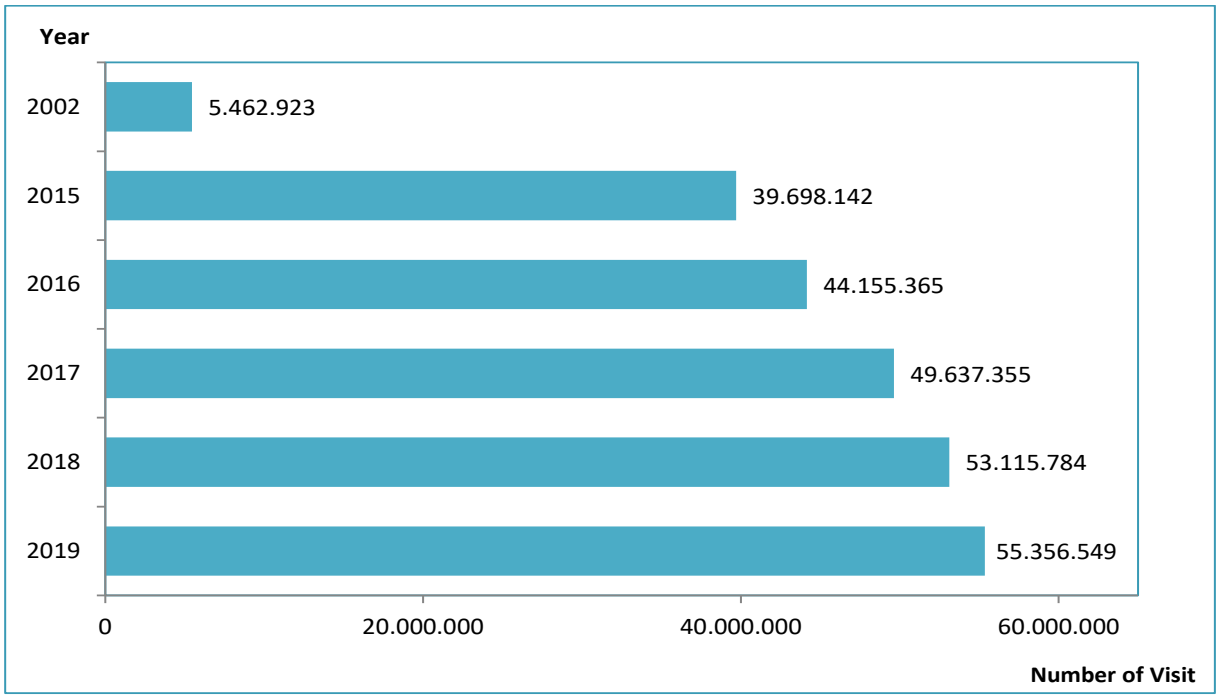
Source: General Directorate of Health Services
Note: The number of visits to E1, E2 and E3 Integrated District State Hospitals is included in the number of visits to a physician.

Figure 8.10. Proportion of Visits to MoH Hospitals to All Sectors by NUTS-1, (%), 2019



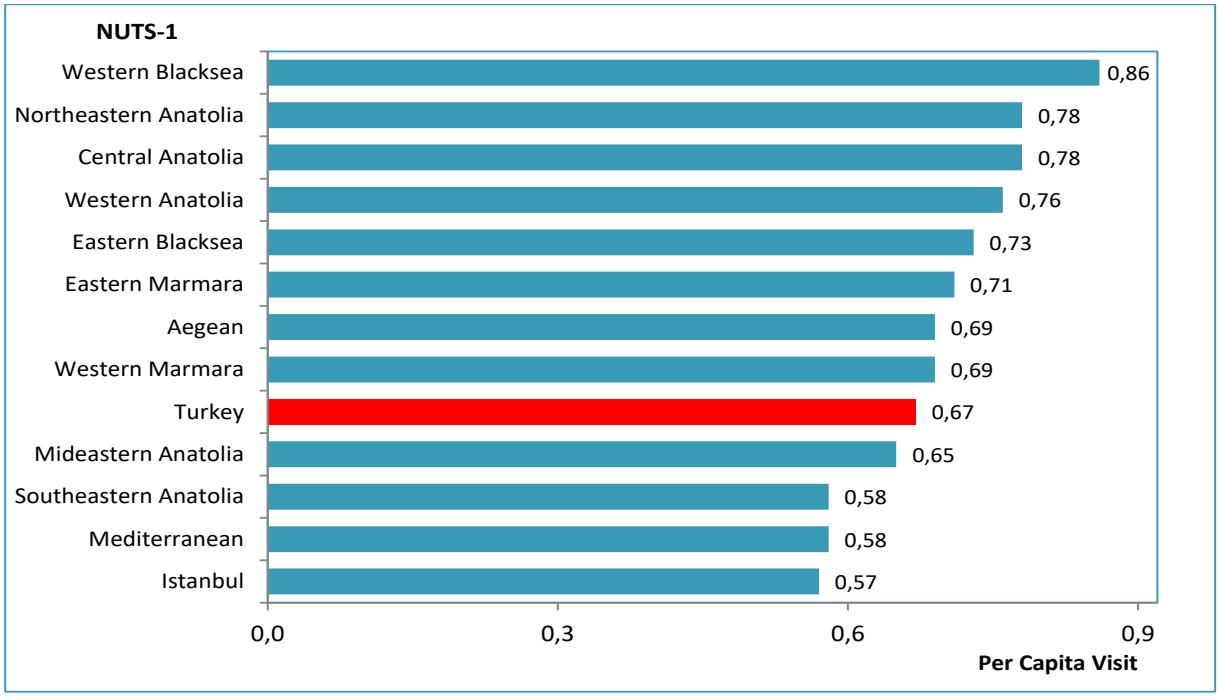
Source: General Directorate of Health Services
Note: The number of visits to E1, E2 and E3 Integrated District State Hospitals is included in the number of visits to a physician.

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



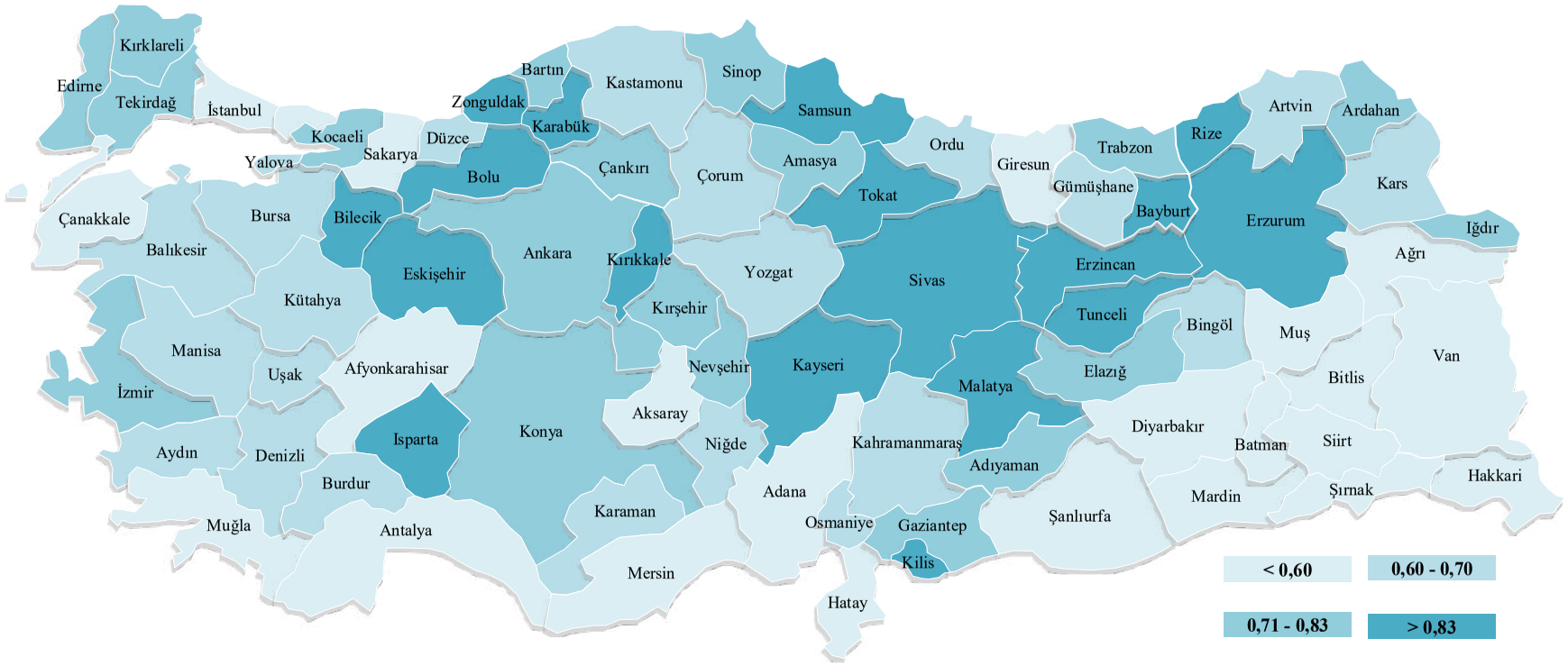
Source: General Directorate of Health Services
Note: In 2002, only the values of the Ministry of Health were published.

Figure 8.12. Per Capita Visits to a Dentist by NUTS-1, All Sectors, 2019



Source: General Directorate of Health Services

Map 8.3. Per Capita Visits to a Dentist by Provinces, All Sectors, 2019



Source: General Directorate of Health Services

Table 8.3. Total Number of Visits to All Physicians by Sectors, 2019

	Visits to Dentists	Total Visits (Visits to Dentists include)
Hospitals	**8.701.525**	**519.108.091**
Ministry of Health	7.520.347	399.046.597
University	384.770	46.595.918
Private	796.408	73.465.576
Dental Hospitals	**17.271.567**	**17.271.567**
Ministry of Health	10.890.422	10.890.422
University	6.304.655	6.304.655
Private	76.490	76.490
Specialty Medical Centers	389.347	18.687.939
Private Outpatient Clinics	10.969	640.190

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

Table 8.4. Number of Inpatients by Years and Sectors

	2002	2015	2016	2017	2018	2019
Ministry of Health	4.169.779	7.404.570	7.561.989	7.606.159	7.675.972	7.742.707
University	781.990	1.891.094	1.842.001	1.982.410	1.955.983	2.072.720
Private	556.494	4.237.453	4.048.696	4.120.734	4.019.422	3.990.922
Total	5.508.263	13.533.117	13.452.686	13.709.303	13.651.377	13.806.349

Source: General Directorate of Health Services

Table 8.5. Number of Inpatients in the MoH Hospitals and Its Proportion to All Sectors by NUTS-1, (%), 2019

NUTS-1	Ministry of Health	Total	Proportion of MoH (%)
Western Blacksea	523.851	809.741	64,7
Eastern Blacksea	345.364	536.970	64,3
Northeastern Anatolia	215.331	346.394	62,2
Southeastern Anatolia	934.245	1.508.074	61,9
Western Marmara	348.619	585.881	59,5
Eastern Marmara	743.957	1.295.407	57,4
Mideastern Anatolia	398.299	694.421	57,4
Aegean	983.711	1.746.978	56,3
Turkey	**7.742.707**	**13.806.349**	**56,1**
Central Anatolia	397.359	716.682	55,4
Mediterranean	1.111.521	2.045.993	54,3
Western Anatolia	748.205	1.387.161	53,9
Istanbul	992.245	2.132.647	46,5

Source: General Directorate of Health Services

Table 8.6. Number of Surgical Operations by Years and Sectors

	2002	2015	2016	2017	2018	2019
Ministry of Health	1.072.417	2.364.595	2.473.267	2.590.538	2.766.914	2.796.484
University	307.108	801.424	799.133	815.076	903.002	948.936
Private	218.837	1.604.126	1.499.829	1.525.685	1.531.822	1.478.395
Total	1.598.362	4.770.145	4.772.229	4.931.299	5.201.738	5.223.815

Source: General Directorate of Health Services

Table 8.7. Number and Distribution (%) of Surgical Operations by Surgical Operation Groups and Sectors, 2019

	A		B		C		Total	
	Number	%	Number	%	Number	%	Number	%
Ministry of Health	296.468	49,0	932.809	52,5	1.567.207	55,1	2.796.484	53,5
University	143.161	23,7	372.002	20,9	433.773	15,3	948.936	18,2
Private	164.956	27,3	471.095	26,5	842.344	29,6	1.478.395	28,3
Total	604.585	100	1.775.906	100	2.843.324	100	5.223.815	100

Source: General Directorate of Health Services

Table 8.8. Number of Surgical Operations per 1.000 Population by NUTS-1 and Sectors, 2019

NUTS-1	Ministry of Health	University	Private	Total
Western Anatolia	38,0	22,1	17,7	77,9
Mediterranean	39,9	13,7	19,8	73,4
Aegean	33,4	13,5	18,6	65,5
Istanbul	31,7	6,7	25,6	64,0
Turkey	**33,6**	**11,4**	**17,8**	**62,8**
Eastern Marmara	32,2	8,8	20,3	61,3
Western Blacksea	38,5	9,9	12,0	60,4
Eastern Blacksea	37,5	9,8	11,9	59,2
Western Marmara	35,8	8,2	12,4	56,4
Central Anatolia	29,2	12,7	13,7	55,6
Southeastern Anatolia	29,3	6,4	15,3	50,9
Northeastern Anatolia	31,0	14,8	3,7	49,5
Mideastern Anatolia	24,3	15,5	7,8	47,6

Source: General Directorate of Health Services

Table 8.9. Number of Surgical Operations per 1.000 Population by Surgical Operation Groups and NUTS-1, 2019

NUTS-1	A	B	C	Total
Western Anatolia	10,7	27,1	40,0	77,9
Mediterranean	7,8	25,1	40,5	73,4
Aegean	7,8	23,3	34,4	65,5
Istanbul	9,6	20,0	34,4	64,0
Turkey	**7,3**	**21,4**	**34,2**	**62,8**
Eastern Marmara	7,3	22,4	31,6	61,3
Western Blacksea	6,3	22,1	32,1	60,4
Eastern Blacksea	5,9	21,2	32,0	59,2
Western Marmara	5,6	19,4	31,4	56,4
Central Anatolia	4,7	19,1	31,7	55,6
Southeastern Anatolia	4,0	16,0	31,0	50,9
Northeastern Anatolia	3,7	16,8	29,0	49,5
Mideastern Anatolia	3,9	15,3	28,3	47,6

Source: General Directorate of Health Services

Table 8.10. Proportion of Surgical Operations to the Number of Visits to Hospitals by NUTS-1 and Sectors, (%), 2019

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

Source: General Directorate of Health Services

Table 8.11. Number of Days Stayed in Hospitals by Years and Sectors

	2002	2015	2016	2017	2018	2019
Ministry of Health	23.770.910	32.011.141	33.325.800	34.065.595	34.651.119	35.229.409
University	6.713.945	10.575.334	10.456.273	11.072.754	10.664.127	10.935.287
Private	1.730.661	10.649.770	10.368.845	11.032.616	11.326.789	11.336.841
Total	32.215.516	53.236.245	54.150.918	56.170.965	56.642.035	57.501.537

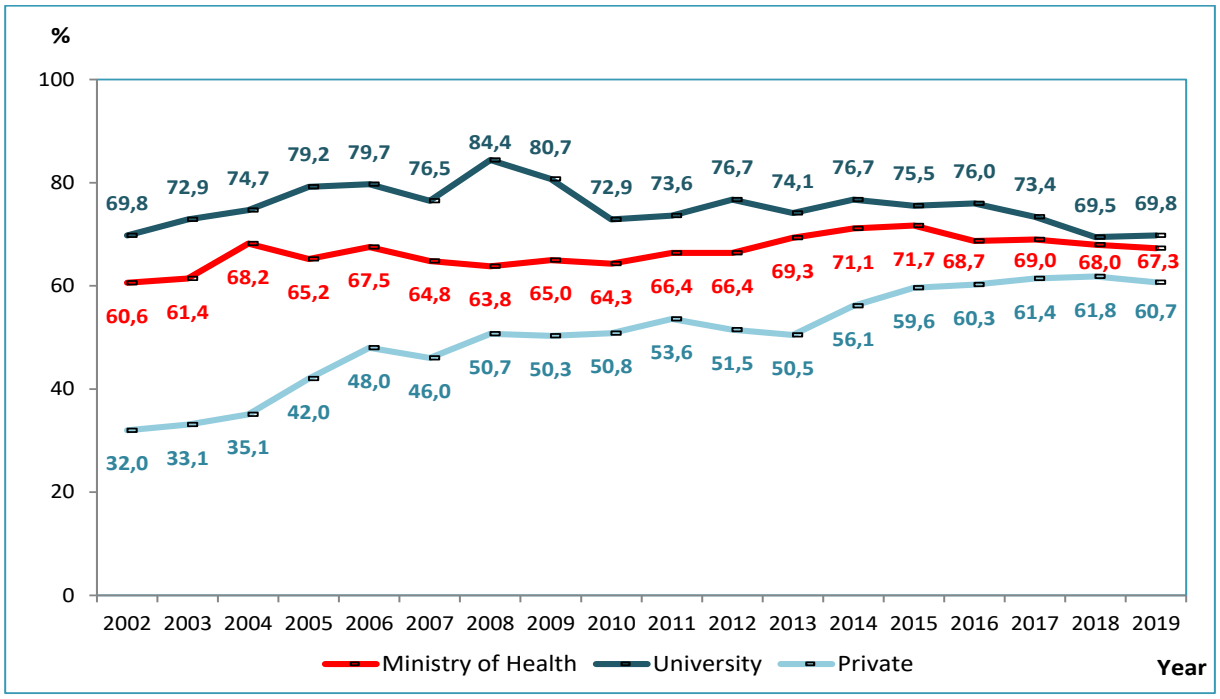
Source: General Directorate of Health Services

Table 8.12. Number of Days Stayed in the Hospitals by Years and NUTS-1, MoH

NUTS-1	2017	2018	2019
Northeastern Anatolia	1.018.924	980.317	925.009
Central Anatolia	1.625.812	1.602.884	1.604.379
Western Marmara	1.550.077	1.637.772	1.635.099
Eastern Blacksea	1.684.076	1.672.992	1.710.701
Mideastern Anatolia	1.675.644	1.679.189	1.713.997
Western Blacksea	2.607.858	2.607.776	2.578.487
Southeastern Anatolia	3.218.118	3.193.814	3.189.167
Eastern Marmara	3.580.443	3.512.920	3.601.247
Western Anatolia	3.751.417	3.859.502	3.836.014
Mediterranean	4.111.620	4.325.346	4.487.463
Aegean	4.643.888	4.685.574	4.782.204
Istanbul	4.597.718	4.893.033	5.165.642
Turkey	34.065.595	34.651.119	35.229.409

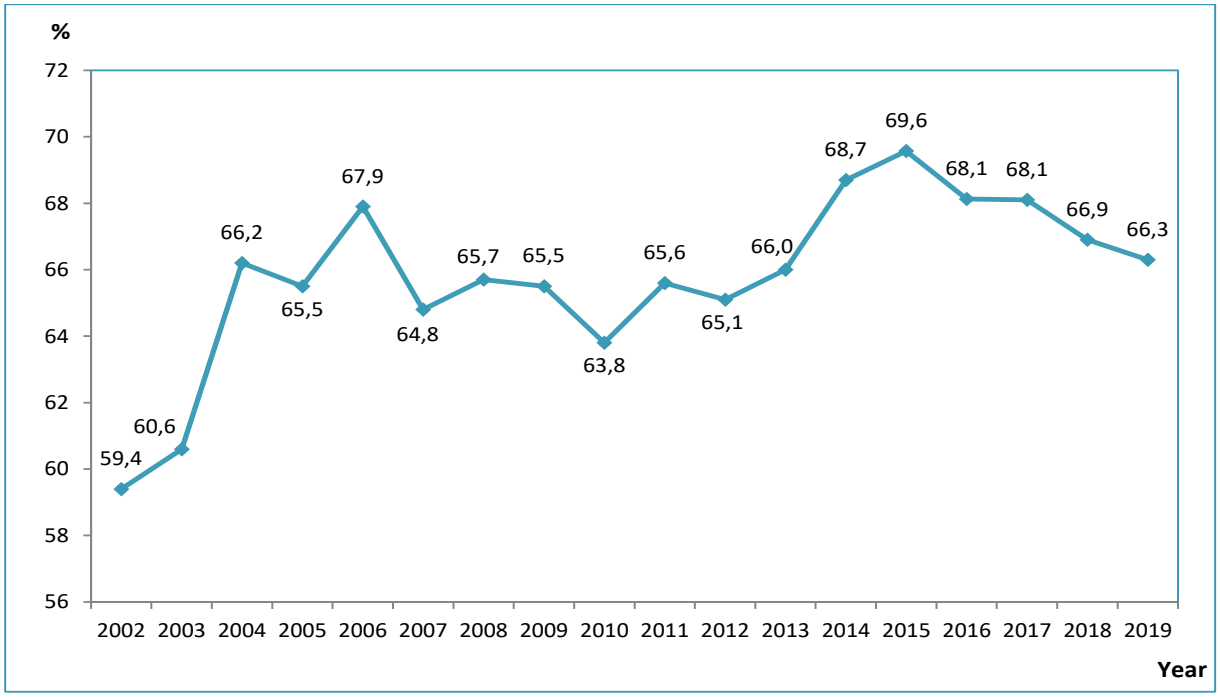
Source: General Directorate of Health Services

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



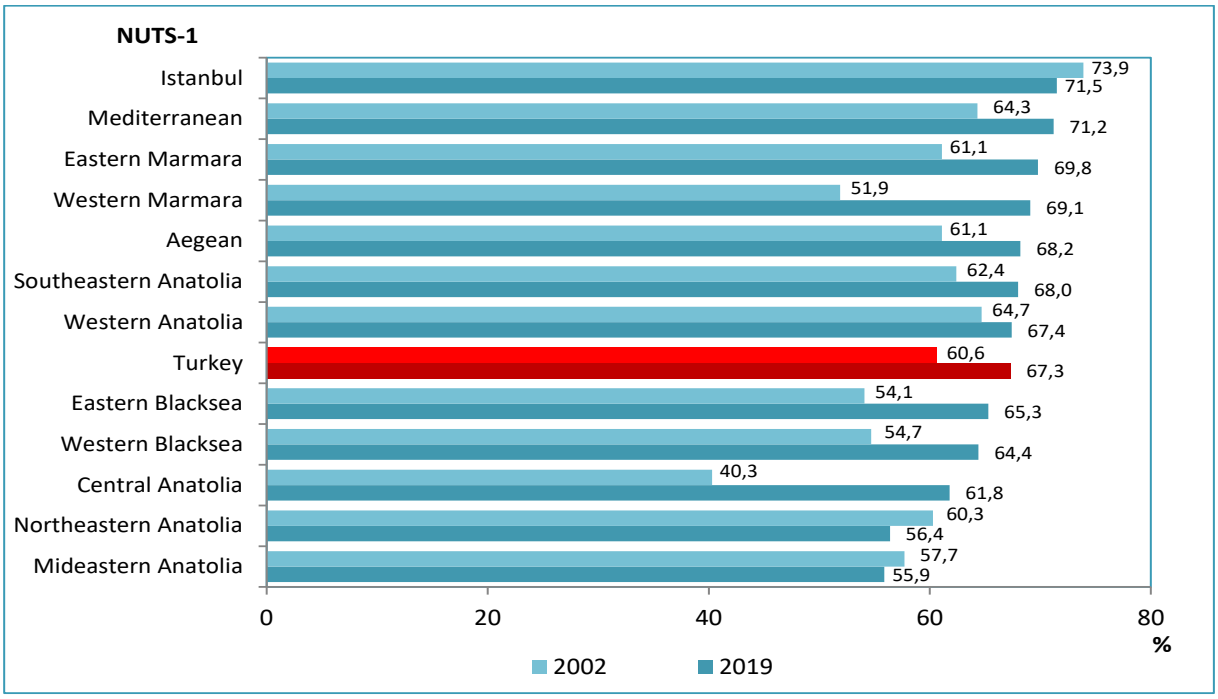
Source: General Directorate of Health Services

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



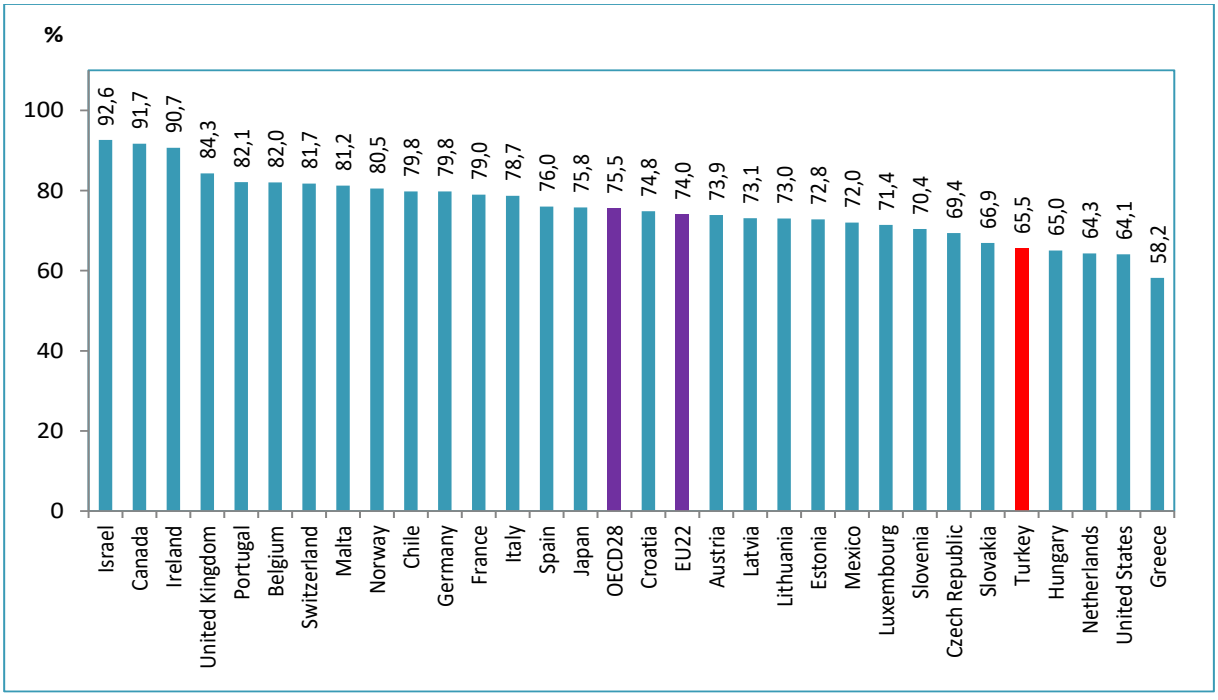
Source: General Directorate of Health Services

Figure 8.15. Bed Occupancy Rate in Hospitals by NUTS-1, Ministry of Health, (%), 2002, 2019



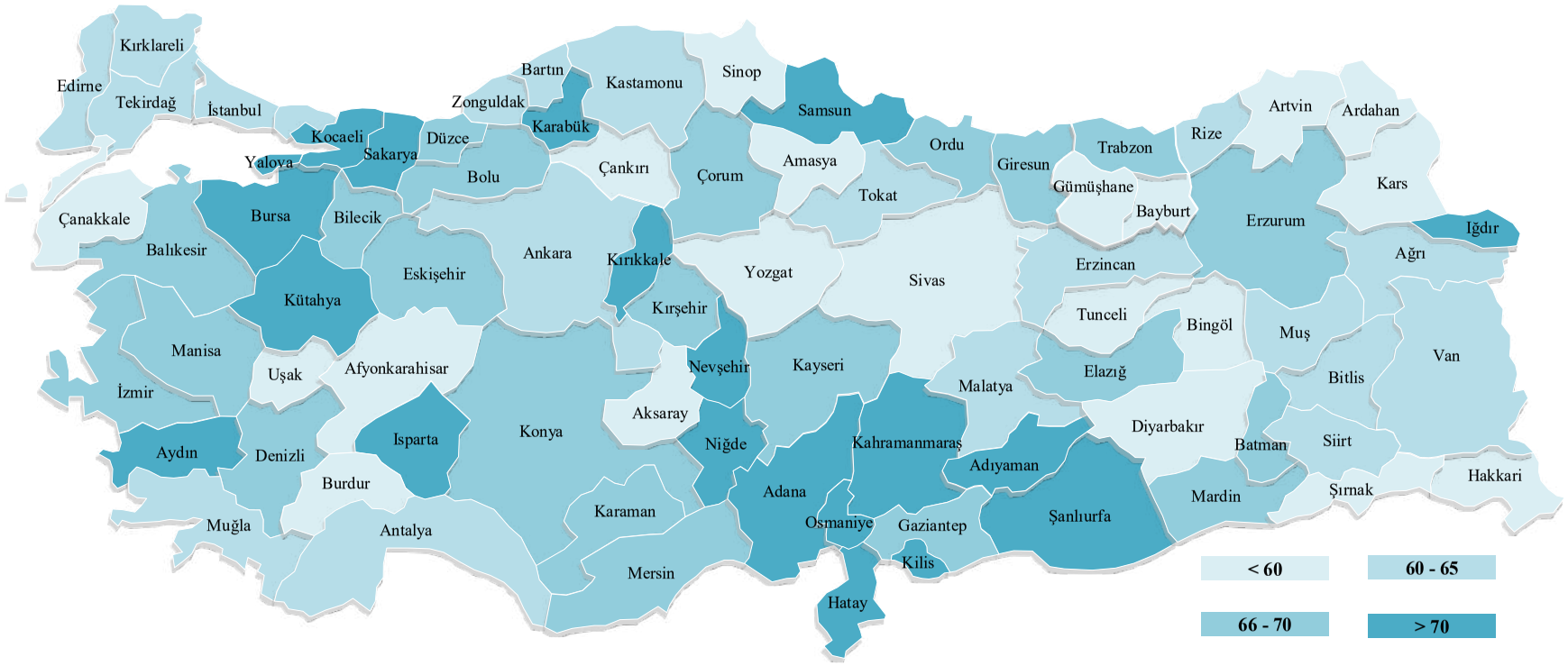
Source: General Directorate of Health Services

Figure 8.16. International Comparison of Acute Bed Occupancy Rate in Hospitals, 2018



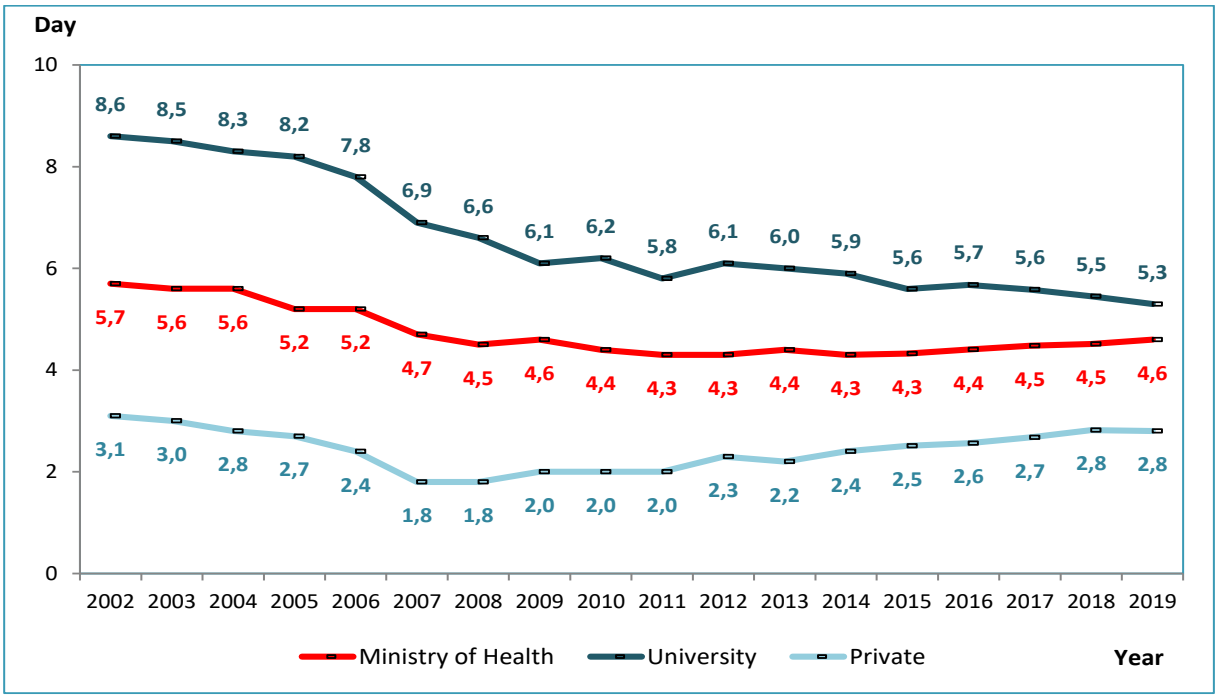
Source: General Directorate of Health Services, EUROSTAT Database, OECD Health Data 2020
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Map 8.4. Bed Occupancy Rate in Hospitals by Provinces, All Sectors, (%), 2019



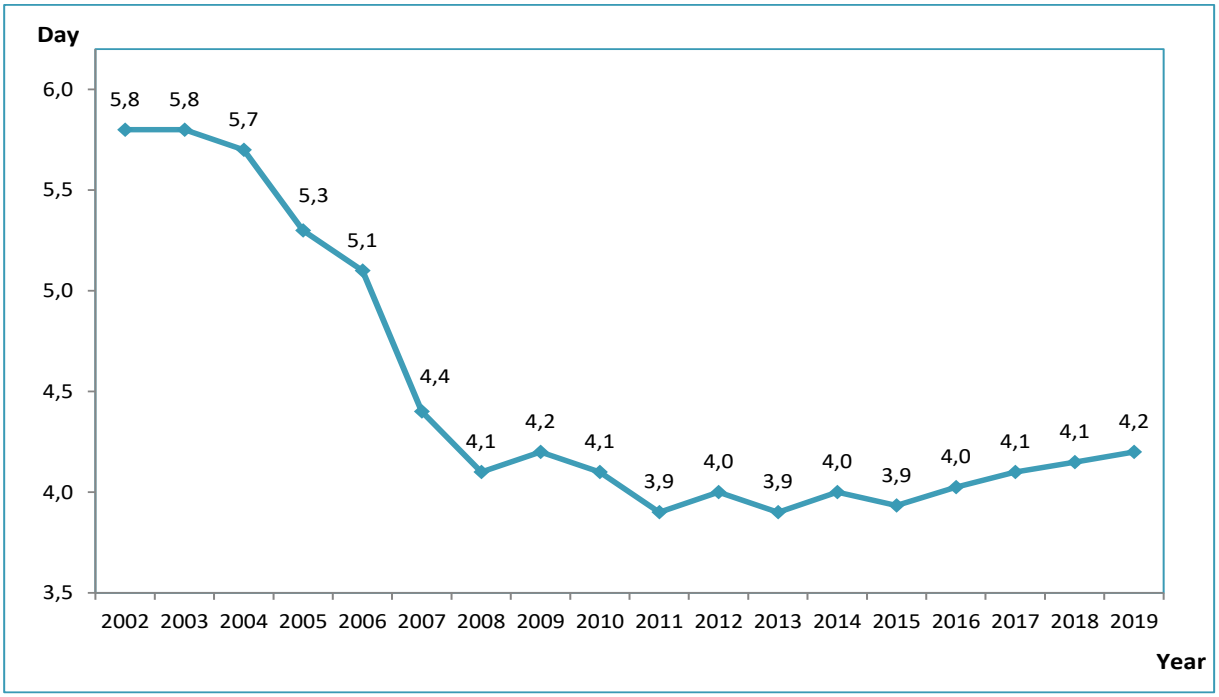
Source: General Directorate of Health Services

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



Source: General Directorate of Health Services

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



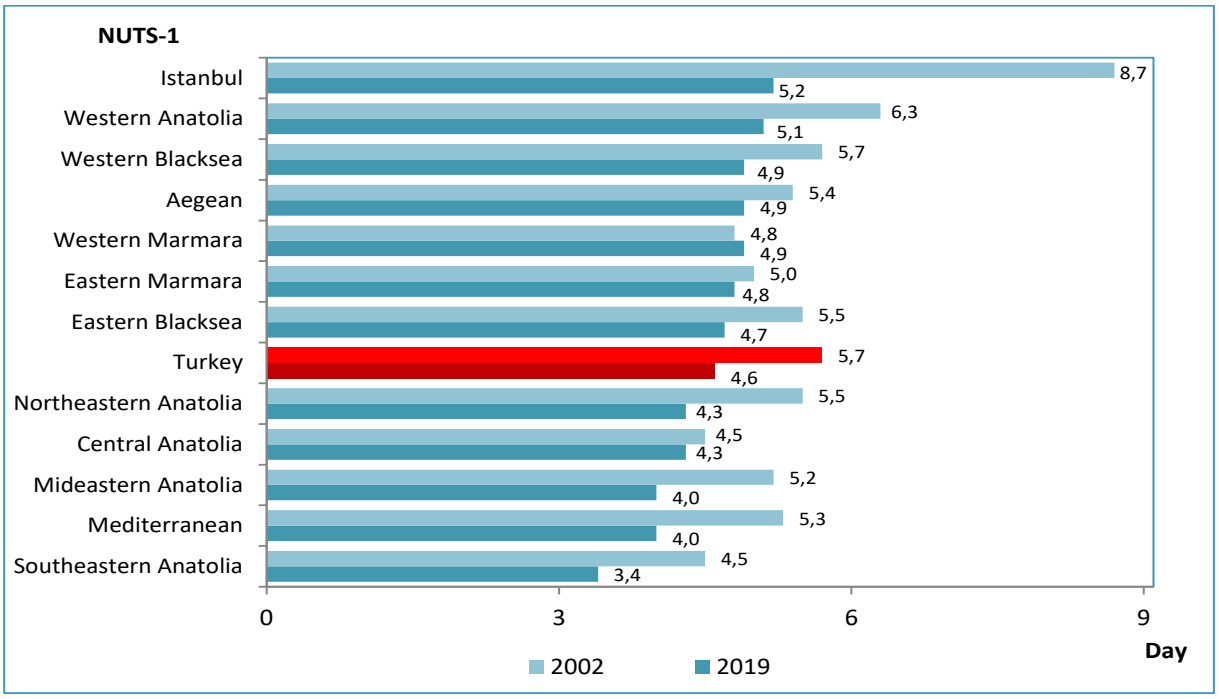
Source: General Directorate of Health Services

Table 8.13. Average Length of Stay in Hospitals by the ICD-10 Main Diagnosis Groups, All Sectors, 2016, 2017, 2018

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

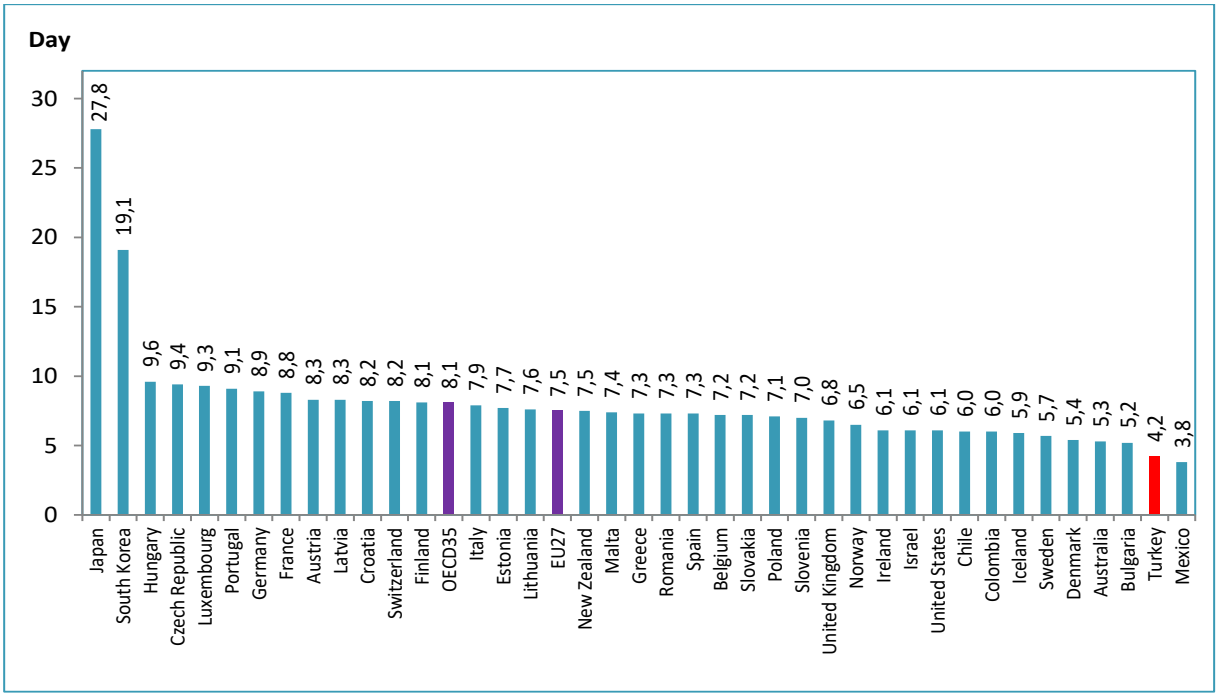
Source: General Directorate of Health Services Diagnosis-Related Groups Database

Figure 8.19. Average Length of Stay in Hospitals by NUTS-1, MoH, (Day), 2002, 2019



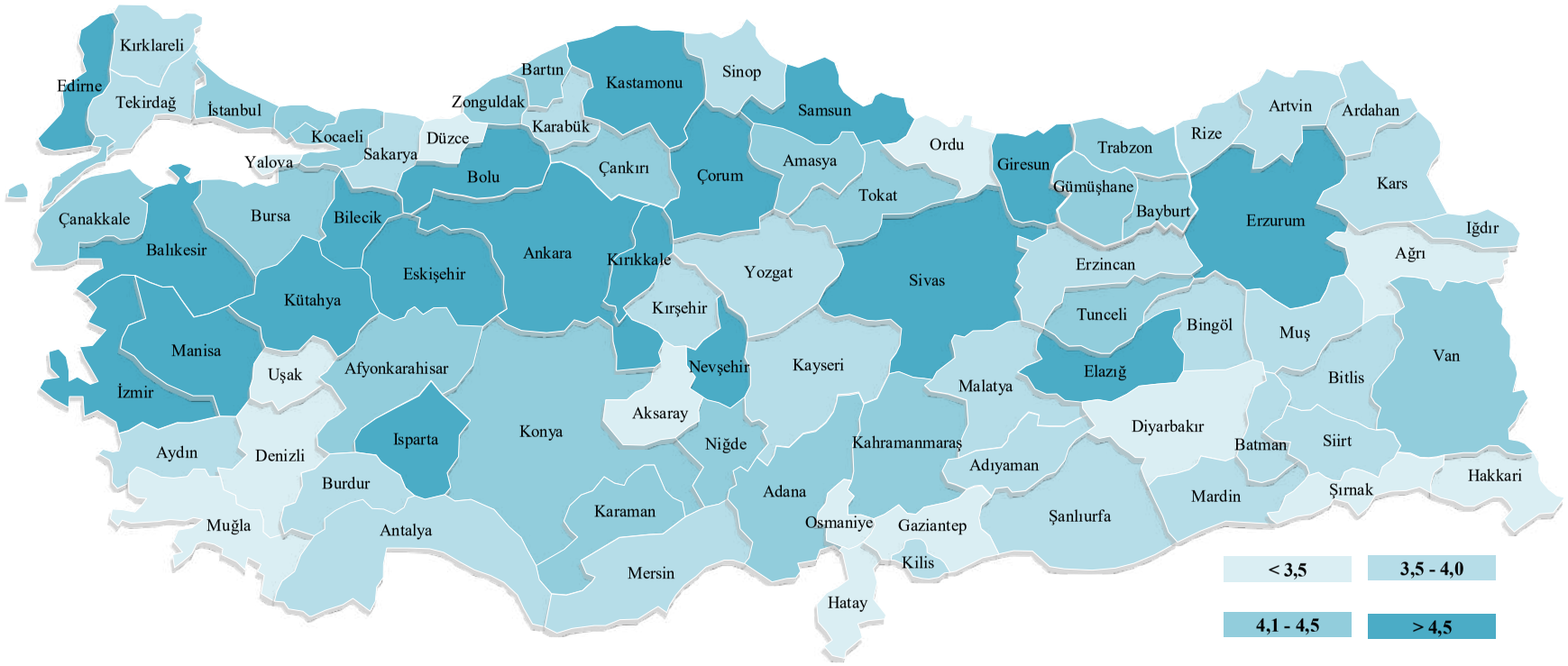
Source: General Directorate of Health Services

Figure 8.20. International Comparison of Average Length of Stay in Hospitals, (Day), 2018



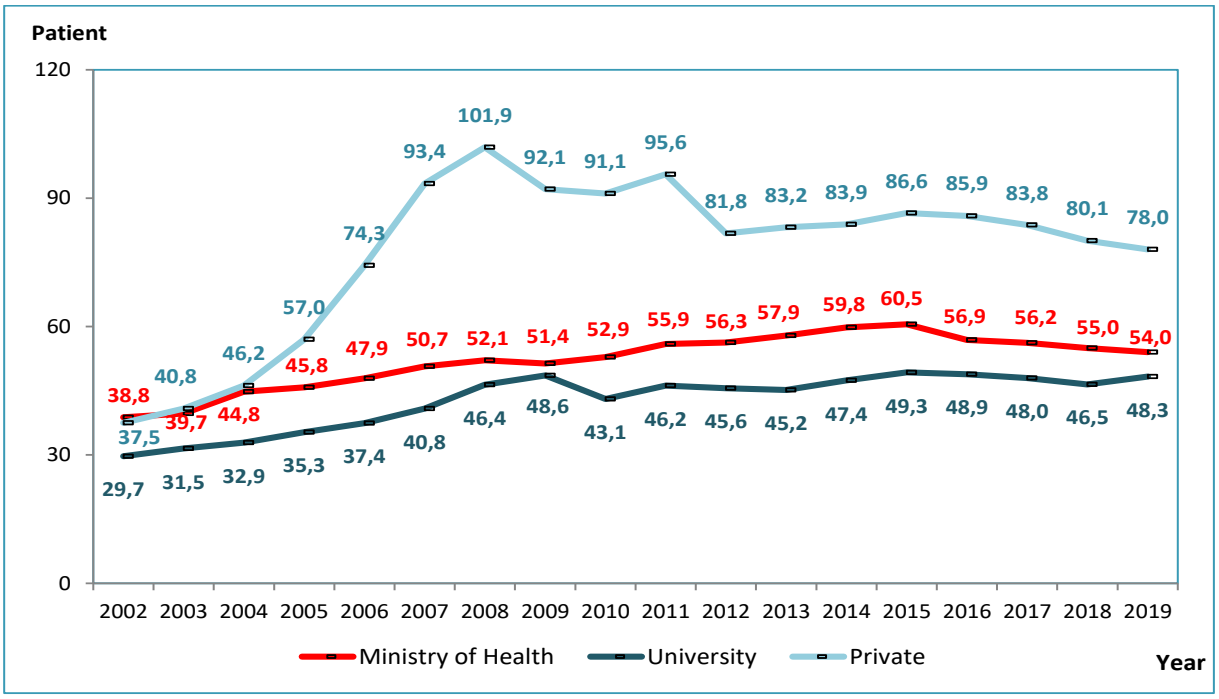
Source: General Directorate of Health Services, EUROSTAT Database, OECD Health Data 2020
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Map 8.5. Average Length of Stay in Hospitals by Provinces, (Day), All Sectors, 2019



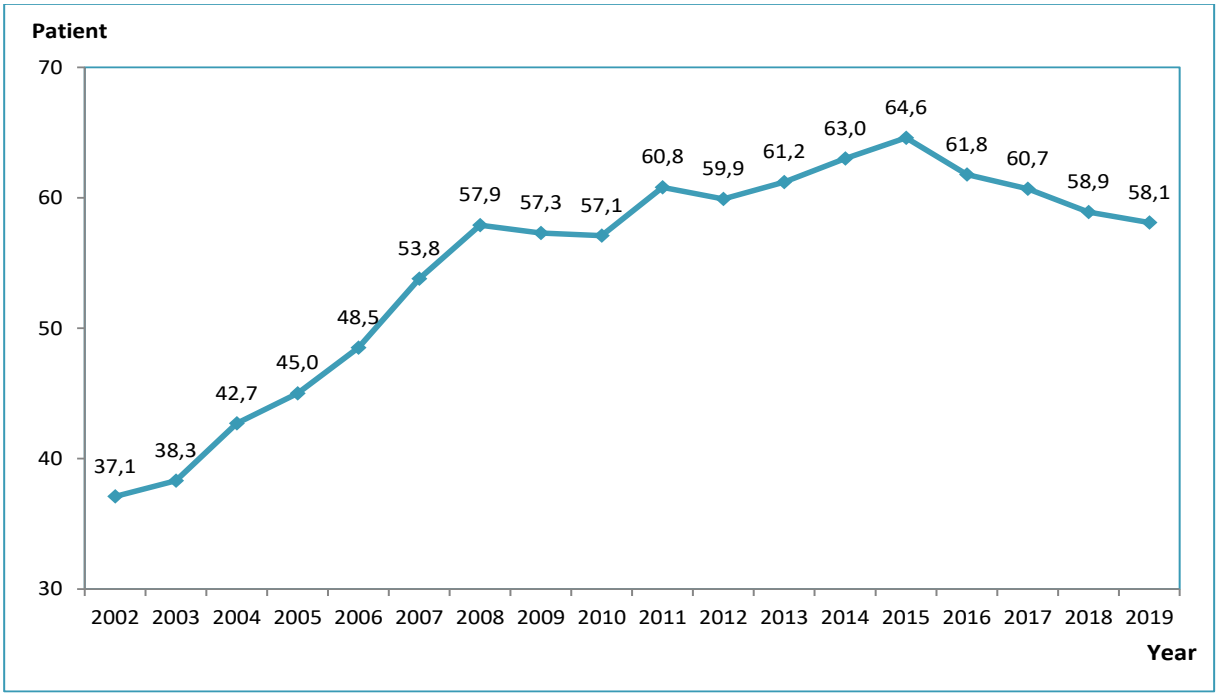
Source: General Directorate of Health Services

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



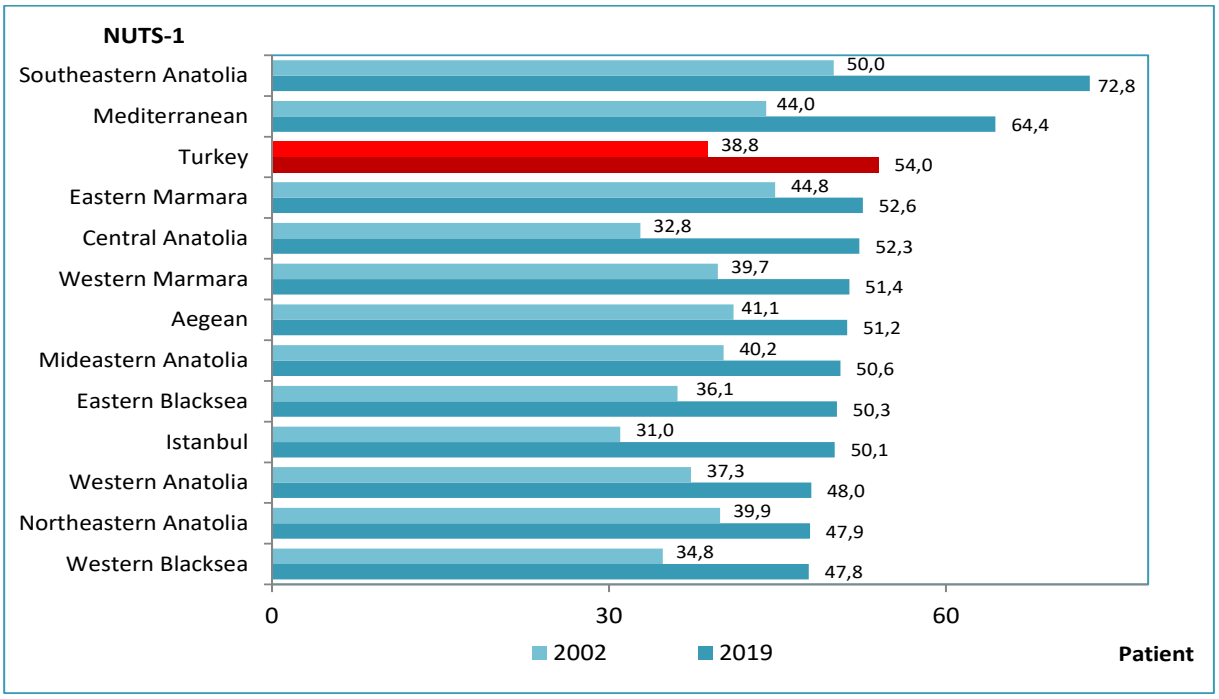
Source: General Directorate of Health Services

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



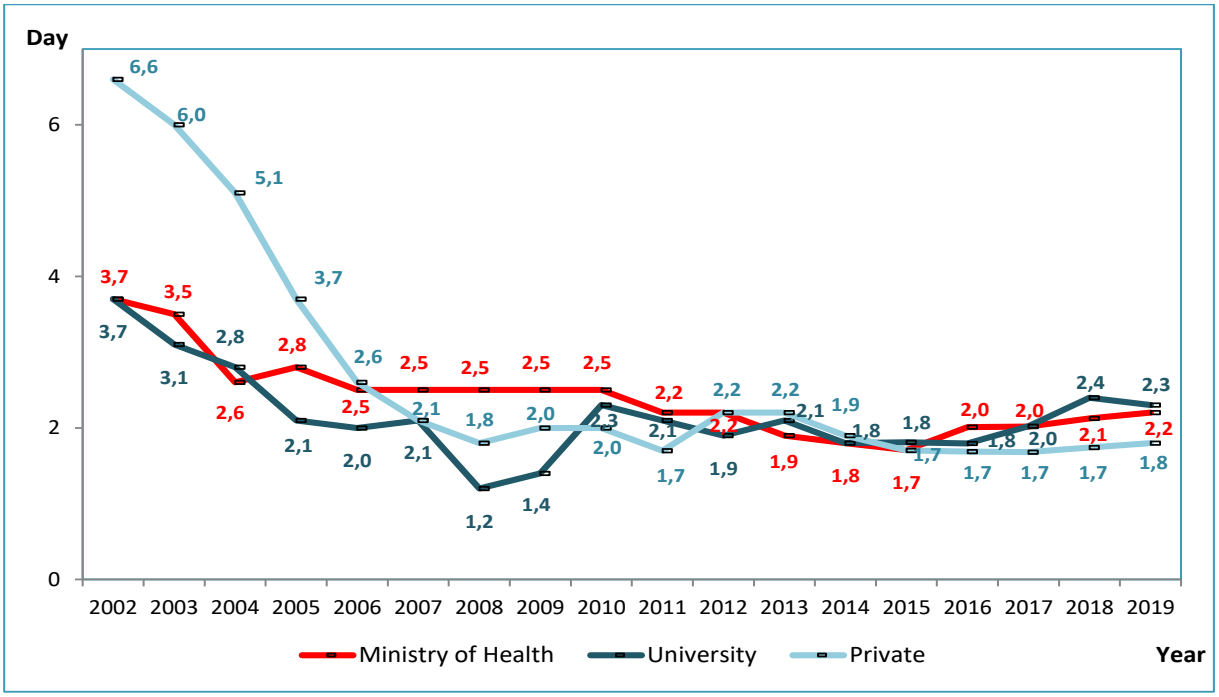
Source: General Directorate of Health Services

Figure 8.23. Bed Turnover Rate in Hospitals by NUTS-1, (Patient), MoH, 2002, 2019



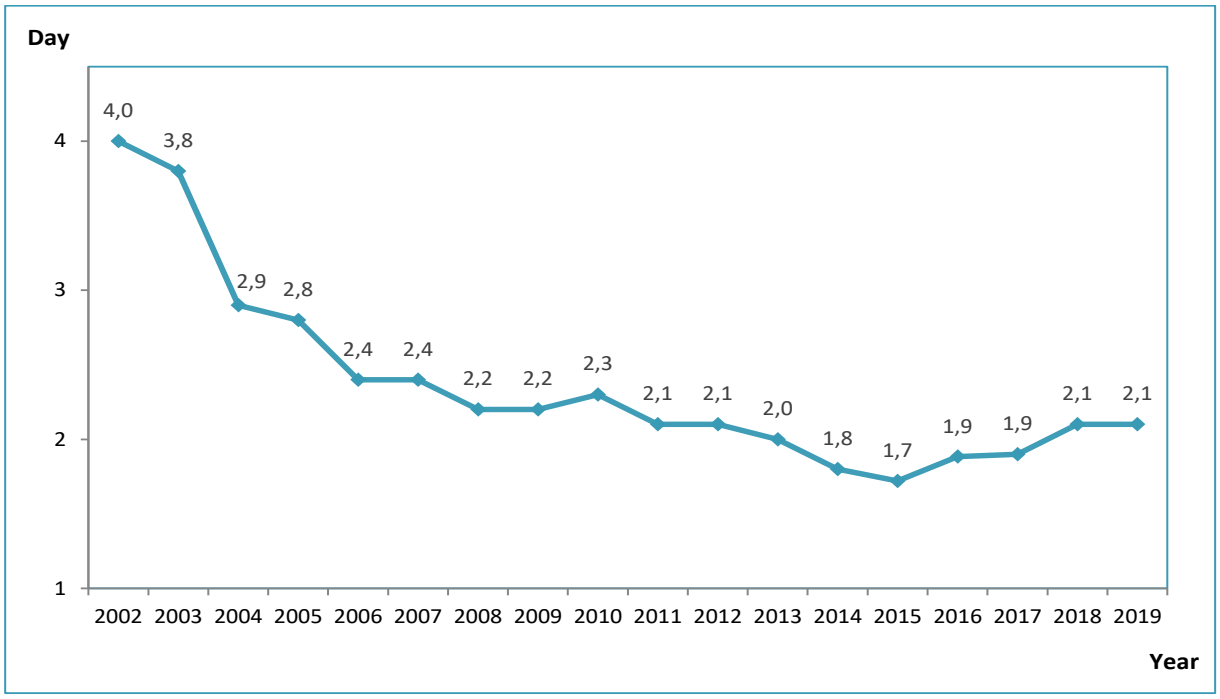
Source: General Directorate of Health Services

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



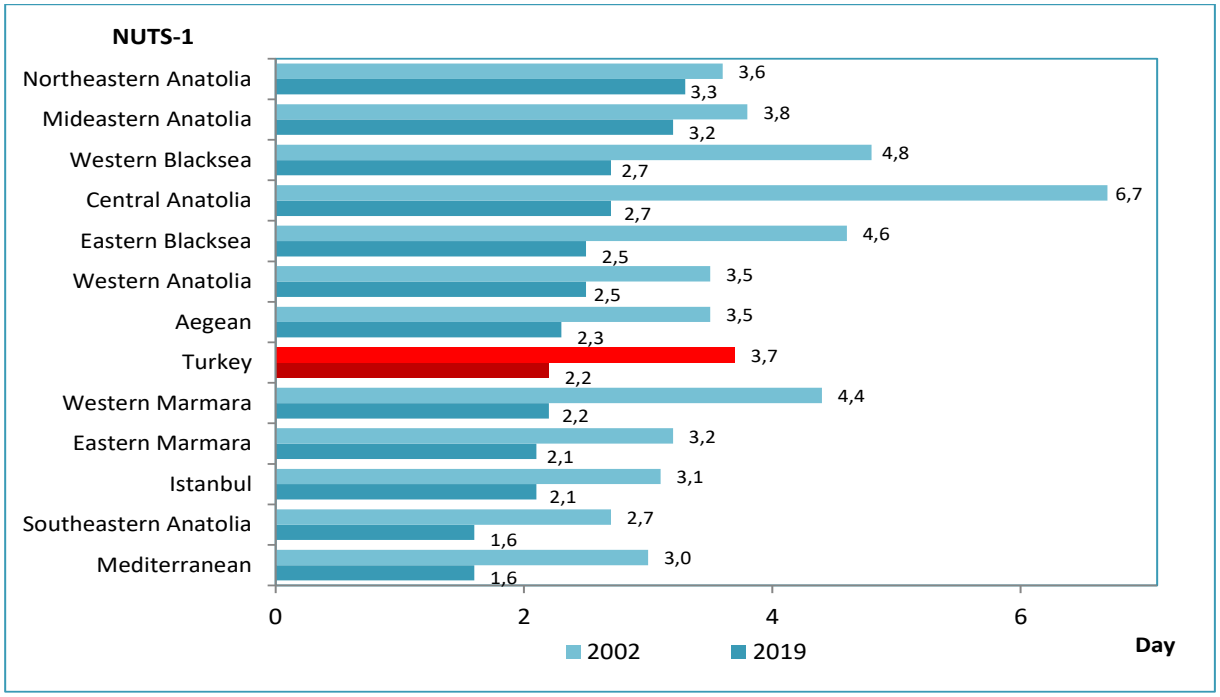
Source: General Directorate of Health Services

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



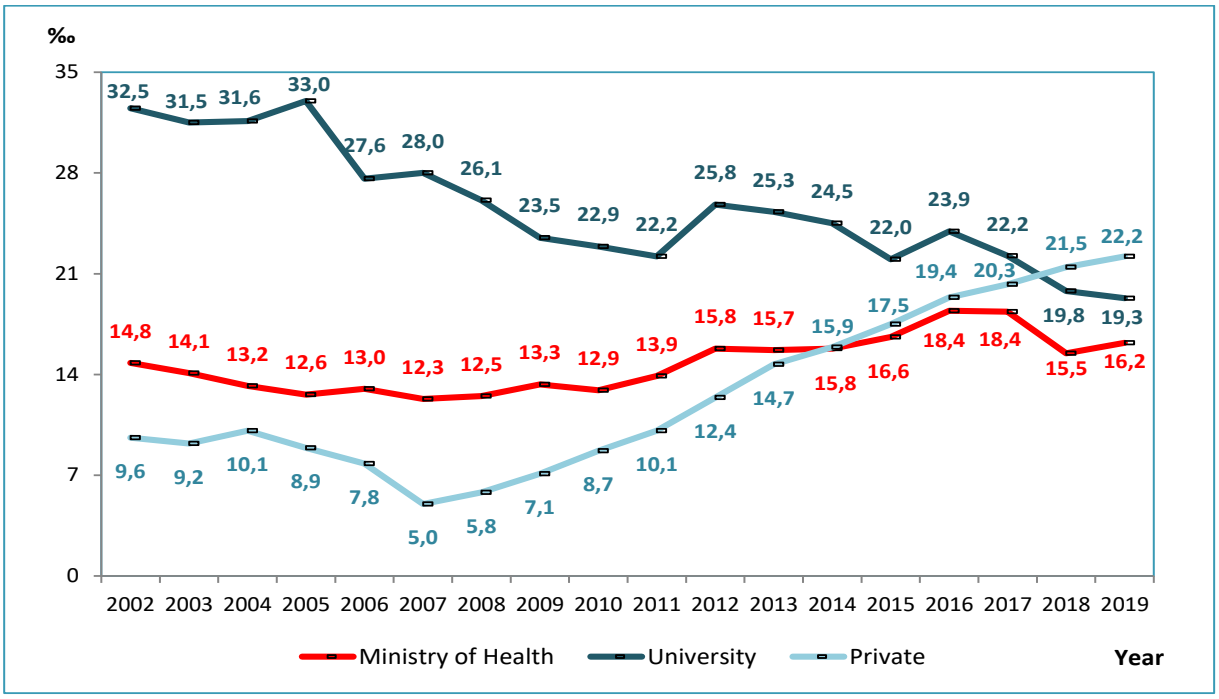
Source: General Directorate of Health Services

Figure 8.26. Bed Turnover Interval in Hospitals by NUTS-1, (Day), MoH, 2002, 2019



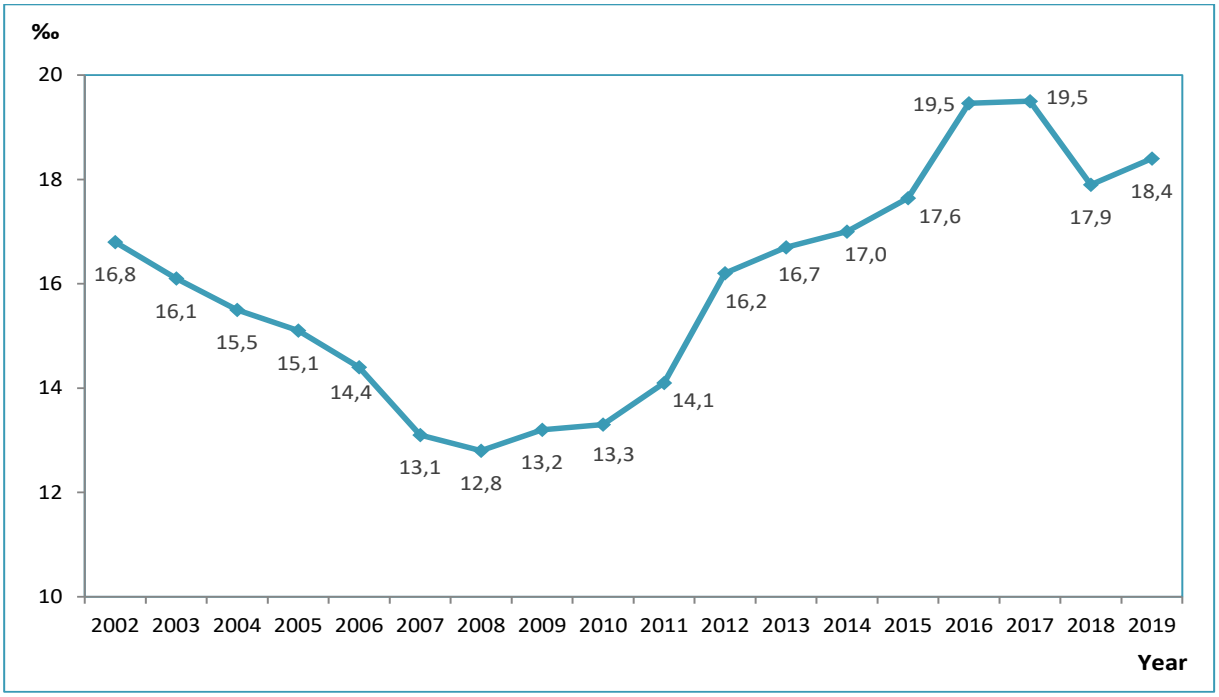
Source: General Directorate of Health Services

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



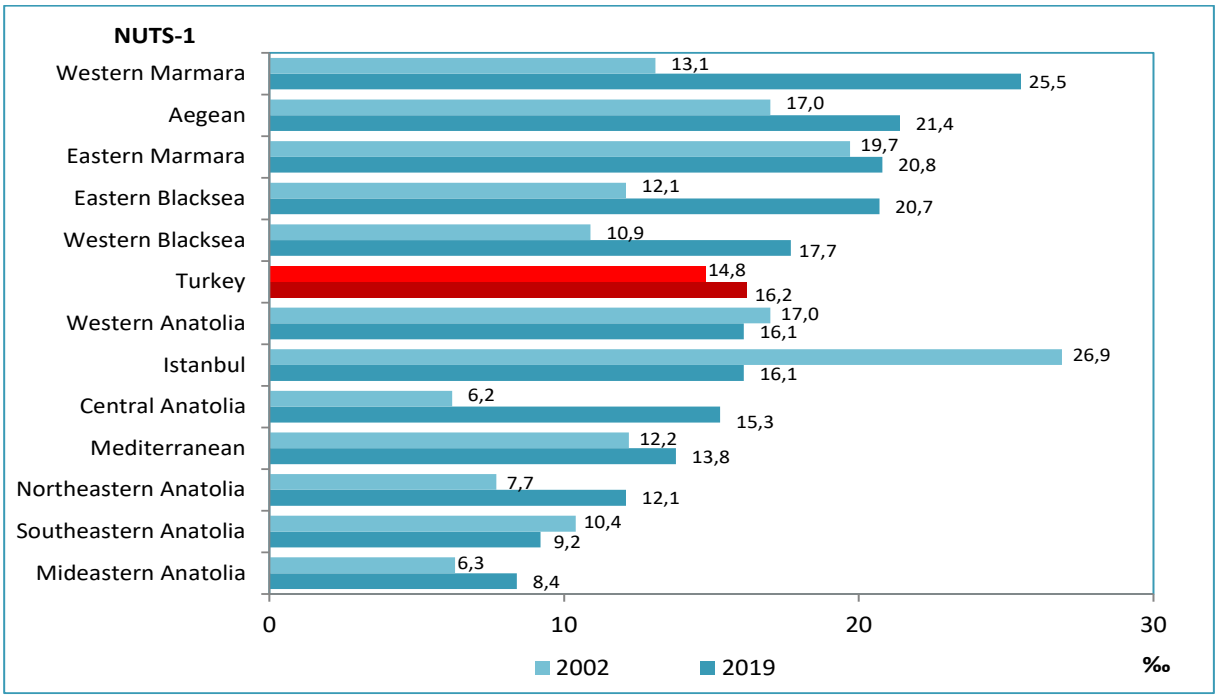
Source: General Directorate of Health Services

Figure 8.28. Crude Death Rate in Hospitals by Years, All Sectors, (‰)



Source: General Directorate of Health Services

Figure 8.29. Crude Death Rate in Hospitals by NUTS-1, MoH, (‰), 2002, 2019



Source: General Directorate of Health Services

Table 8.14. Number of Organ and Tissue Transplantations by Years, All Sectors

	2002	2016	2017	2018	2019
Kidney	550	3.418	3.341	3.866	3.863
Liver	159	1.396	1.446	1.588	1.776
Heart	20	69	77	91	84
Heart Valve	15	0	0	0	0
Lung	0	22	42	43	33
Heart-Lung	0	0	0	0	0
Pancreas	0	6	0	4	3
Small Intestine	1	5	2	0	4
Cornea	-	3.037	3.586	4.137	3.790
Stem Cell	-	3.819	4.431	4.858	5.198
Total	745	11.772	12.925	14.587	14.751

Source: General Directorate of Health Services

Table 8.15. The Number of Patients Waiting for Organ and Tissue Transplantation by Years, All Sectors

	2016	2017	2018	2019
Kidney	21.905	21.917	22.540	22.935
Liver	2.204	2.095	2.141	2.260
Heart	747	956	1.094	1.163
Heart Valve	0	1	0	0
Lung	66	64	89	89
Heart-Lung	0	0	0	0
Pancreas	276	283	286	297
Small Intestine	2	6	3	1
Cornea	2.996	2.350	1.506	1.555
Stem Cell	438	659	1.179	2.817
Total	28.634	28.331	28.838	31.117

Source: General Directorate of Health Services

Table 8.16. Number of Transplantation Centers by Years, All Sectors

	2016	2017	2018	2019
Kidney	75	76	72	74
Liver	47	48	48	46
Heart	19	17	19	17
Heart Valve	1	1	2	2
Lung	4	4	5	5
Heart-Lung	4	4	5	5
Pancreas	7	7	8	8
Small Intestine	1	2	2	1
Cornea	516	536	581	588
Stem Cell	81	83	85	93
Total	755	778	827	839

Source: General Directorate of Health Services

Table 8.17. Number of Exams of Some Imaging Devices in Hospitals by Sectors, 2019

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	10.930.353	14.107.645	16.579.909	18.952.089	6.855.133	1.559.142
University	2.176.295	2.996.732	2.636.428	1.213.426	982.550	296.278
Private	3.089.036	2.295.910	6.328.809	2.352.643	2.022.627	397.395
Total	16.195.684	19.400.287	25.545.146	22.518.158	9.860.310	2.252.815

Source: General Directorate of Health Services

Table 8.18. Number of Exams of Some Imaging Devices in Hospitals per Scanner by Sectors, 2019

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	32.338	25.650	6.426	4.661	4.162	3.869
University	19.431	21.559	2.936	1.890	3.308	4.059
Private	6.834	4.382	2.416	1.405	2.627	819
Total	17.955	15.994	4.189	3.528	3.633	2.344

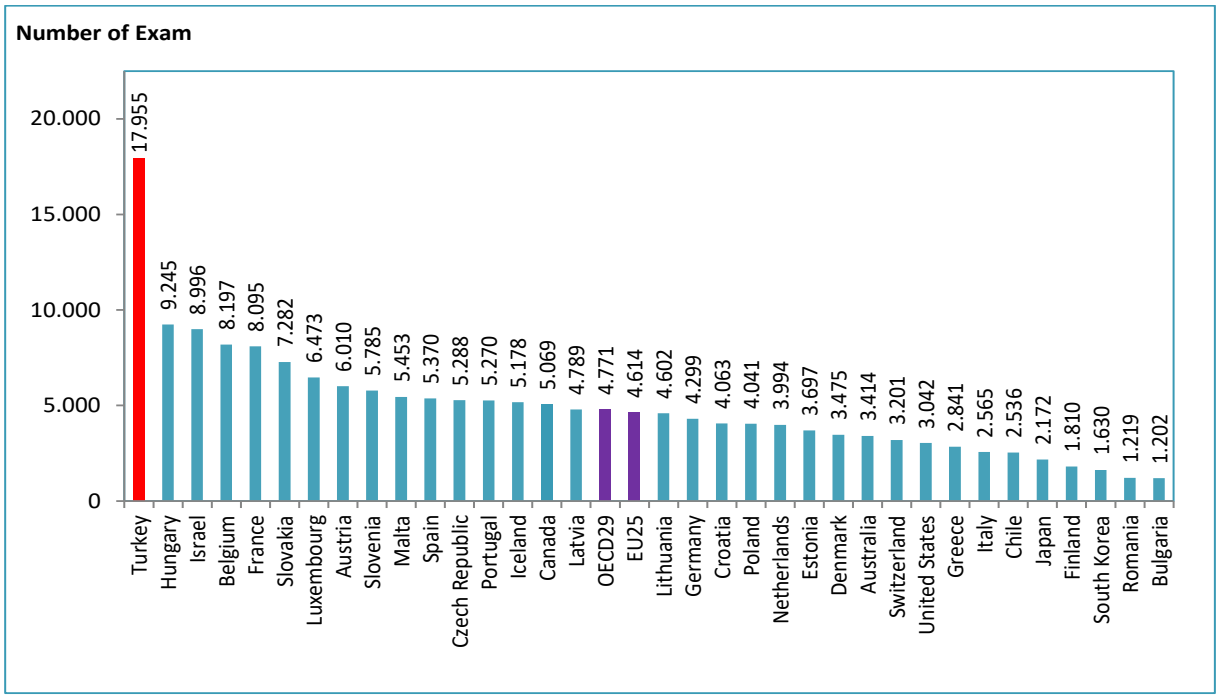
Source: General Directorate of Health Services

Table 8.19. Number of Exams of Some Imaging Devices in Hospitals per 1.000 Population by Sectors, 2019

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	131	170	199	228	82	19
University	26	36	32	15	12	4
Private	37	28	76	28	24	5
Total	195	233	307	271	119	27

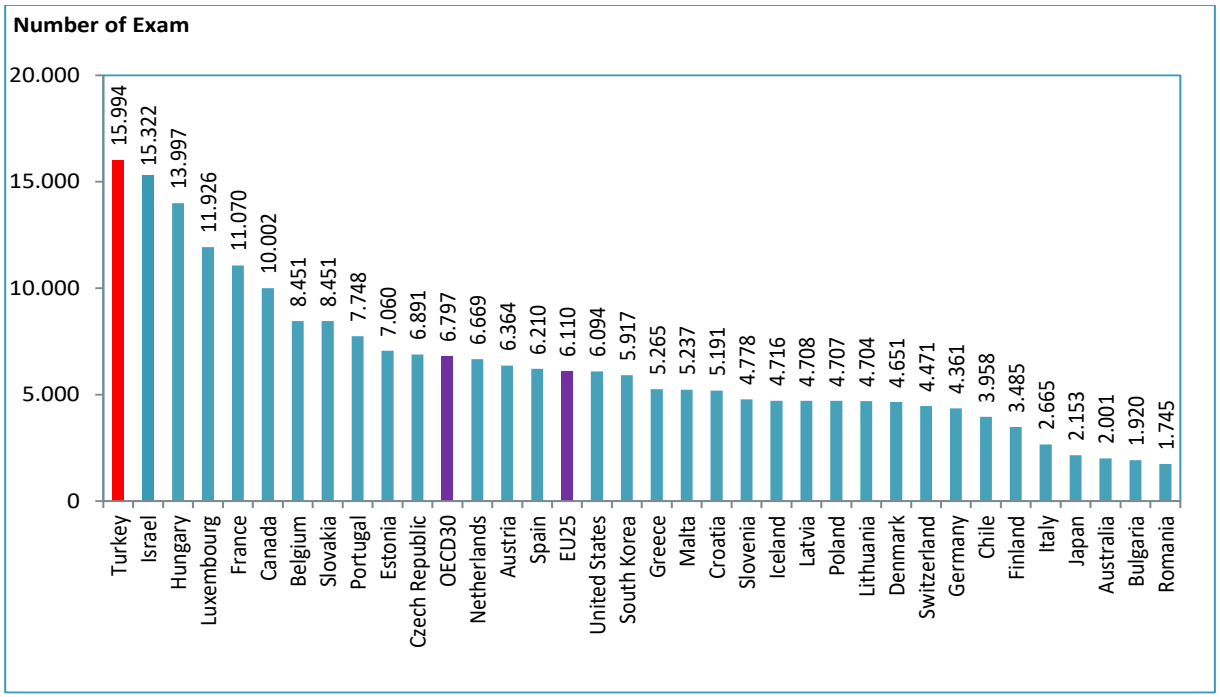
Source: General Directorate of Health Services

Figure 8.30. International Comparison of Number of Exams per MRI Scanner, 2018



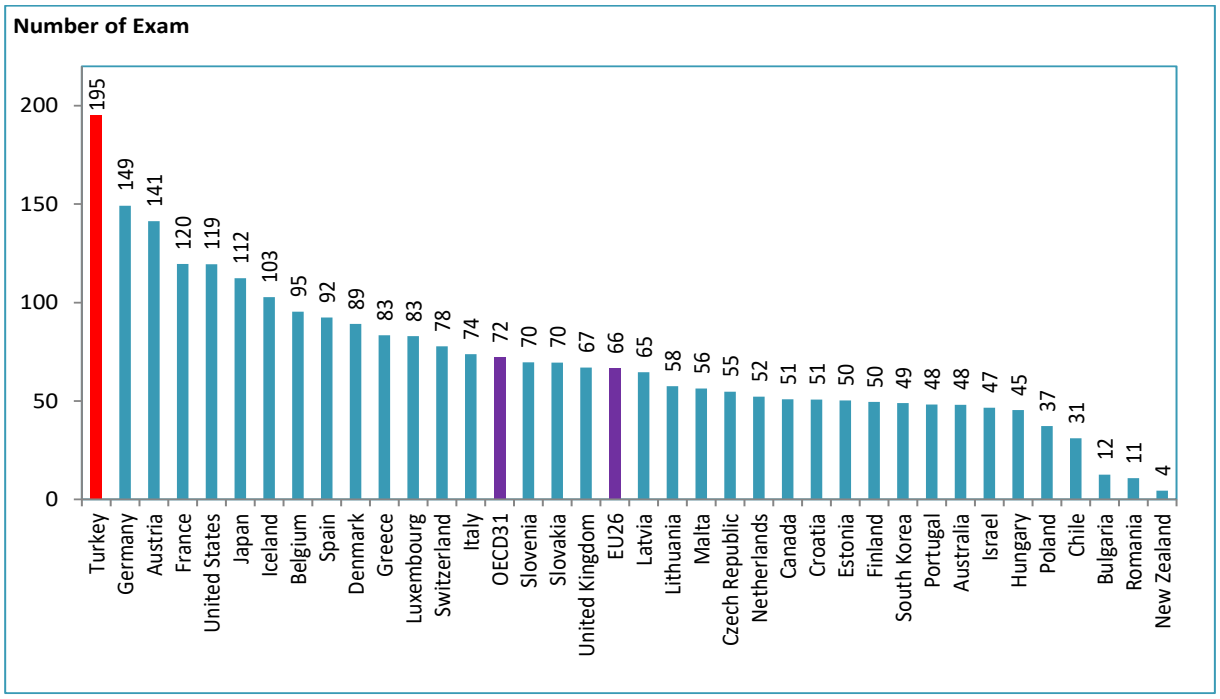
Source: General Directorate of Health Services, OECD Health Data 2020, EUROSTAT Database
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Figure 8.31. International Comparison of Number of Exams per CT Scanner, 2018



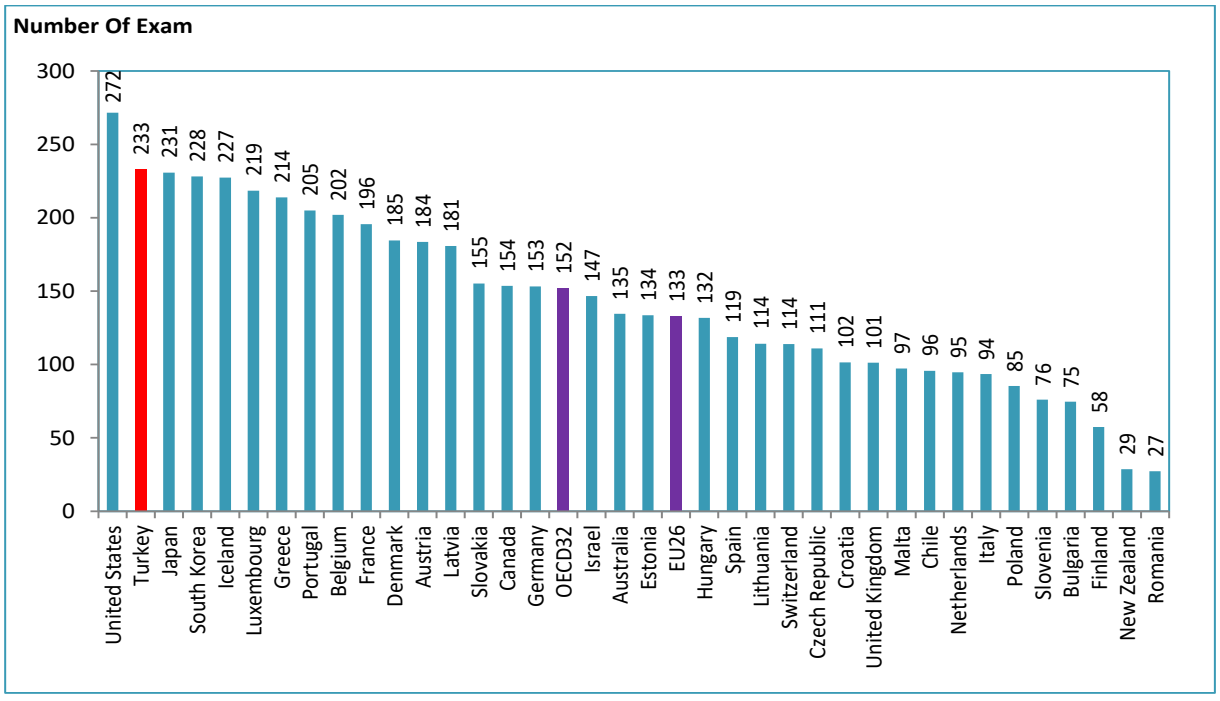
Source: General Directorate of Health Services, OECD Health Data 2020, EUROSTAT Database
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Figure 8.32. International Comparison of Number of MRI Exams per 1.000 Population, 2018



Source: General Directorate of Health Services, OECD Health Data 2020, EUROSTAT Database
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Figure 8.33. International Comparison of Number of CT Exams per 1.000 Population, 2018



Source: General Directorate of Health Services, OECD Health Data 2020, EUROSTAT Database
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Table 8.20. Number of MRI Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2019

NUTS-1	Ministry of Health	University	Private	Total
Southeastern Anatolia	20,2	44,3	50,8	26,1
Central Anatolia	24,0	50,9	43,3	29,1
Western Blacksea	23,9	66,8	53,0	29,5
Aegean	27,4	35,7	40,6	30,0
Eastern Marmara	26,3	39,2	47,7	30,7
Northeastern Anatolia	24,0	83,3	46,4	31,3
Mediterranean	28,0	46,1	38,2	31,4
Mideastern Anatolia	25,9	59,8	43,3	31,7
Turkey	**27,9**	**47,1**	**42,5**	**31,7**
Western Marmara	26,7	58,3	49,8	31,8
Western Anatolia	30,1	45,3	50,0	34,3
Eastern Blacksea	31,7	58,9	46,8	34,5
Istanbul	36,2	44,3	34,8	36,6

Source: General Directorate of Health Services

Table 8.21. Number of CT Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2019

NUTS-1	Ministry of Health	University	Private	Total
Southeastern Anatolia	29,8	55,5	37,7	32,3
Western Marmara	28,5	82,7	29,9	33,0
Central Anatolia	29,4	80,9	23,5	34,1
Eastern Blacksea	35,4	58,5	32,2	36,1
Mideastern Anatolia	29,0	91,9	28,1	36,2
Eastern Marmara	35,1	68,6	28,7	36,6
Western Anatolia	33,6	59,9	30,0	36,9
Turkey	**36,0**	**64,8**	**31,6**	**38,0**
Mediterranean	36,2	62,1	33,9	38,2
Aegean	36,0	69,2	29,9	38,8
Northeastern Anatolia	33,5	103,3	40,4	41,0
Istanbul	46,7	42,1	29,2	42,8
Western Blacksea	40,4	76,6	47,5	43,5

Source: General Directorate of Health Services

Table 8.22. Number of Ultrasound Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2019

NUTS-1	Ministry of Health	University	Private	Total
Eastern Blacksea	24,4	54,6	86,6	32,1
Eastern Marmara	32,1	29,7	66,2	37,3
Western Marmara	32,5	66,7	73,1	39,7
Istanbul	32,2	47,8	86,5	44,5
Central Anatolia	36,2	61,9	106,3	47,1
Western Anatolia	41,9	55,4	83,3	48,0
Turkey	**42,3**	**57,1**	**87,1**	**50,0**
Mediterranean	43,5	66,5	83,1	52,4
Western Blacksea	49,9	57,4	77,5	52,9
Mideastern Anatolia	48,8	65,5	69,9	53,0
Aegean	46,5	55,3	98,2	54,1
Northeastern Anatolia	52,1	98,0	77,5	58,2
Southeastern Anatolia	65,0	70,0	111,4	72,3

Source: General Directorate of Health Services

Table 8.23. Number of Doppler Ultrasound Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2019

NUTS-1	Ministry of Health	University	Private	Total
Northeastern Anatolia	28,7	30,4	22,6	28,5
Central Anatolia	24,8	67,5	53,1	32,6
Western Blacksea	31,1	55,2	49,9	34,5
Southeastern Anatolia	40,4	15,1	33,5	38,0
Aegean	41,7	20,9	43,7	39,7
Mideastern Anatolia	44,6	22,2	50,5	42,7
Mediterranean	51,5	16,4	23,6	43,4
Western Marmara	48,1	14,6	33,9	43,9
Turkey	**48,4**	**26,3**	**32,4**	**44,1**
Eastern Marmara	48,4	39,6	31,3	45,0
Eastern Blacksea	51,3	9,4	16,1	45,7
Istanbul	60,8	15,1	28,7	50,5
Western Anatolia	70,3	32,5	22,8	60,2

Source: General Directorate of Health Services

Table 8.24. Number of ECHO Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2019

NUTS-1	Ministry of Health	University	Private	Total
Western Marmara	17,0	16,3	21,6	17,5
Eastern Blacksea	16,5	26,5	22,4	17,6
Northeastern Anatolia	16,8	31,3	6,1	17,6
Eastern Marmara	17,1	17,0	22,9	18,0
Southeastern Anatolia	17,6	32,1	15,3	18,0
Western Blacksea	16,1	18,8	37,1	18,1
Turkey	**17,5**	**21,3**	**27,8**	**19,3**
Mediterranean	18,7	25,5	18,9	19,4
Central Anatolia	18,1	26,3	22,8	19,5
Mideastern Anatolia	21,2	12,0	15,4	19,5
Aegean	18,4	14,9	31,2	19,6
Istanbul	15,6	20,4	39,3	20,8
Western Anatolia	18,2	24,1	38,8	21,1

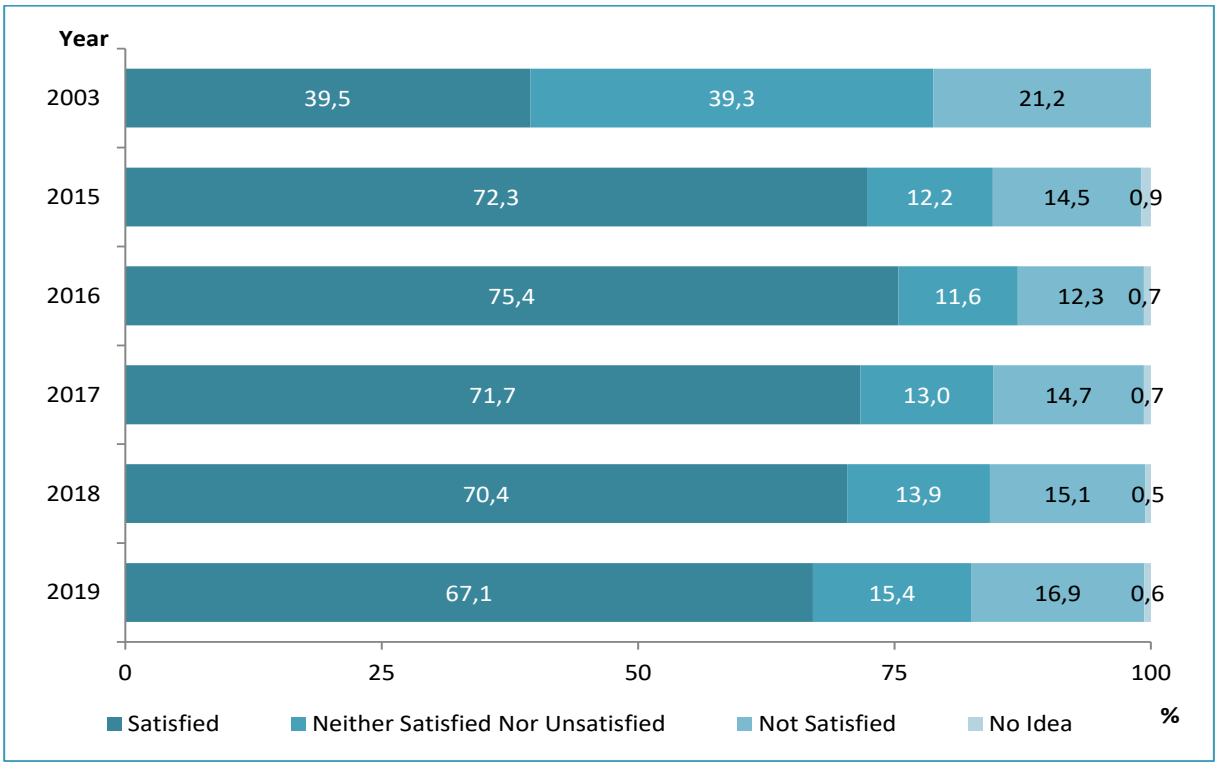
Source: General Directorate of Health Services

Table 8.25. Number of Mammography Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2019

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

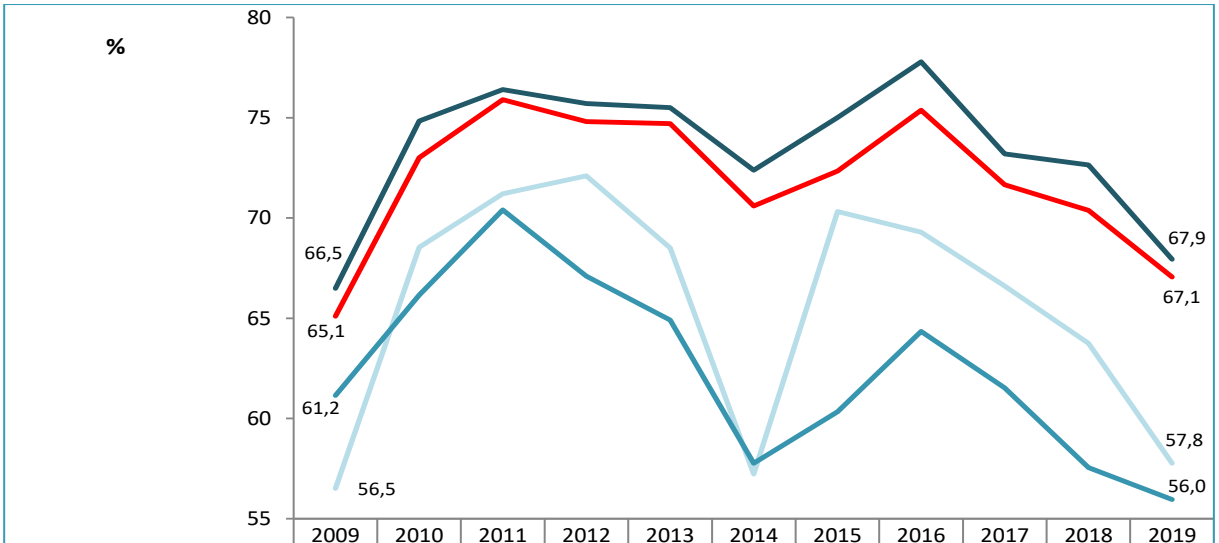
Source: General Directorate of Health Services

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



Source: TURKSTAT, Life Satisfaction Survey 2003-2019

Figure 8.35. Satisfaction Ratio with Healthcare Services by Years and Sectors, (%)



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

Source: TURKSTAT, Life Satisfaction Survey 2009-2019

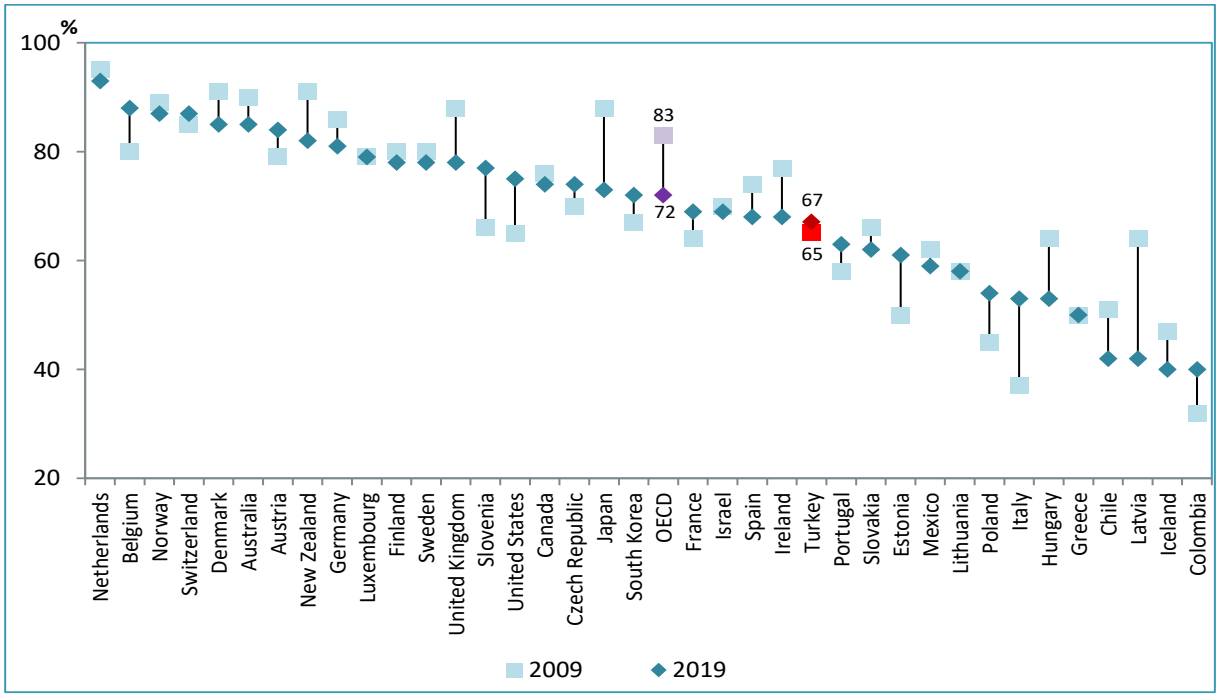
Note: "Total" data refers to the satisfaction ratio with healthcare services of all healthcare facilities.

Table 8.26. Satisfaction Ratio with Healthcare Services, (%), 2019

	Satisfied	Neither Satisfied Nor Unsatisfied	Not Satisfied	No Idea
Hospitals				
State	67,9	15,1	16,3	0,7
University	57,8	21,8	18,3	2,1
Private	56,0	17,3	26,1	0,7
Family Health Center	70,0	14,7	14,9	0,4
Private Policlinic	54,5	29,4	16,1	0,0
Organization's Doctor	64,7	11,7	23,6	0,0
Private Medical Centers	55,9	31,1	13,0	0,0

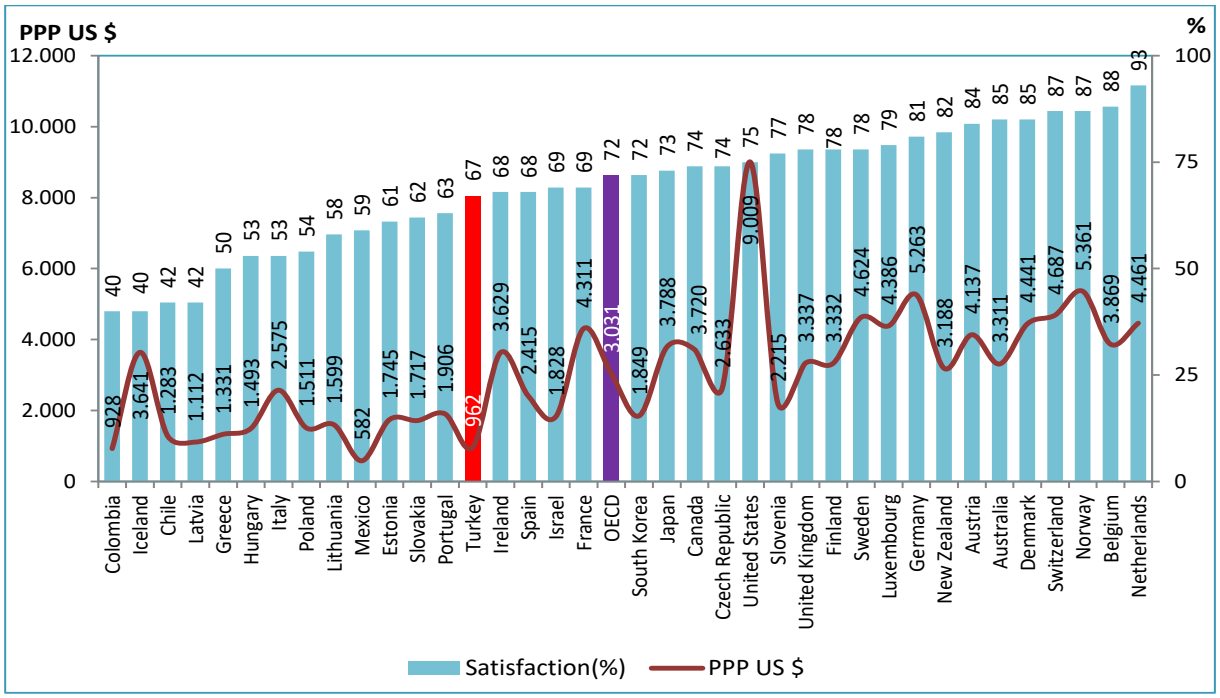
Source: TURKSTAT, Life Satisfaction Survey 2019

Figure 8.36. International Comparison of Satisfaction Ratio with Healthcare Services, (%), 2009, 2019



Source: TURKSTAT Life Satisfaction Survey 2019, OECD Health Data 2020

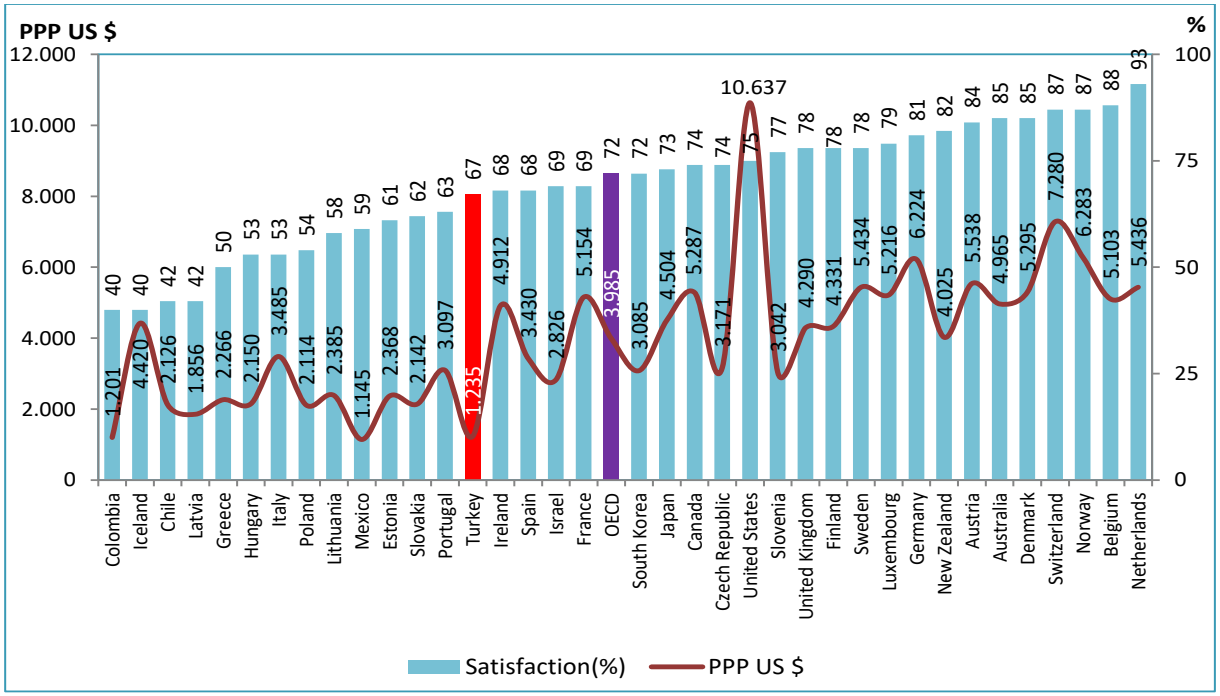
Figure 8.37. Satisfaction with Health Care Services, (%), 2019 and Public Current Health Expenditure per Capita, (PPP US $), 2018



Source: TURKSTAT, OECD Health Data 2020

Note: The country values of satisfaction belong to the year of 2019 and values of expenditure belong to the year of 2018. Turkey's expenditure data belongs to the year of 2019.

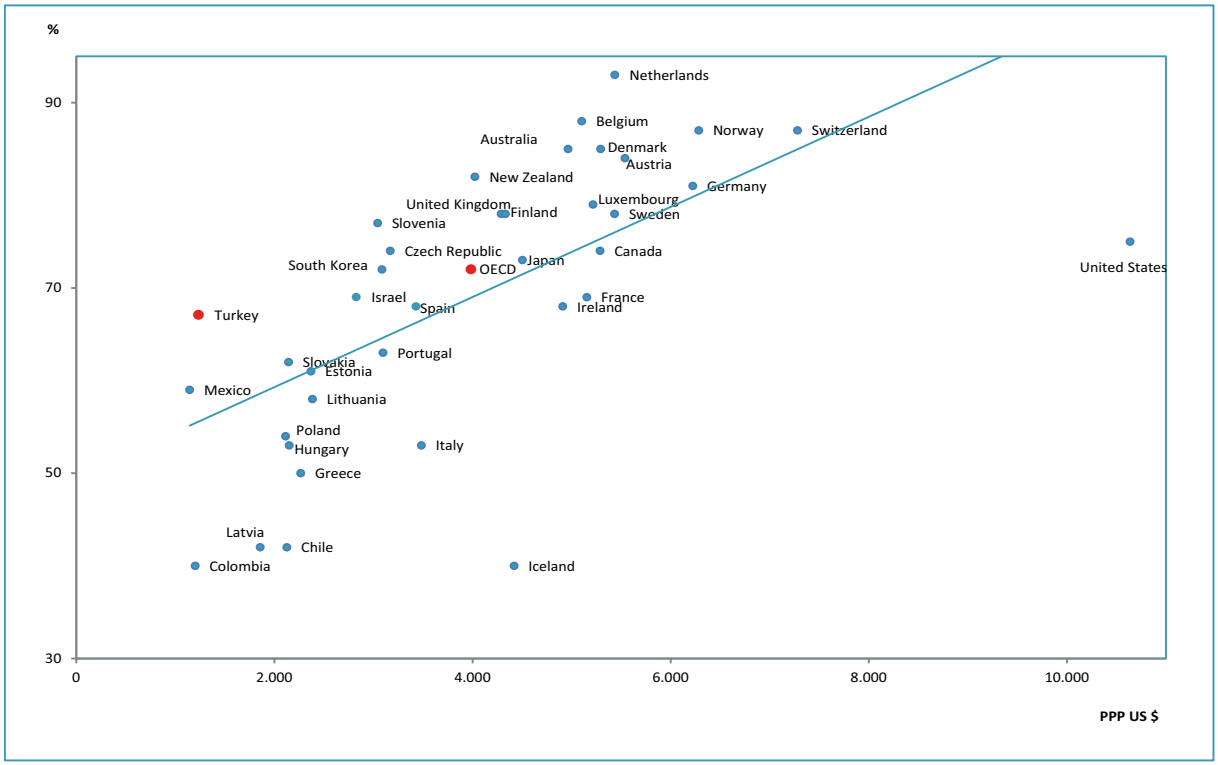
Figure 8.38. Satisfaction with Health Care Services, (%), 2019 and Total Current Health Expenditure per Capita, (PPP US $), 2018



Source: TURKSTAT, OECD Health Data 2020

Note: The country values of satisfaction belong to the year of 2019 and values of expenditure belong to the year of 2018. Turkey's expenditure data belongs to the year of 2019.

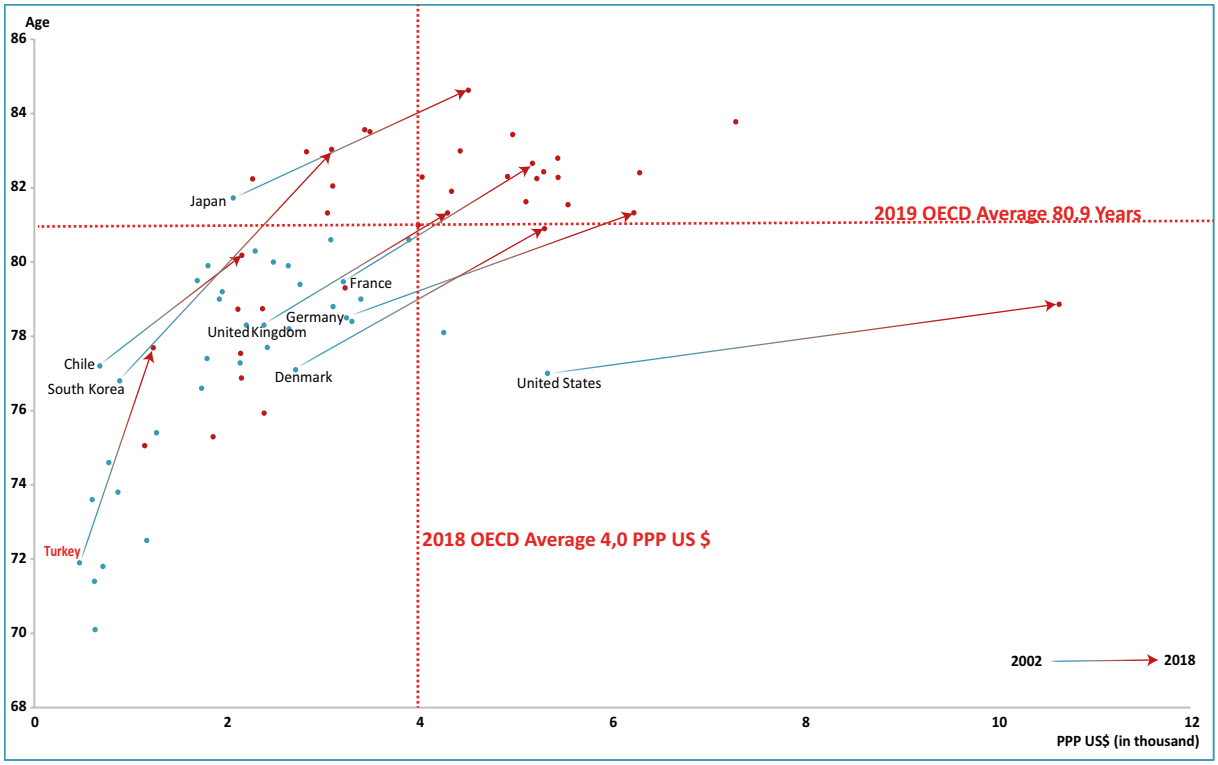
Figure 8.39. Satisfaction with Health Care Services (%), 2019 and Total Current Health Expenditure per Capita, (PPP US $), 2018



Source: TURKSTAT, OECD Health Data 2020

Note: The country values of satisfaction belong to the year of 2019 and values of expenditure belong to the year of 2018. Turkey's expenditure data belongs to the year of 2019.

Figure 8.40. Life Expectancy at Birth, (Age) and Total Current Health Expenditure per Capita, (PPP US $), 2002, 2018



Source: TURKSTAT, UNPD, OECD Health Data 2020

Note: The country values of satisfaction belong to the year of 2019 and values of expenditure belong to the year of 2018. Turkey's expenditure data belongs to the year of 2019.

Table 8.27. Some Health Indicators by Provinces, 2019

City	Primary Health Care Facilities Visits	Secondary and Tertiary Health Care Visits	Per Capita Physician Visits	Number of Dentist Visits	Per Capita Dentist Visits
Adana	10.469.035	14.605.827	11,2	1.221.757	0,55
Adıyaman	1.891.305	3.680.489	8,9	464.215	0,74
Afyonkarahisar	3.043.671	4.174.274	9,9	407.769	0,56
Ağrı	882.786	2.718.373	6,7	273.716	0,51
Amasya	1.436.838	2.135.371	10,6	252.973	0,75
Ankara	18.562.446	37.441.685	9,9	4.254.500	0,75
Antalya	8.151.027	16.590.472	9,9	1.485.132	0,59
Artvin	528.651	926.226	8,5	111.258	0,65
Aydın	4.609.133	7.907.897	11,3	733.642	0,66
Balıkesir	5.275.099	7.922.933	10,7	775.853	0,63
Bilecik	964.028	1.143.955	9,6	186.811	0,85
Bingöl	618.184	1.396.971	7,2	191.726	0,69
Bitlis	538.609	1.897.495	7,0	193.858	0,56
Bolu	1.254.772	2.290.574	11,2	425.785	1,35
Burdur	994.925	1.659.503	9,8	166.215	0,61
Bursa	12.932.210	18.091.386	10,2	1.890.573	0,62
Çanakkale	2.205.543	3.638.103	10,8	322.131	0,59
Çankırı	644.909	1.015.083	8,5	145.733	0,74
Çorum	1.855.976	3.268.805	9,7	372.503	0,70
Denizli	4.982.617	6.745.530	11,3	667.569	0,64
Diyarbakır	6.005.411	9.151.132	8,6	1.024.032	0,58
Edirne	1.814.707	3.232.643	12,2	317.883	0,77
Elazığ	2.151.095	3.850.718	10,2	466.418	0,79
Erzincan	758.932	1.365.760	9,1	212.672	0,91
Erzurum	2.118.748	4.845.083	9,1	749.140	0,98
Eskişehir	3.304.149	5.921.248	10,4	823.758	0,93
Gaziantep	7.177.617	13.981.951	10,2	1.534.082	0,74
Giresun	1.862.615	2.671.662	10,1	252.941	0,56
Gümüşhane	492.999	613.937	6,7	105.787	0,64
Hakkari	349.865	1.197.803	5,5	126.004	0,45
Hatay	5.778.460	10.429.197	10,0	884.993	0,54
Isparta	1.845.214	3.561.354	12,2	574.333	1,29
Mersin	8.700.976	10.641.368	10,5	776.428	0,42
İstanbul	43.711.272	98.993.213	9,2	8.830.846	0,57
İzmir	16.634.605	29.760.583	10,6	3.282.247	0,75
Kars	725.968	1.470.928	7,7	179.586	0,63
Kastamonu	1.301.961	2.143.857	9,1	259.534	0,68
Kayseri	5.939.568	8.626.707	10,3	1.186.870	0,84
Kırklareli	1.507.915	2.173.748	10,2	262.204	0,72
Kırşehir	711.522	1.365.804	8,6	201.360	0,83
Kocaeli	6.759.822	12.875.868	10,1	1.416.378	0,73

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

Table 8.27. Some Health Indicators by Provinces, 2019 - 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	8.295.104	13.977.360	10,0	1.771.383	0,79
Kütahya	2.654.161	3.258.312	10,2	398.784	0,69
Malatya	2.659.941	5.375.529	10,0	697.846	0,87
Manisa	5.965.224	9.828.797	11,0	1.013.100	0,70
Kahramanmaraş	3.711.218	7.619.429	9,8	697.306	0,60
Mardin	2.282.711	4.688.654	8,3	414.654	0,49
Muğla	4.019.363	5.478.321	9,7	584.644	0,59
Muş	838.616	2.134.583	7,3	195.809	0,48
Nevşehir	1.345.574	1.636.018	9,8	224.391	0,74
Niğde	1.379.833	1.951.634	9,2	232.584	0,64
Ordu	2.797.524	4.692.918	9,9	497.604	0,66
Rize	1.209.967	2.673.458	11,3	314.495	0,92
Sakarya	4.037.315	6.288.204	10,0	589.495	0,57
Samsun	5.524.871	9.901.723	11,4	1.264.347	0,94
Siirt	724.709	1.944.680	8,1	156.261	0,47
Sinop	810.349	1.202.373	9,2	156.783	0,72
Sivas	2.071.775	4.216.110	9,8	578.132	0,90
Tekirdağ	3.971.922	6.131.804	9,6	805.484	0,76
Tokat	2.094.495	3.741.212	9,5	538.743	0,88
Trabzon	3.370.319	5.900.041	11,5	669.336	0,83
Tunceli	343.606	364.279	8,4	78.666	0,93
Şanlıurfa	5.054.305	13.496.063	8,9	911.265	0,44
Uşak	1.769.193	2.225.219	10,8	236.424	0,64
Van	2.116.805	6.097.162	7,2	615.850	0,54
Yozgat	1.364.494	2.460.545	9,1	264.052	0,63
Zonguldak	1.662.728	4.572.482	10,5	527.598	0,89
Aksaray	1.620.419	2.209.081	9,2	202.239	0,49
Bayburt	221.994	449.232	7,9	71.773	0,85
Karaman	878.887	1.503.705	9,4	163.999	0,65
Kırıkkale	1.043.878	1.695.178	9,7	299.392	1,06
Batman	1.518.067	3.560.019	8,3	321.345	0,53
Şırnak	958.466	2.418.697	6,4	205.332	0,39
Bartın	954.737	1.264.187	11,2	147.681	0,74
Ardahan	303.899	496.202	8,2	76.276	0,78
Iğdır	537.103	1.052.051	8,0	151.821	0,76
Yalova	1.096.200	1.905.849	11,1	175.208	0,65
Karabük	954.185	1.555.992	10,1	344.142	1,39
Kilis	535.410	1.050.302	11,1	144.718	1,02
Osmaniye	2.270.116	3.430.070	10,6	331.858	0,62
Düzce	1.637.198	2.228.765	9,9	274.514	0,70
Turkey	288.101.866	524.801.756	9,8	55.356.549	0,67

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

Table 8.27. Some Health Indicators by Provinces, 2019 - Continued

City	Number of Inpatients	Number of Days Stayed	Number of Surgical Operation	Bed Occupancy Rate	Average Length of Stay	Bed Turnover Rate	Bed Turnover Interval	Crude Death Rate in Hospital
Adana	465.458	2.012.902	183.501	77,3	4,3	65,2	1,3	18,0
Adıyaman	98.630	352.511	19.730	71,5	3,6	73,0	1,4	13,3
Afyonkarahisar	110.204	459.918	37.936	57,7	4,2	50,4	3,1	17,9
Ağrı	64.230	191.239	11.547	59,7	3,0	73,2	2,0	5,0
Amasya	39.835	171.430	21.401	56,2	4,3	47,7	3,3	16,3
Ankara	913.125	4.512.738	438.800	64,0	4,9	47,2	2,8	18,9
Antalya	472.783	1.736.186	185.013	64,4	3,7	64,0	2,0	17,6
Artvin	18.828	70.329	5.299	55,7	3,7	54,4	3,0	16,7
Aydın	229.567	926.505	72.882	80,2	4,0	72,6	1,0	20,5
Balıkesir	180.537	854.356	71.805	70,2	4,7	54,2	2,0	29,1
Bilecik	17.206	85.147	7.308	69,6	4,9	51,4	2,2	23,0
Bingöl	39.327	141.703	7.921	55,1	3,6	55,8	2,9	5,4
Bitlis	60.492	215.689	16.736	59,8	3,6	61,2	2,4	6,5
Bolu	71.759	352.069	20.561	66,1	4,9	49,1	2,5	21,8
Burdur	43.300	162.968	10.958	58,9	3,8	57,1	2,6	13,3
Bursa	490.688	2.124.516	185.429	72,0	4,3	60,7	1,7	22,2
Çanakkale	81.042	363.689	34.838	59,1	4,5	48,1	3,1	22,5
Çankırı	19.010	78.794	7.792	46,4	4,1	40,9	4,8	24,7
Çorum	86.308	409.513	21.418	67,7	4,7	52,1	2,3	31,0
Denizli	230.059	787.971	91.247	66,4	3,4	70,8	1,7	18,1
Diyarbakır	297.005	1.002.436	97.743	57,7	3,4	62,4	2,5	9,5
Edirne	90.997	450.660	26.664	63,8	5,0	47,0	2,8	20,4
Elazığ	151.121	723.215	38.254	66,2	4,8	50,5	2,4	13,2
Erzincan	36.534	126.332	9.187	64,1	3,5	67,7	1,9	18,1
Erzurum	164.027	891.284	63.709	67,4	5,4	45,3	2,6	14,2
Eskişehir	188.141	880.471	76.493	68,8	4,7	53,6	2,1	20,2
Gaziantep	463.923	1.554.178	145.574	68,0	3,4	74,0	1,6	15,7
Giresun	84.193	401.655	20.658	69,9	4,8	53,5	2,1	18,6
Gümüşhane	11.746	52.979	3.006	44,4	4,5	35,9	5,7	14,4
Hakkari	27.087	82.276	4.929	55,0	3,0	66,1	2,5	3,0
Hatay	340.176	1.155.553	121.582	75,3	3,4	80,9	1,1	20,7
Isparta	109.277	554.782	60.675	75,2	5,1	54,0	1,7	21,2
Mersin	296.853	1.184.783	111.903	68,0	4,0	62,2	1,9	19,1
İstanbul	2.132.647	9.071.851	993.311	61,1	4,3	52,4	2,7	20,3
İzmir	647.722	3.067.854	323.024	68,6	4,7	52,9	2,2	24,5
Kars	37.581	143.962	14.521	53,1	3,8	50,6	3,4	9,6
Kastamonu	48.154	238.753	15.817	60,0	5,0	44,2	3,3	25,2
Kayseri	300.798	1.153.662	99.367	69,1	3,8	65,8	1,7	18,5
Kırklareli	61.141	217.043	13.253	65,2	3,5	67,0	1,9	12,8
Kırşehir	33.244	120.392	7.357	69,9	3,6	70,4	1,6	20,1
Kocaeli	285.407	1.175.283	124.429	70,6	4,1	62,6	1,7	22,4

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

Table 8.27. Some Health Indicators by Provinces, 2019 - Continued

City	Number of Inpatients	Number of Days Stayed	Number of Surgical Operation	Bed Occupancy Rate	Average Length of Stay	Bed Turnover Rate	Bed Turnover Interval	Crude Death Rate in Hospital
Konya	440.245	1.924.614	177.967	69,4	4,4	57,9	1,9	16,1
Kütahya	80.425	494.930	25.519	71,9	6,2	42,6	2,4	24,0
Malatya	190.495	657.850	56.979	61,0	3,5	64,5	2,2	12,3
Manisa	238.763	1.199.006	77.941	69,4	5,0	50,5	2,2	23,7
Kahramanmaraş	191.879	797.670	70.071	74,2	4,2	65,1	1,4	13,5
Mardin	101.859	367.964	33.135	69,7	3,6	70,4	1,6	13,1
Muğla	139.199	466.166	46.289	61,8	3,3	67,4	2,1	16,1
Muş	48.427	174.043	10.089	61,9	3,6	62,9	2,2	7,5
Nevşehir	40.881	191.771	16.337	75,4	4,7	58,7	1,5	13,5
Niğde	52.476	229.081	10.017	70,7	4,4	59,1	1,8	16,1
Ordu	162.723	544.827	43.809	67,0	3,3	73,0	1,7	15,5
Rize	70.498	256.823	17.539	62,8	3,6	62,9	2,2	21,7
Sakarya	129.109	510.029	48.838	72,2	4,0	66,7	1,5	17,4
Samsun	267.879	1.345.292	106.334	74,7	5,0	54,3	1,7	25,2
Siirt	58.181	201.037	15.165	64,2	3,5	67,8	1,9	5,6
Sinop	31.425	113.981	10.447	53,4	3,6	53,7	3,2	15,4
Sivas	105.163	528.783	35.407	55,1	5,0	40,0	4,1	21,8
Tekirdağ	172.164	640.440	56.503	63,9	3,7	62,7	2,1	20,4
Tokat	123.201	522.054	36.485	63,6	4,2	54,8	2,4	15,1
Trabzon	188.982	818.758	68.861	69,2	4,3	58,3	1,9	17,9
Tunceli	5.446	23.182	1.268	42,3	4,3	36,3	5,8	16,2
Şanlıurfa	323.557	1.156.290	94.702	79,6	3,6	81,3	0,9	10,7
Uşak	71.039	243.495	21.134	54,0	3,4	57,5	2,9	22,8
Van	172.026	703.923	50.733	63,9	4,1	57,0	2,3	11,0
Yozgat	68.756	256.206	18.196	54,6	3,7	53,5	3,1	11,8
Zonguldak	118.983	518.575	39.880	63,1	4,4	52,8	2,5	19,4
Aksaray	62.248	168.888	19.444	55,5	2,7	74,6	2,2	10,8
Bayburt	10.266	42.962	2.369	58,9	4,2	51,3	2,9	10,5
Karaman	33.791	143.872	15.776	65,9	4,3	56,5	2,2	15,9
Kırıkkale	53.116	327.502	20.446	71,6	6,2	42,4	2,5	28,3
Batman	92.689	324.837	31.677	67,2	3,5	70,0	1,7	16,2
Şırnak	44.250	127.844	12.097	55,5	2,9	70,1	2,3	2,4
Bartın	23.939	102.661	5.981	65,1	4,3	55,4	2,3	24,0
Ardahan	10.077	40.184	2.668	52,4	4,0	48,0	3,6	19,1
Iğdır	23.679	83.177	4.873	72,8	3,5	75,7	1,3	11,2
Yalova	51.450	172.389	11.609	76,2	3,4	83,0	1,0	27,2
Karabük	51.007	179.829	16.431	71,3	3,5	73,8	1,4	24,5
Kilis	27.980	103.900	7.467	88,7	3,7	87,2	0,5	11,4
Osmaniye	126.267	335.453	36.576	71,0	2,7	97,5	1,1	13,3
Düzce	61.647	201.672	23.178	69,7	3,3	77,7	1,4	14,8
Turkey	13.806.349	57.501.537	5.223.815	66,3	4,2	58,1	2,1	18,4

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

Explanations for Chapter 8

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

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

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

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

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

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

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

☑ According to the Circular "Staging Health Service Providers" published by the Ministry of Health, General Directorate of Health Services on 31/05/2019, E2-E3 Integrated District State Hospitals were defined as primary health care institutions and E1 Integrated District State Hospitals as secondary health institutions.

☑ Integrated District State Hospitals, which serve as primary health care institutions throughout the year, were included in the calculations in tables, figures and maps of the Ministry of Health hospitals.

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

☑ The value of the provinces was rounded up to the closest whole number while making Map 8.2 and Map 8.4, the value of the provinces was rounded up to 1 decimal place while making Map 8.1 and Map 8.5 and the value of the provinces was rounded up to 2 decimal place while making Map 8.3 in the Chapter. These numbers were considered while creating the Likert scales.

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

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

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

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

☑ **Number of Inpatient:** The number of hospitalizations (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 Days Stayed x 100) / (Number of Beds x 365).

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

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

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

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

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

☑ 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.

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

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



CHAPTER 9

Pharmaceutical Statistics

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

ATC-1 Group	2014	2015	2016	2017	2018	2019
Alimentary T.& Metabolism	286,7	324,1	346,1	374,8	398,7	406,3
Respiratory System	276,5	289,5	307,6	317,2	329,8	335,0
Nervous System	260,7	271,1	287,7	298,4	308,0	313,2
Systemic Anti-Infectives	270,3	280,6	284,0	257,3	262,7	265,8
Musculo-Skeletal System	228,0	244,4	253,9	258,1	259,7	261,3
Cardiovascular System	191,4	203,7	212,8	225,9	238,3	251,4
Dermatologicals	98,8	104,0	110,1	115,8	118,6	123,1
Blood & Blood Forming Organs	82,7	88,7	93,2	99,4	107,0	107,1
Hospital Solutions	75,8	91,4	90,3	99,2	92,6	100,5
G.U.System & Sex Hormones	66,1	69,8	71,5	74,1	77,6	78,7
Sensory Organs	58,2	64,0	66,1	68,1	71,2	73,2
Systemic Hormonal Preparations (Excl. Sex Hormones and Insulins)	41,7	45,6	48,4	54,3	59,7	65,6
Antineoplastic & Immunomodul Agents	9,3	10,0	9,8	10,2	11,3	12,6
Various (Other)	4,0	4,4	5,2	6,1	6,3	7,1
Antiparasitic Products, Insecticides and Repellents	5,0	5,5	5,1	5,1	5,4	5,7
Diagnostic Agents	3,6	4,1	4,3	4,5	4,3	4,7
Total	1.958,8	2.100,9	2.196,1	2.268,5	2.351,2	2.411,3

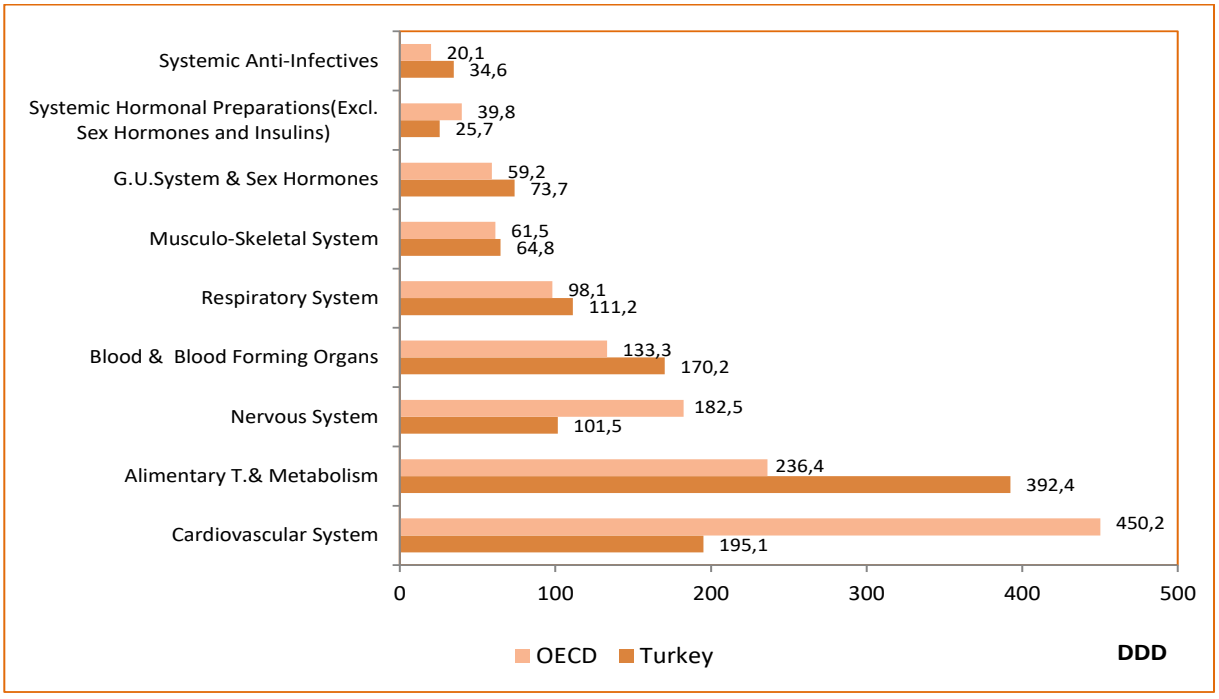
Source: Turkish Medicines and Medical Devices Agency

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

ATC-1 Group	2014	2015	2016	2017	2018	2019
Alimentary T.& Metabolism	224,0	286,2	332,7	340,6	387,4	392,4
Cardiovascular System	160,8	165,4	167,4	176,4	187,7	195,1
Blood & Blood Forming Organs	118,0	124,4	134,6	144,4	169,3	170,2
Respiratory System	87,3	94,3	96,4	99,9	109,0	111,2
Nervous System	86,6	91,2	93,8	98,4	101,1	101,5
G.U.System & Sex Hormones	53,0	56,4	53,5	68,5	69,9	73,7
Musculo-Skeletal System	59,2	61,6	64,7	62,0	61,6	64,8
Systemic Anti-Infectives	41,0	41,9	42,1	37,3	33,3	34,6
Systemic Hormonal Preparations(Excl. Sex Hormones and Insulins)	20,1	19,9	21,3	21,9	24,2	25,7

Source: Turkish Medicines and Medical Devices Agency

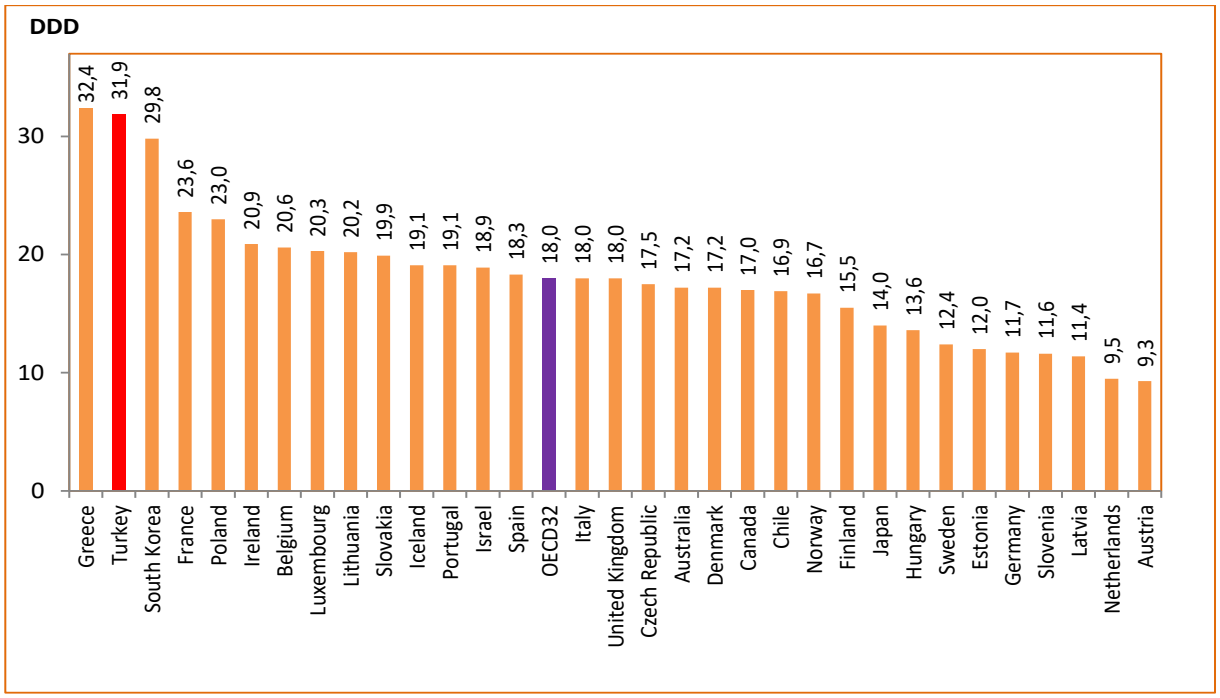
Figure 9.1. International Comparison of Pharmaceutical Consumption per 1.000 Population by Selected ATC-1 Groups, DDD, 2018



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2020

Note: Turkey's data belong to the year 2019. OECD's data belongs to the year of 2018 or nearest.

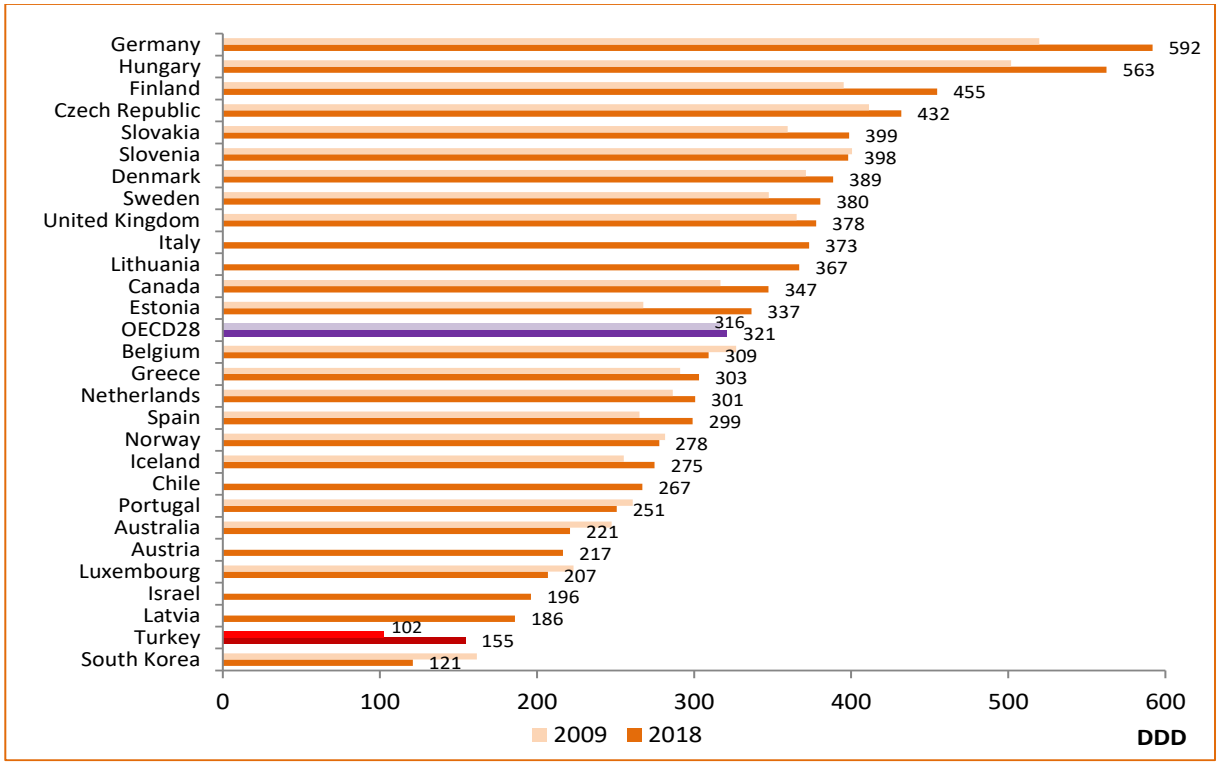
Figure 9.2. International Comparison of Antibiotic (ATC-J01) Consumption per 1.000 Population, DDD, 2018



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2020

Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

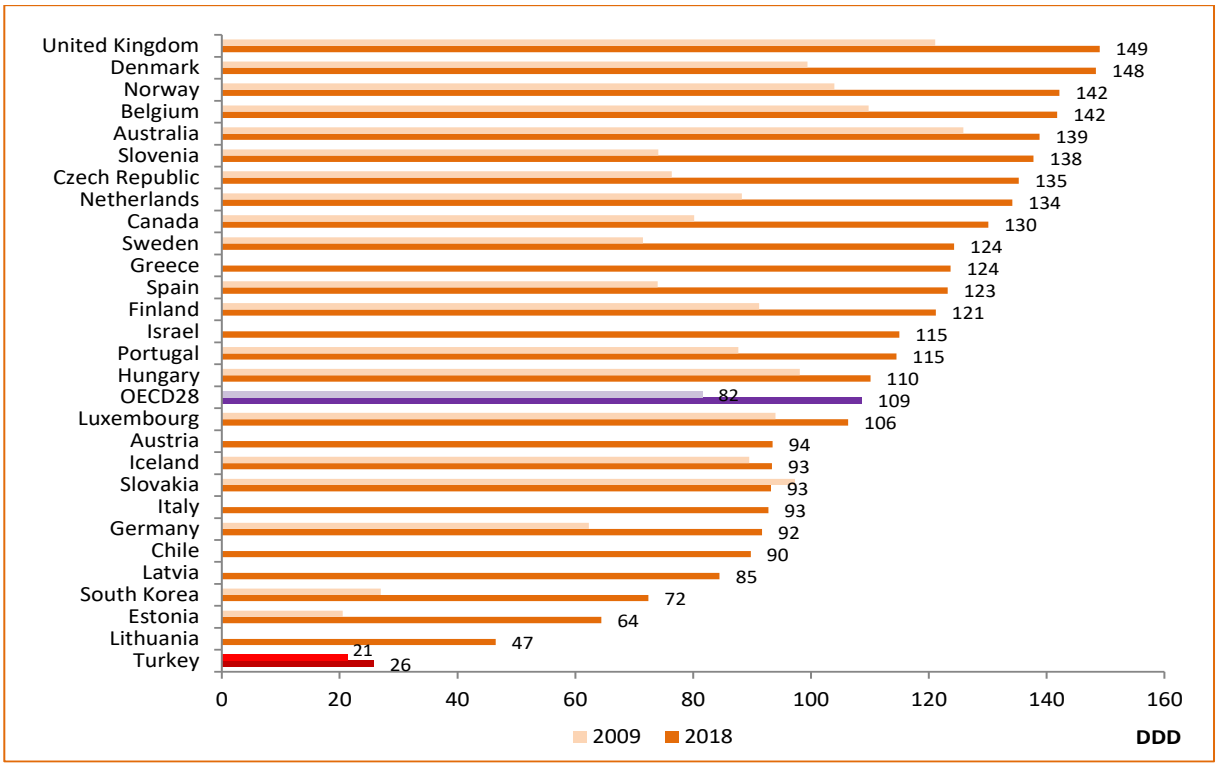
Figure 9.3. International Comparison of Antihypertensive Drug Consumption per 1.000 Population, DDD, 2009, 2018



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2020

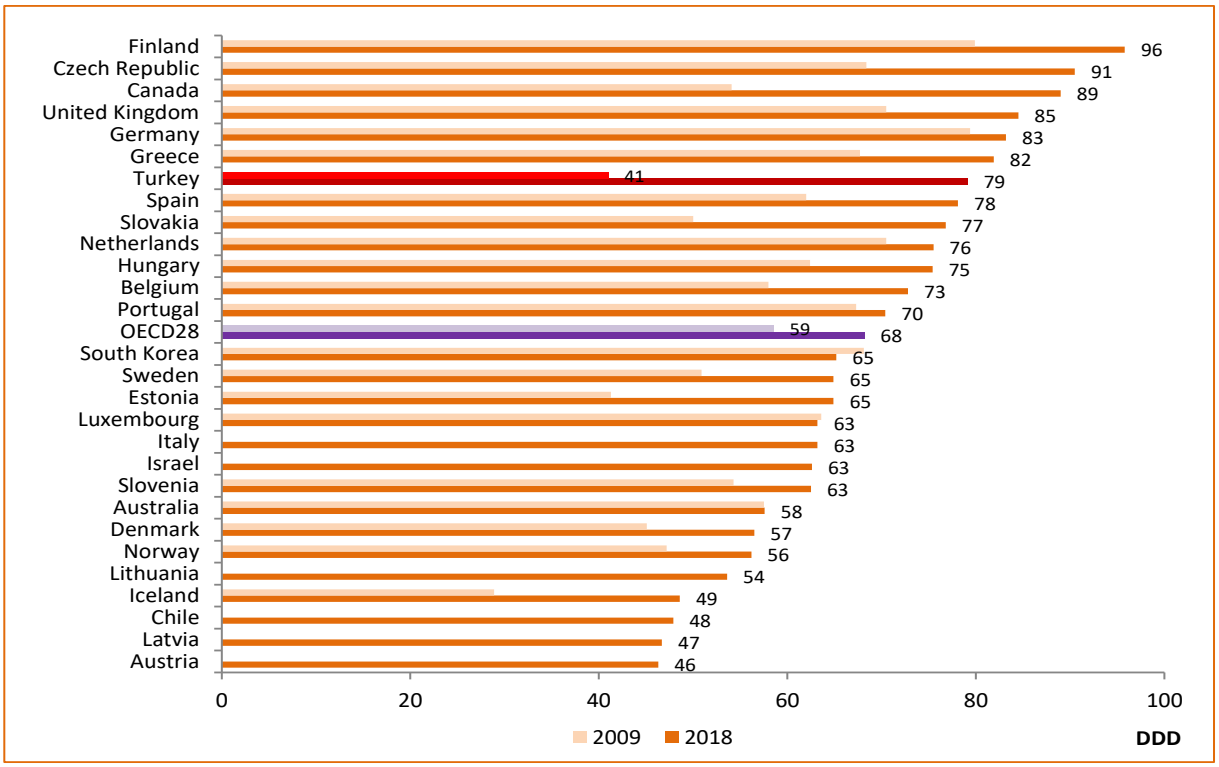
Note: Turkey's data belong to the year 2009 and 2019. Countries' data belong to the year of 2009 and 2018 or nearest. Data includes ATC codes C02, C03, C07, C08, C09.

Figure 9.4. International Comparison of Cholesterol-Lowering Drug (ATC-C10) Consumption per 1.000 Population, DDD, 2009, 2018



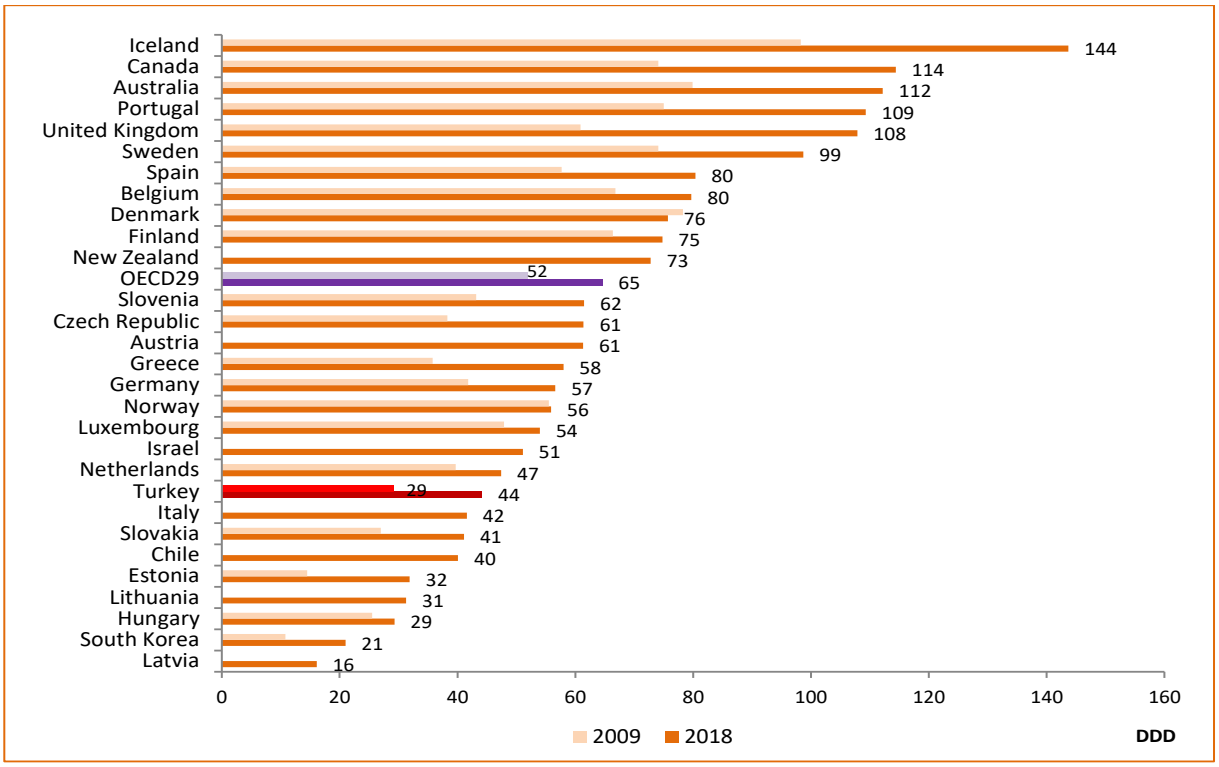
Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2020
Note: Turkey's data belong to the year 2009 and 2019. Countries' data belong to the year of 2009 and 2018 or nearest.

Figure 9.5. International Comparison of Antidiabetic Drug (ATC-A10) Consumption per 1.000 Population, DDD, 2009, 2018



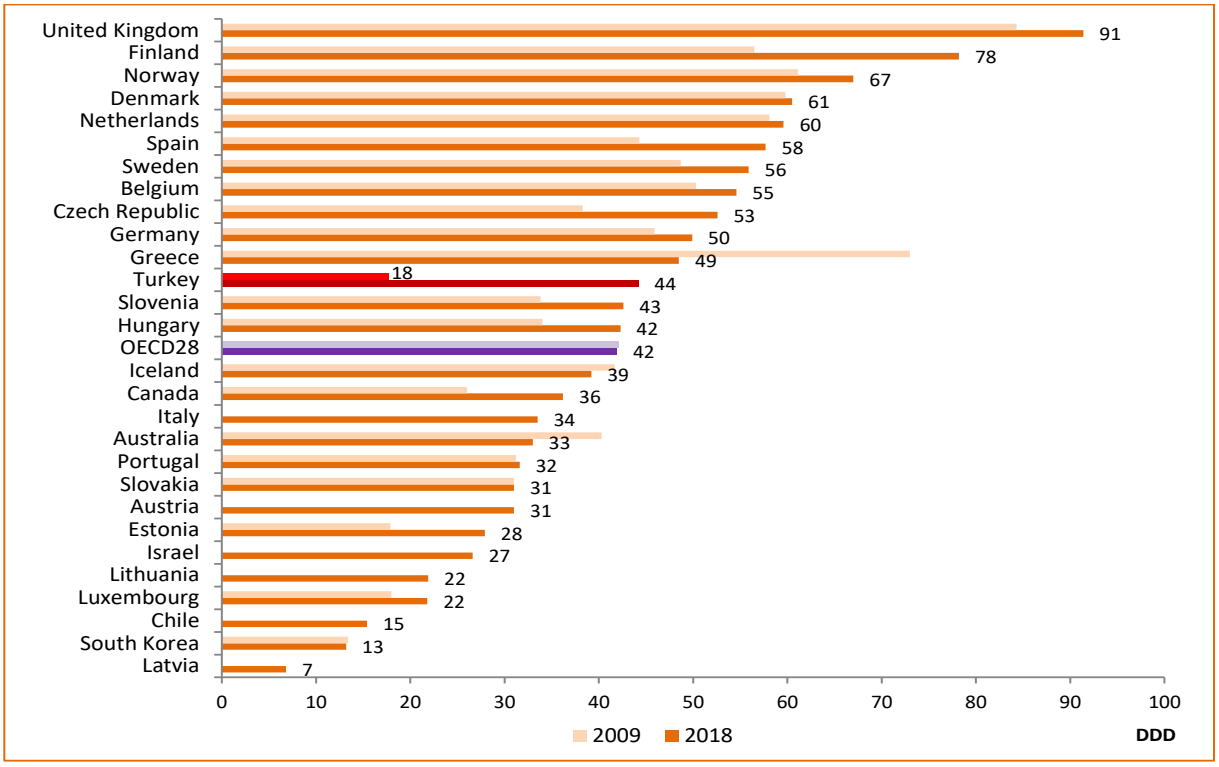
Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2020
Note: Turkey's data belong to the year 2009 and 2019. Countries' data belong to the year of 2009 and 2018 or nearest.

Figure 9.6. International Comparison of Antidepressant Drug (ATC-N06A) Consumption per 1.000 Population, DDD, 2009, 2018



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2020
Note: Turkey's data belong to the year 2009 and 2019. Countries' data belong to the year of 2009 and 2018 or nearest.

Figure 9.7. International Comparison of Drugs for Obstructive Airway Disease (ATC-R03) Consumption per 1.000 Population, DDD, 2009, 2018



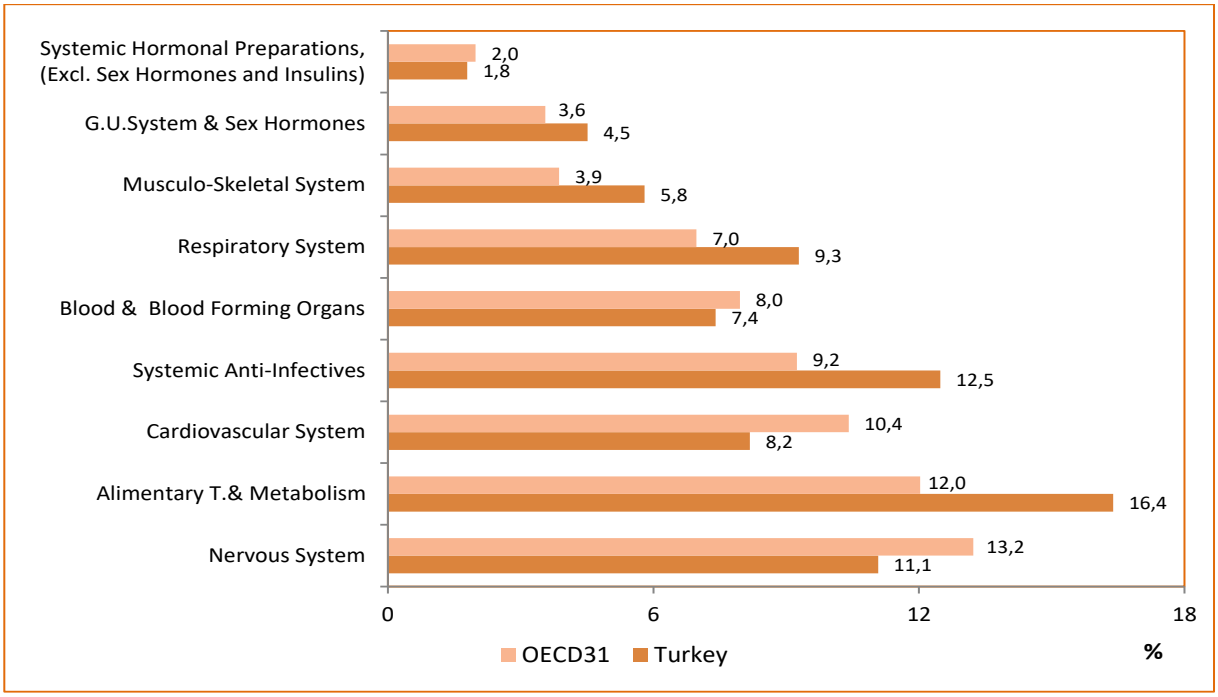
Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2020
Note: Turkey's data belong to the year 2009 and 2019. Countries' data belong to the year of 2009 and 2018 or nearest.

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

ATC-1 Group	2014	2015	2016	2017	2018	2019
Alimentary T.& Metabolism	2.328,7	2.779,4	3.361,1	4.163,1	5.223,5	6.893,8
Systemic Anti-Infectives	2.049,4	2.341,6	2.699,3	3.002,4	3.895,8	5.252,0
Nervous System	1.693,4	1.972,0	2.299,1	2.995,9	3.607,3	4.659,9
Respiratory System	1.549,6	1.685,7	2.002,8	2.431,2	3.019,9	3.906,6
Cardiovascular System	1.434,6	1.541,6	1.744,0	2.133,3	2.608,9	3.441,1
Blood & Blood Forming Organs	959,9	1.179,0	1.411,0	1.773,1	2.309,3	3.114,7
Musculo-Skeletal System	955,7	1.082,8	1.295,4	1.578,9	1.915,1	2.441,3
G.U.System & Sex Hormones	731,8	840,7	984,6	1.193,9	1.485,5	1.897,9
Systemic Hormonal Preparations, (Excl. Sex Hormones and Insulins)	297,2	352,6	411,4	476,7	614,3	753,3
Dermatologicals	546,4	635,9	694,0	825,0	983,0	1.264,9
Hospital Solutions	259,2	329,5	364,0	463,5	550,0	671,9
Sensory Organs	507,4	671,8	783,3	877,8	1.073,2	1.230,7
Diagnostic Agents	125,3	156,8	183,3	213,8	267,7	382,7
Antineoplastic & Immunomodul Agents	1.927,7	2.357,8	2.440,2	3.038,3	4.179,2	5.691,7
Various (Other)	137,6	174,0	226,8	273,3	314,7	419,4
Antiparasitic Products, Insecticides and Repellents	16,4	19,8	22,1	26,6	34,4	48,6
Total	15.520,0	18.121,0	20.922,4	25.466,7	32.081,8	42.070,4

Source: Turkish Medicines and Medical Devices Agency

Figure 9.8. International Comparison of Pharmaceutical Sales Amounts (National Currency) by Selected ATC-1 Groups, (%), 2018

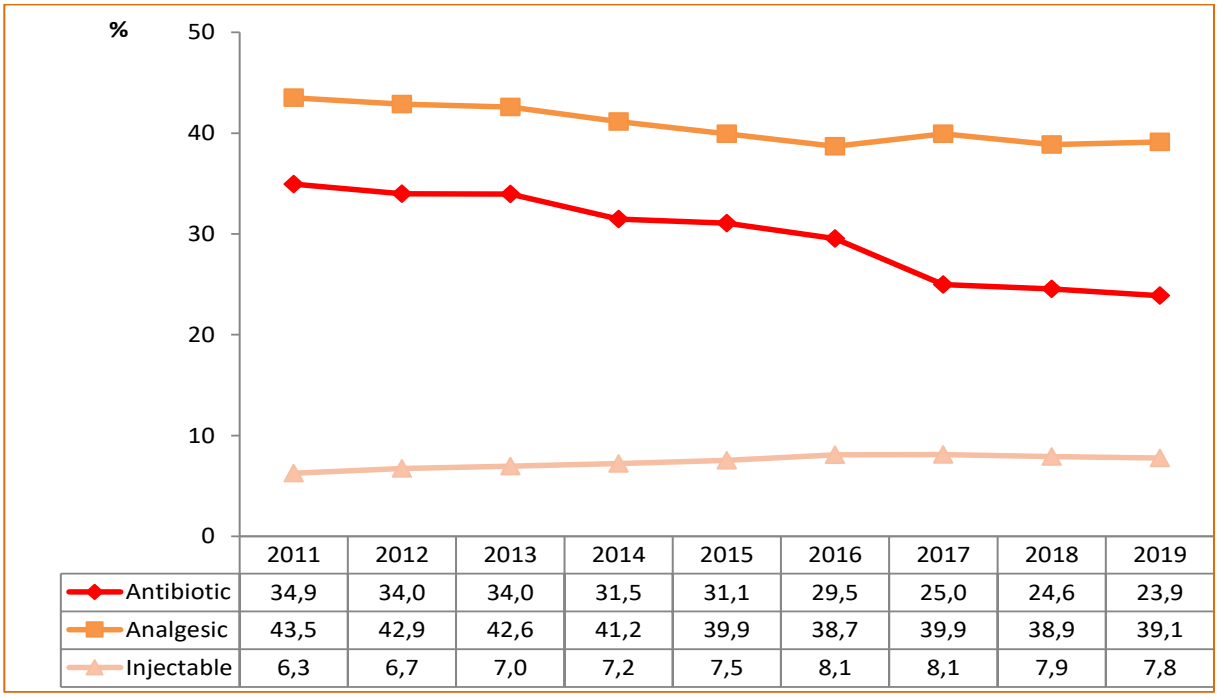


Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2020

Note: Turkey's data belong to the year 2019. OECD's data belongs to the year of 2018 or nearest. Musculo- Skeletal System for OECD's data is calculated over 30 countries.

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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
Antibiotic	34,9	34,0	34,0	31,5	31,1	29,5	25,0	24,6	23,9
Analgesic	43,5	42,9	42,6	41,2	39,9	38,7	39,9	38,9	39,1
Injectable	6,3	6,7	7,0	7,2	7,5	8,1	8,1	7,9	7,8

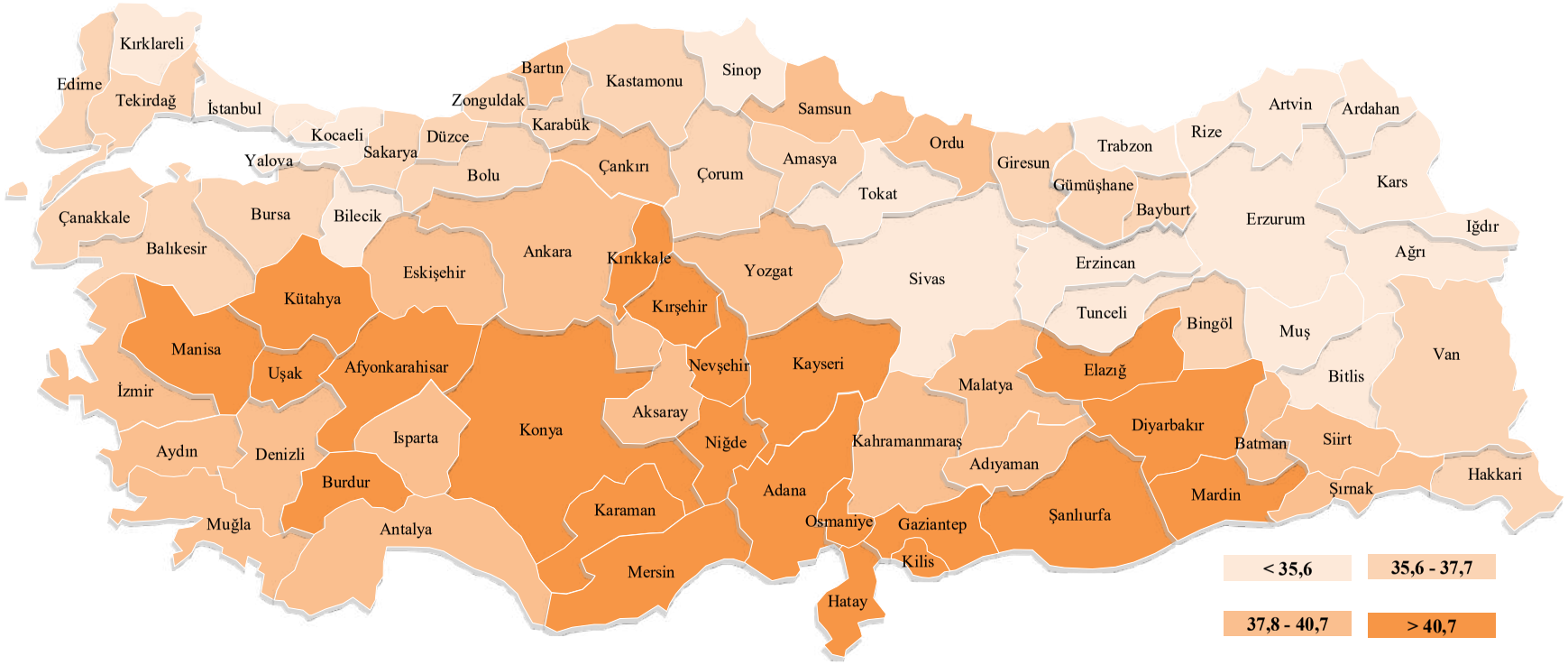
Source: Turkish Medicines and Medical Devices Agency

Map 9.1. Ratio of Prescriptions Including Antibiotic Among All Prescriptions Written Out by Family



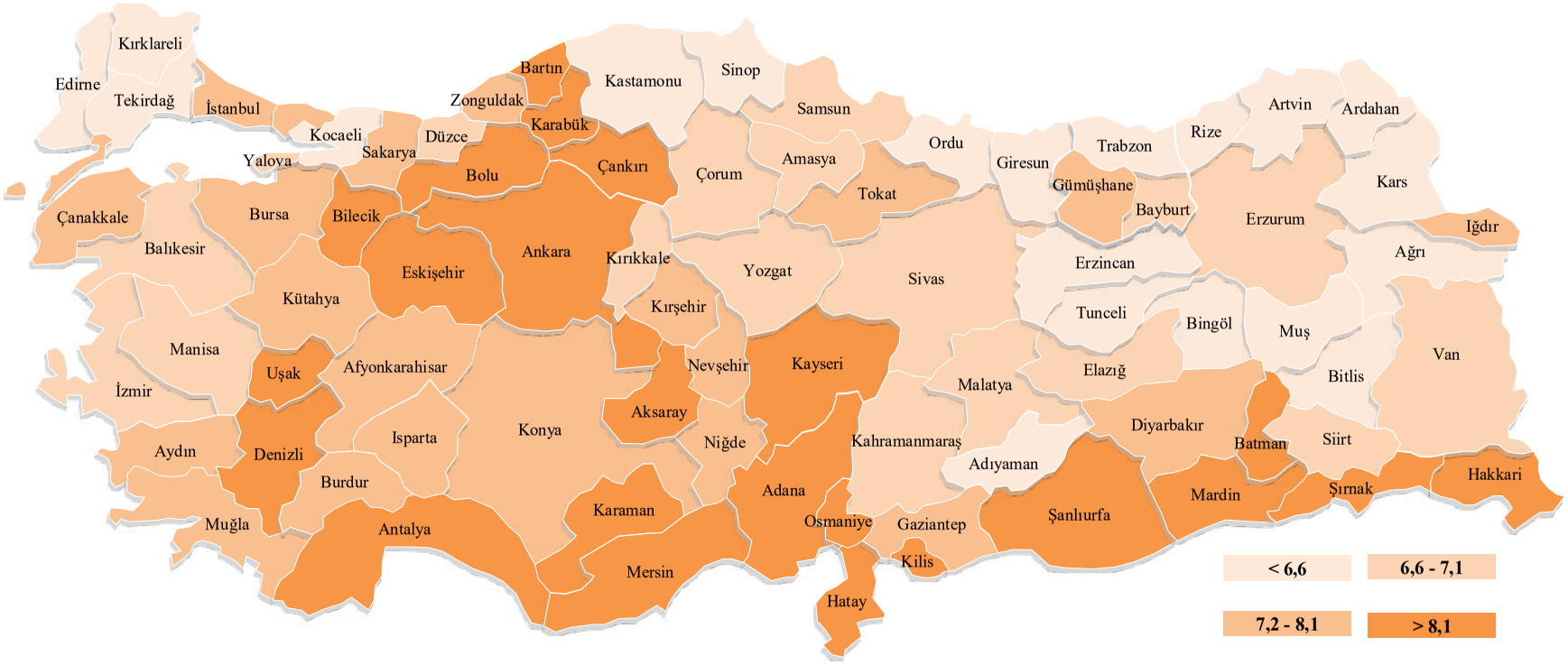
Source: Turkish Medicines and Medical Devices Agency

Map 9.2. Ratio of Prescriptions Including Analgesic Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2019



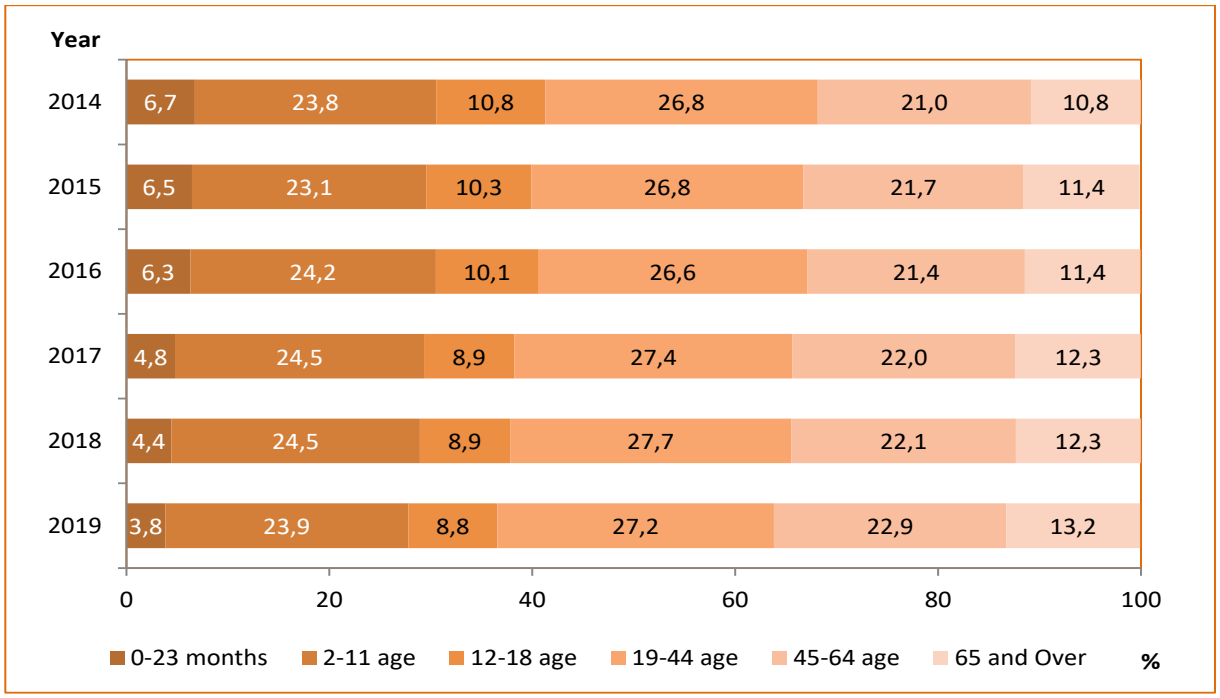
Source: Turkish Medicines and Medical Devices Agency

Map 9.3. Ratio of Prescriptions Including Injectable Drug Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2019



Source: Turkish Medicines and Medical Devices Agency

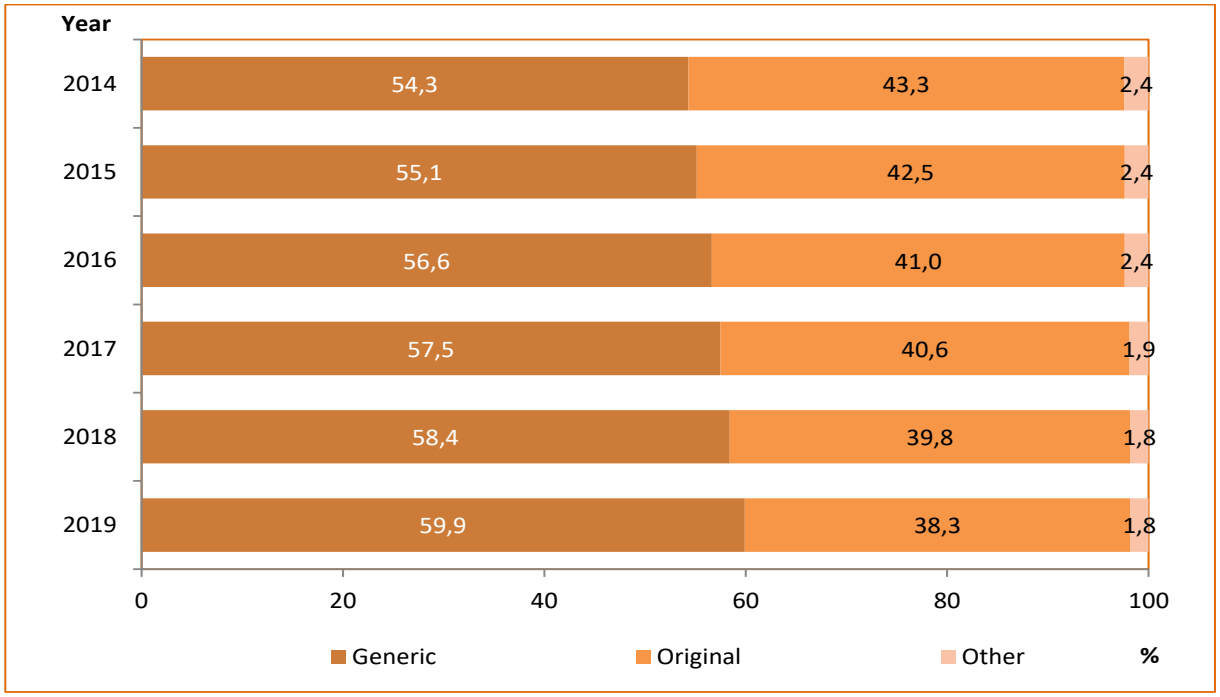
Figure 9.10. Distribution of Prescriptions Including Antibiotic Written Out by Family Physicians by Years and Age Groups, (%)



Source: Turkish Medicines and Medical Devices Agency

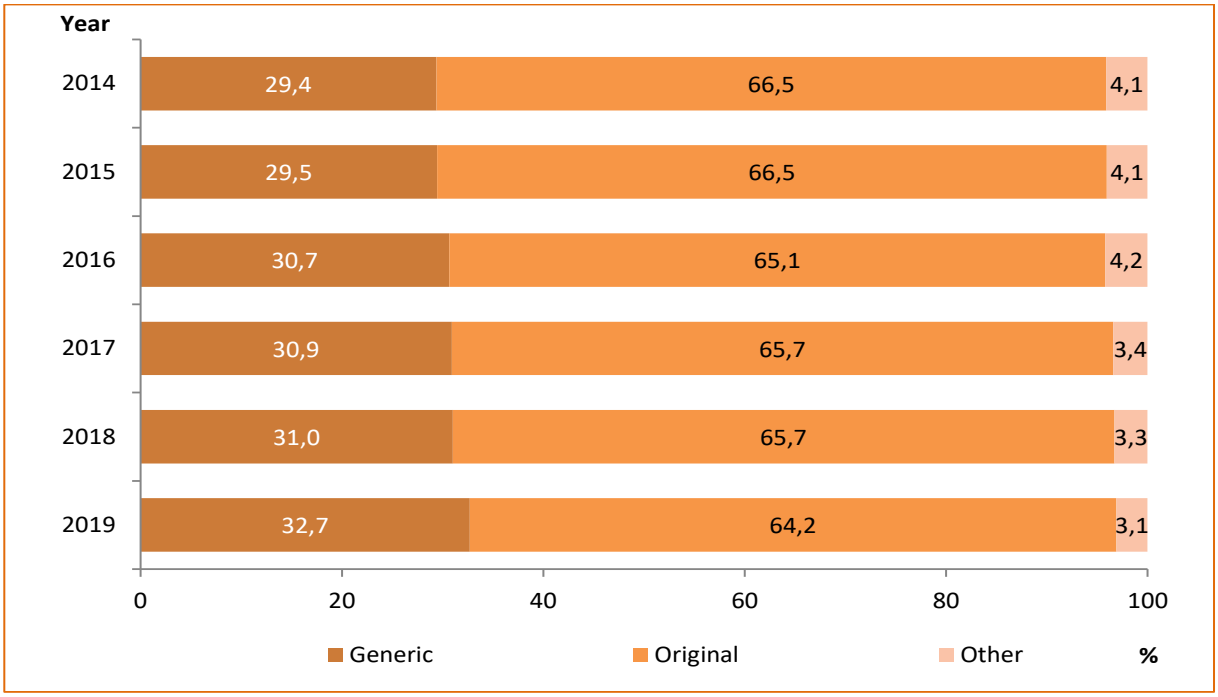
Note: In years when 100% is not completed, the age group of prescription data is unknown.

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



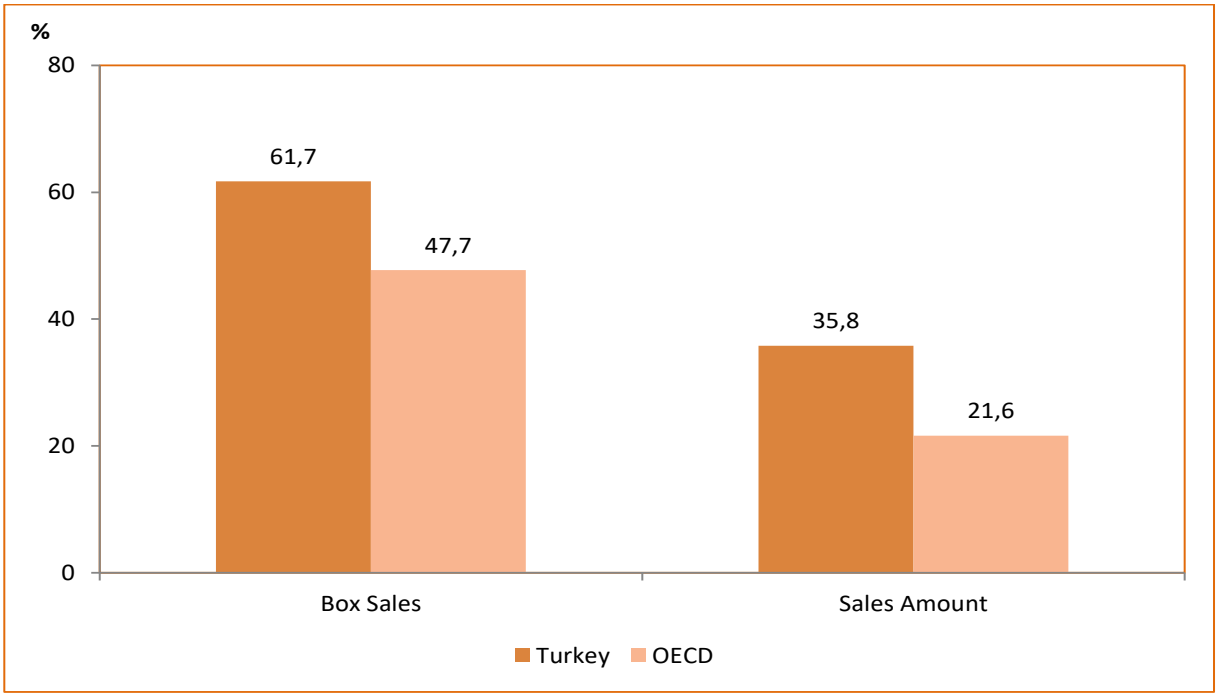
Source: Turkish Medicines and Medical Devices Agency

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



Source: Turkish Medicines and Medical Devices Agency

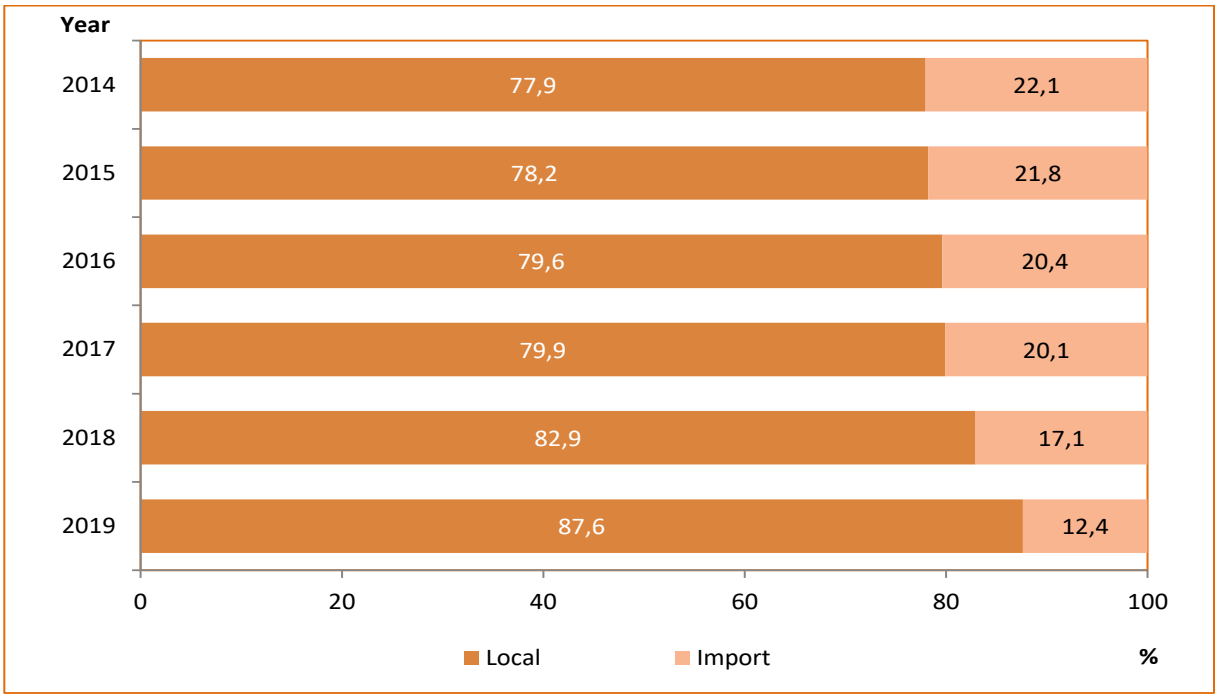
Figure 9.13. International Comparison of Share of Generic Market with respect to Box Sales and Sales Amounts (National Currency), (%), 2018



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2020

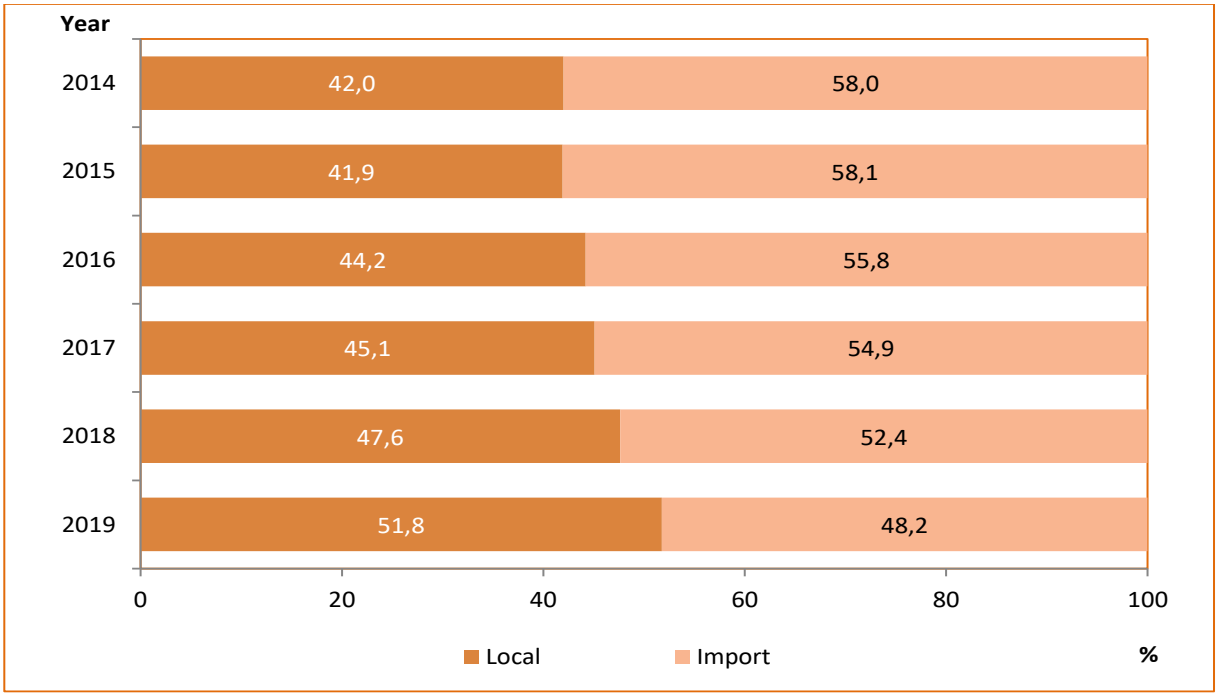
Note: Turkey's data belong to the year 2019. OECD's data belongs to the year of 2018 or nearest. Generic drugs include generic and drugs which is not specified original or generic.

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



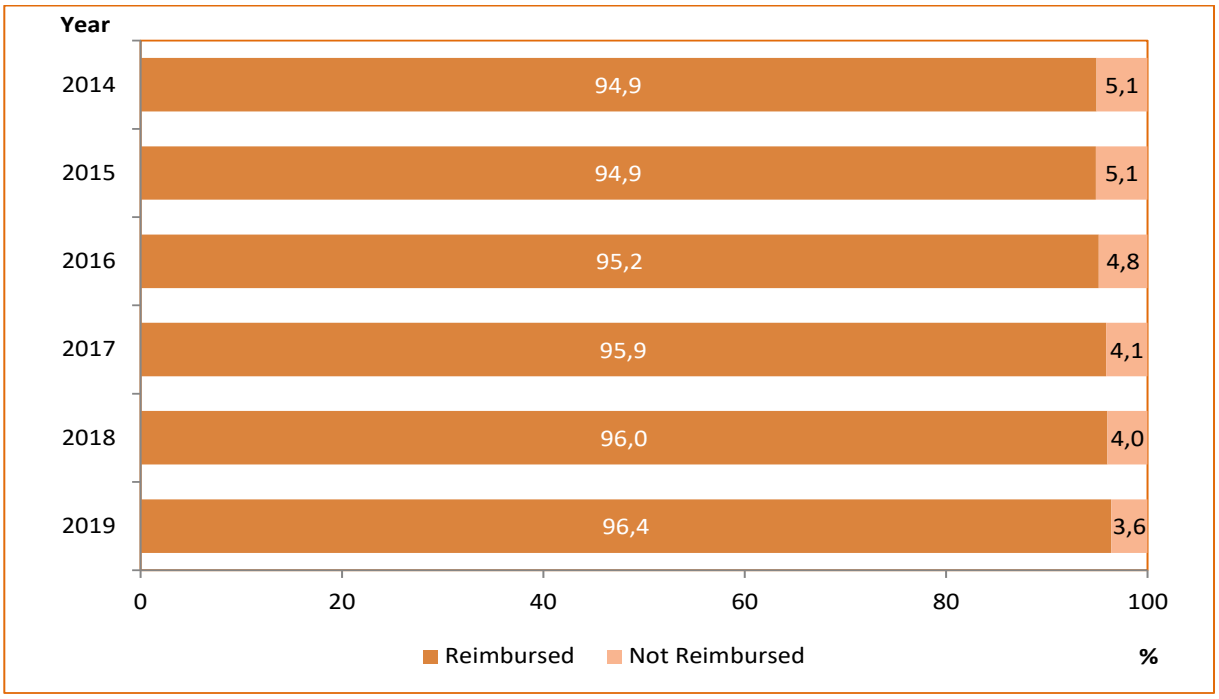
Source: Turkish Medicines and Medical Devices Agency

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



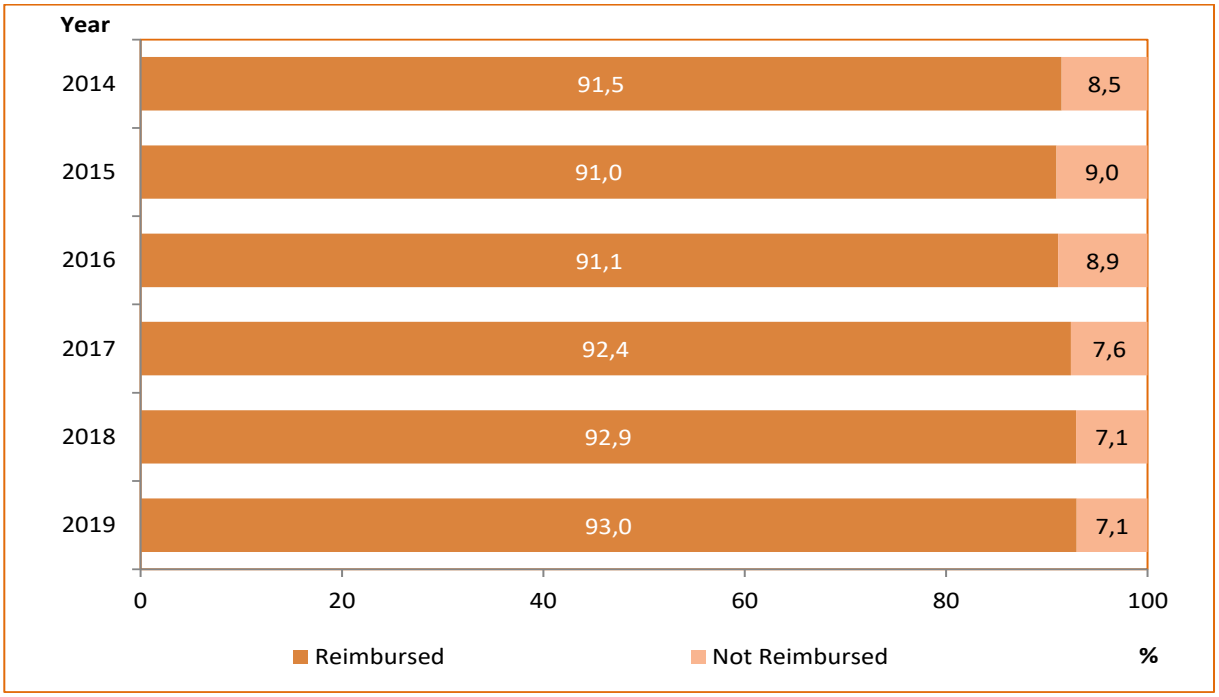
Source: Turkish Medicines and Medical Devices Agency

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



Source: Turkish Medicines and Medical Devices Agency

Figure 9.17. Distribution of Pharmaceutical Sales Amounts (in ₺) by Years and Reimbursement Status, (%)



Source: Turkish Medicines and Medical Devices Agency

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

Health Care Quality Indicators	2014			2015			2016		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Ratio of adequate use of cholesterol lowering treatment in people with diabetes, (%)	32,3	31,9	32,1	30,5	29,3	29,8	30,1	28,5	29,2
Ratio of first choice antihypertensive for people with diabetes, (%)	80,4	85,5	83,6	79,8	85,1	83,0	79,3	84,6	82,5
Ratio of long-term use of benzodiazepines and related drugs in 65 and over aged (per 1.000 population in FMIS)	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3
Ratio of use of long-acting benzodiazepines in 65 and over aged (per 1.000 population in FMIS)	1,5	1,5	1,5	1,3	1,3	1,3	1,1	1,2	1,2
Volume of cephalosporines and quinolones as a proportion of all systemic antibiotics prescribed, (%)	37,8	40,2	39,1	34,7	37,2	36,1	31,1	33,8	32,6
Overall volume (DDD) of antibiotics for systemic use prescribed (per 1.000 population in FMIS)	18,2	18,3	18,2	17,6	17,1	17,3	16,7	16,5	16,6

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:

http://stats.oecd.org/wbos/fileview2.aspx?IDFile=62f94ae6-180c-4e4b-9a22-b030ddadfd35

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

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

Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2019

Note: Turkey's data belong to the year 2016. OECD's data belongs to the year of 2017 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.

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

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



CHAPTER 10

Human Resources for Health

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

	2002	2015	2016	2017	2018	2019
Specialist Physicians	45.457	77.622	78.620	80.951	82.894	85.199
General Practitioners	30.900	41.794	43.058	44.649	44.053	46.843
Medical Residents	15.592	21.843	23.149	24.397	26.181	28.768
Total Physicians	**91.949**	**141.259**	**144.827**	**149.997**	**153.128**	**160.810**
Total Dentists	16.371	24.834	26.674	27.889	30.615	32.925
Pharmacists	22.289	27.530	27.864	28.512	32.032	33.841
Nurses	72.393	152.803	152.952	166.142	190.499	198.103
Midwives	41.479	53.086	52.456	53.741	56.351	55.972
Other Health Personnel	50.106	145.943	144.609	155.417	177.409	182.456
Other Personnel and Procurement of Services	83.964	311.337	321.952	339.241	376.367	369.660
Total Personnel	378.551	856.792	871.334	920.939	1.016.401	1.033.767

Source: General Directorate of Health Services

Note: 2.012 physicians in the subspecialty program are included to the number of "Medical Resident". 2.298 dental residents are included to the number of "Total Dentist". 2.120 pharmacists including graduated intern pharmacist and second pharmacists were added to the number of "Pharmacists".

Table 10.2. Distribution of Health Care Professionals by Sectors and Titles, 2019

	Ministry of Health	University	Private	Total
Specialist Physicians	44.698	14.822	25.679	85.199
General Practitioners	42.300	307	4.236	46.843
Medical Residents	10.147	18.621	0	28.768
Total Physicians	**97.145**	**33.750**	**29.915**	**160.810**
Specialist Dentists	1.051	1.976	2.368	5.395
Dentists	10.281	206	14.745	25.232
Dental Residents	55	2.243	0	2.298
Total Dentists	**11.387**	**4.425**	**17.113**	**32.925**
Pharmacists	3.404	840	29.597	33.841
Nurses	132.333	31.324	34.446	198.103
Midwives	52.076	809	3.087	55.972
Other Health Personnel	124.758	17.050	40.648	182.456
Other Personnel and Procurement of Services	229.335	48.331	91.994	369.660
Total Personnel	650.438	136.529	246.800	1.033.767

Source: General Directorate of Health Services

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

	2002	2015	2016	2017	2018	2019
Specialist Physicians	22.187	38.783	40.544	42.726	43.347	44.698
General Practitioners	29.030	35.833	37.173	38.721	39.442	42.300
Medical Residents	6.189	7.973	8.615	8.817	8.770	10.147
Total Physicians	**57.406**	**82.589**	**86.332**	**90.264**	**91.559**	**97.145**
Total Dentists	3.211	8.683	9.125	9.768	10.814	11.387
Pharmacists	1.596	2.156	2.318	2.855	3.064	3.404
Nurses	54.360	101.722	103.507	112.074	126.891	132.333
Midwives	39.473	48.078	47.766	49.003	52.495	52.076
Other Health Personnel	33.276	102.243	104.446	111.193	121.206	124.758
Other Personnel and Procurement of Services	67.496	194.689	204.778	215.402	236.155	229.335
Total Personnel	256.818	540.160	558.272	590.559	642.184	650.438

Source: General Directorate of Health Services

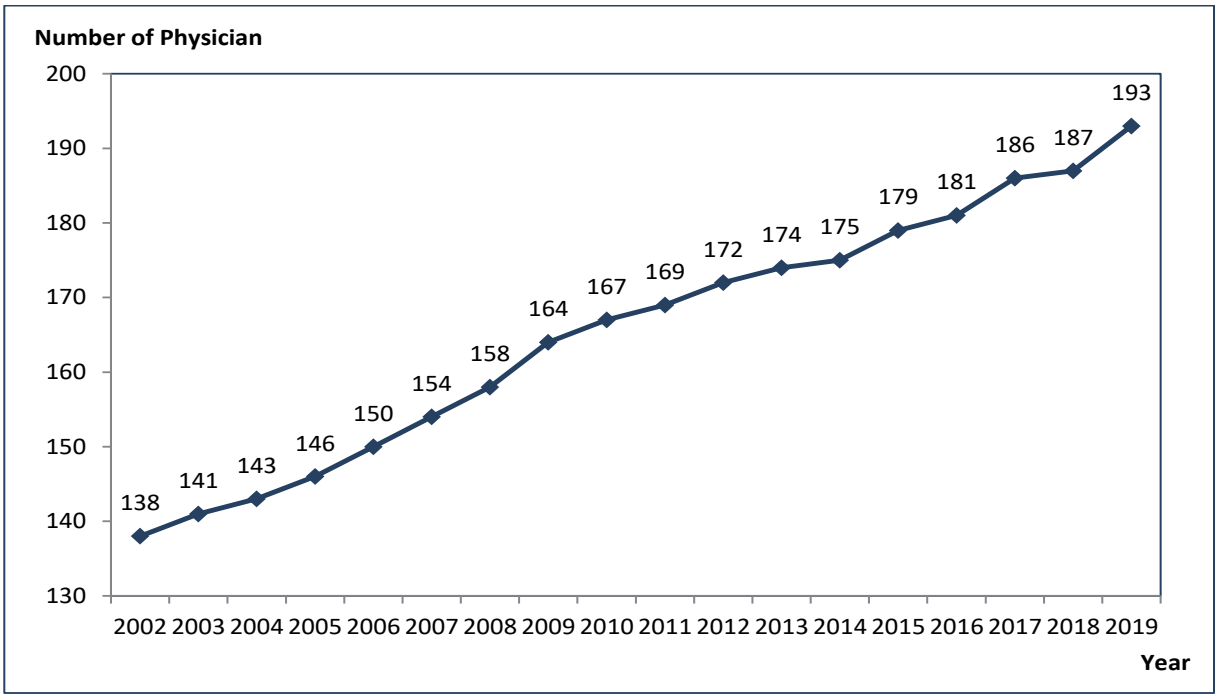
Table 10.4. Distribution of Health Care Professionals Working in Central Organization by Titles, MoH, 2019

	Central Organization
Specialist Physicians	143
General Practitioners	282
Medical Residents	-
Total Physicians	**425**
Specialist Dentists	7
Dentists	30
Dental Residents	-
Total Dentists	**37**
Pharmacists	380
Nurses	414
Midwives	157
Other Health Personnel	925
Other Personnel and Procurement of Services	4.221
Total Personnel	6.559

Source: General Directorate of Health Services

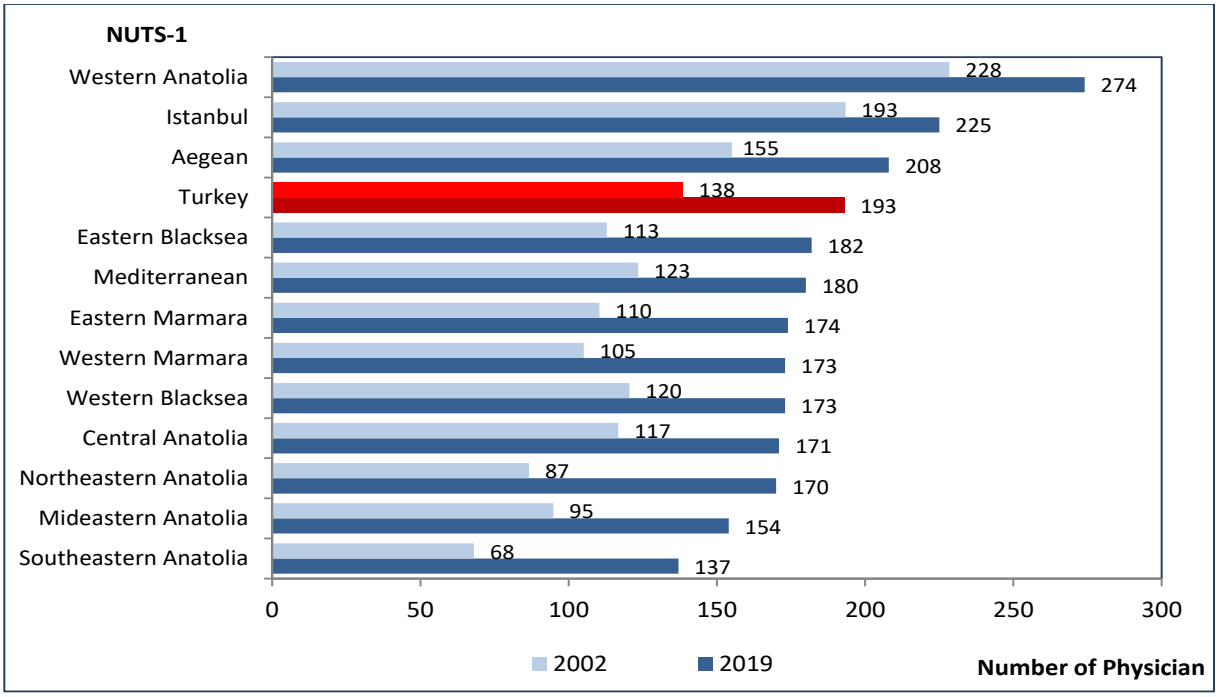
Not: The health personnel working in the central organization of the Ministry of Health are not included in the number of Ministry of Health personnel.

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, 2019

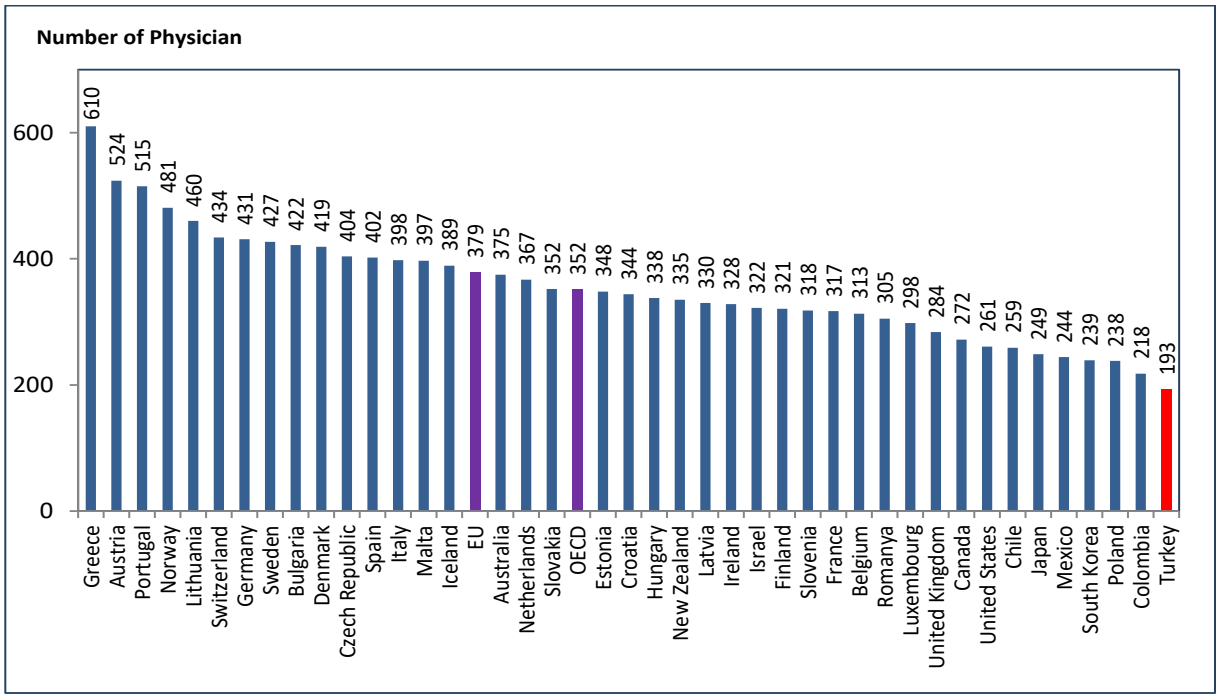


Source: General Directorate of Health Services

Map 10.1. Number of Total Physicians per 100.000 Population by Provinces, All Sectors, 2019

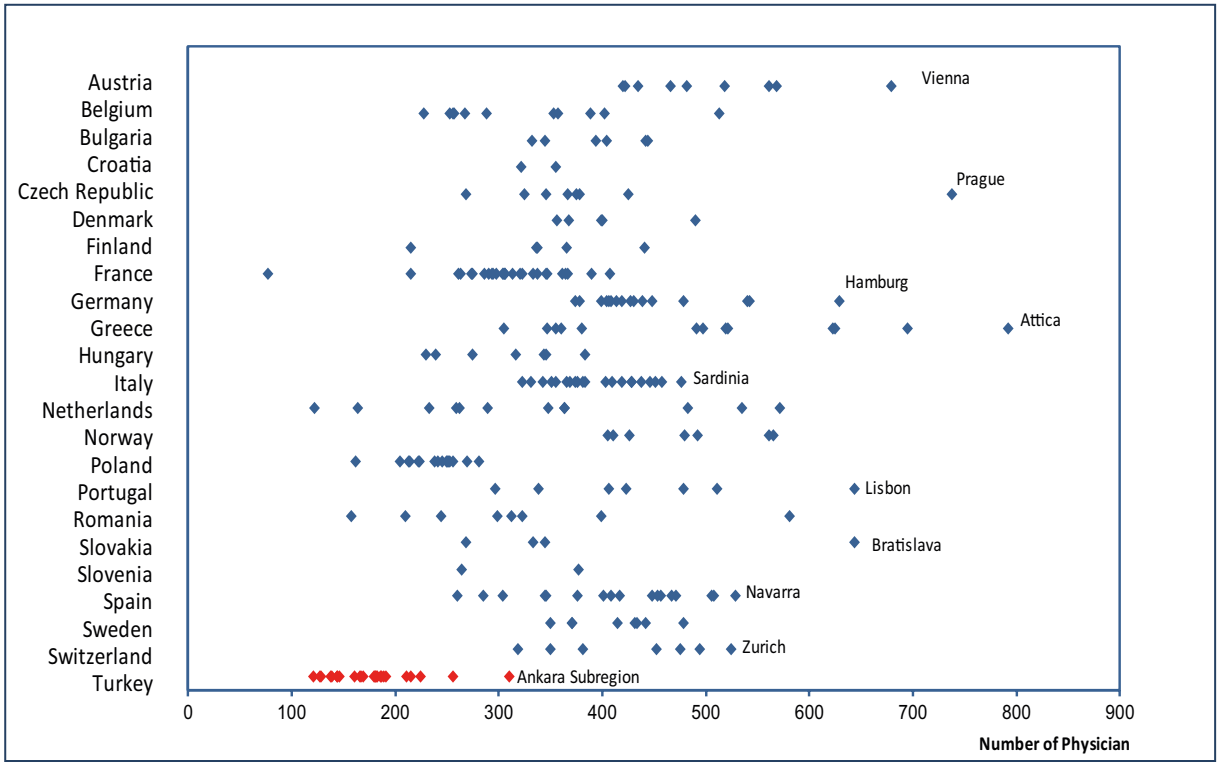
Source: General Directorate of Health Services

Figure 10.3. International Comparison of Number of Total Physicians per 100.000 Population, 2018



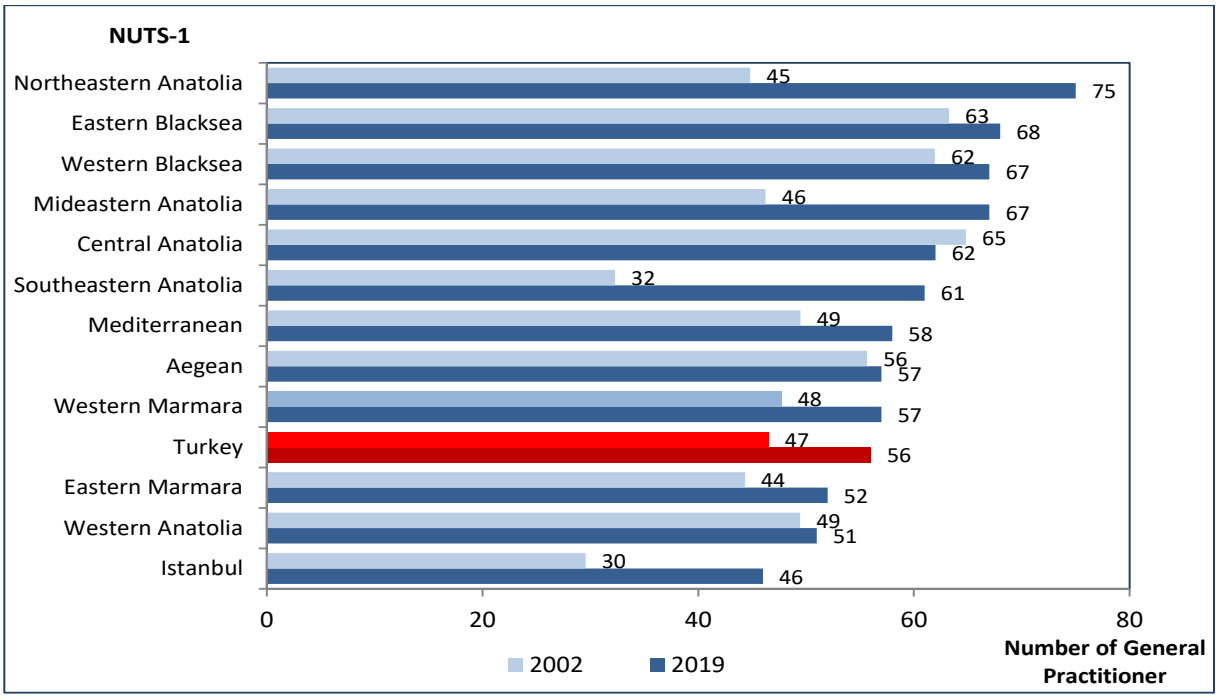
Source: General Directorate of Health Services, OECD Health Data 2020, EUROSTAT Database
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Figure 10.4. International Comparison of Number of Total Physicians per 100.000 Population by NUTS-2, 2018



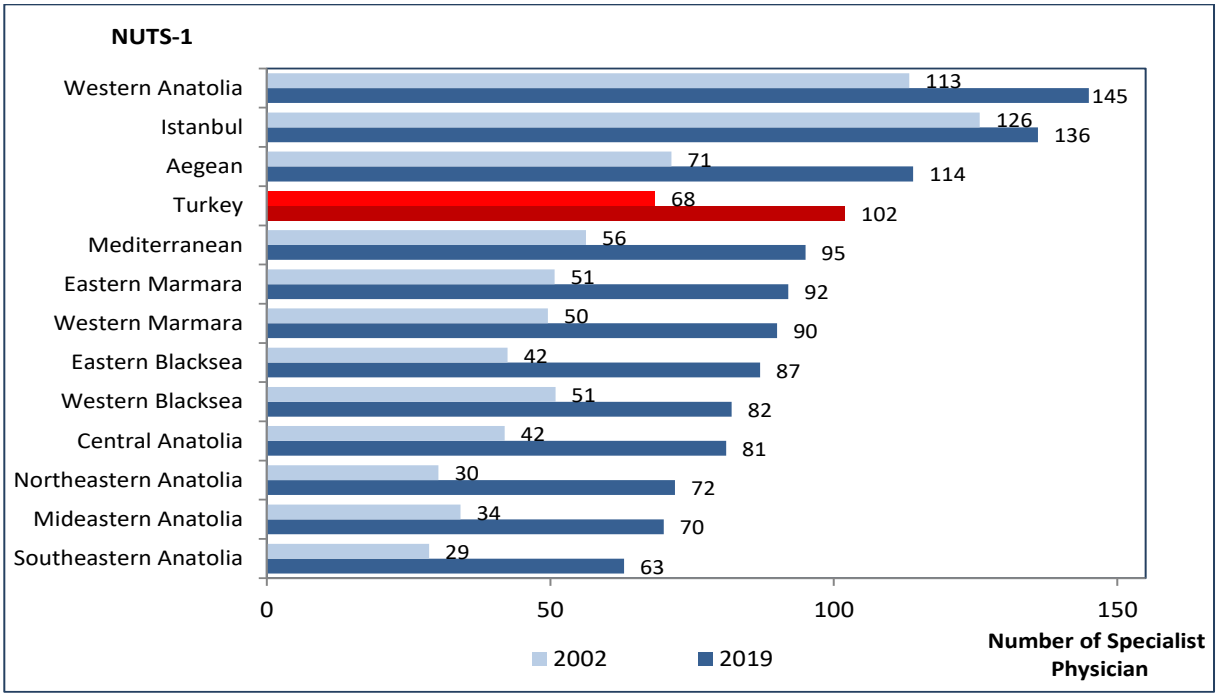
Source: General Directorate of Health Services, EUROSTAT Database
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Figure 10.5. Number of General Practitioners per 100.000 Population by NUTS-1, All Sectors, 2002, 2019



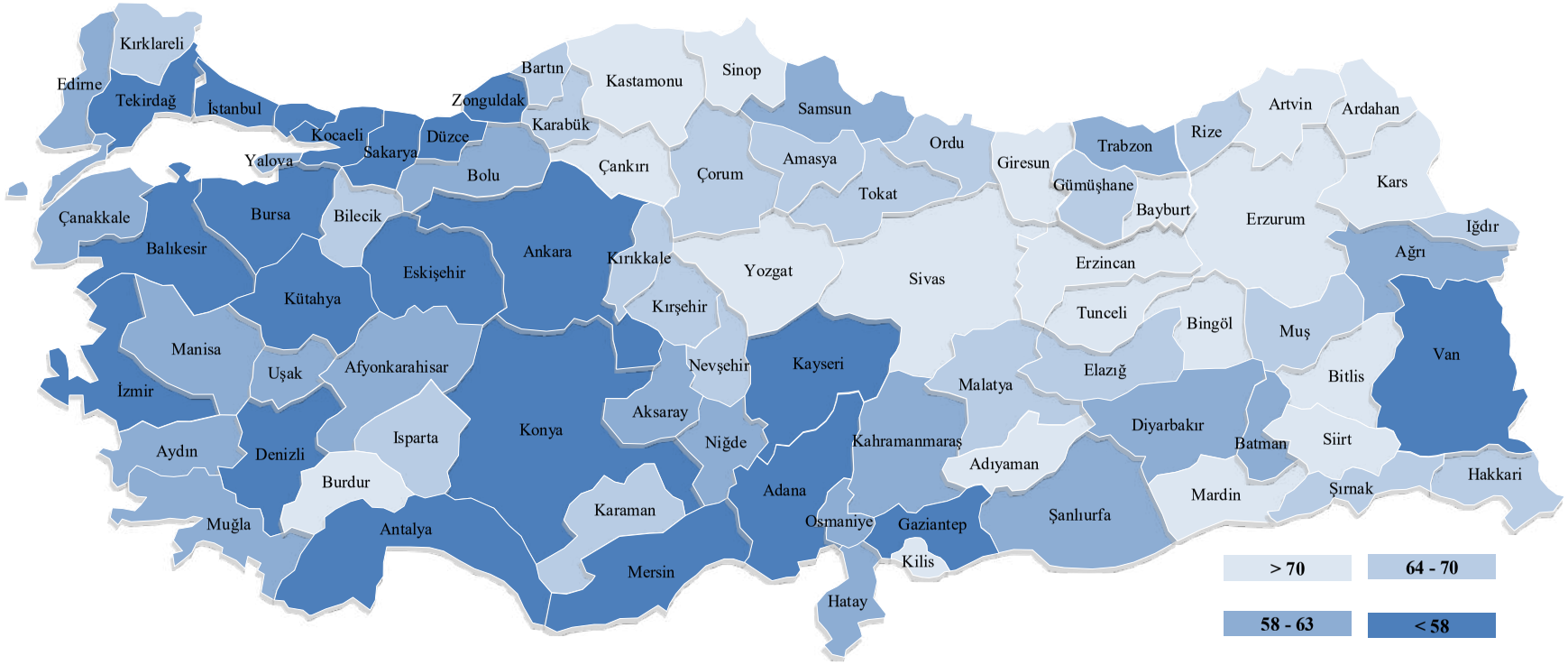
Source: General Directorate of Health Services

Figure 10.6. Number of Specialist Physicians per 100.000 Population by NUTS-1, All Sectors, 2002, 2019



Source: General Directorate of Health Services

Map 10.2. Number of General Practitioners per 100.000 Population by Provinces, All Sectors, 2019

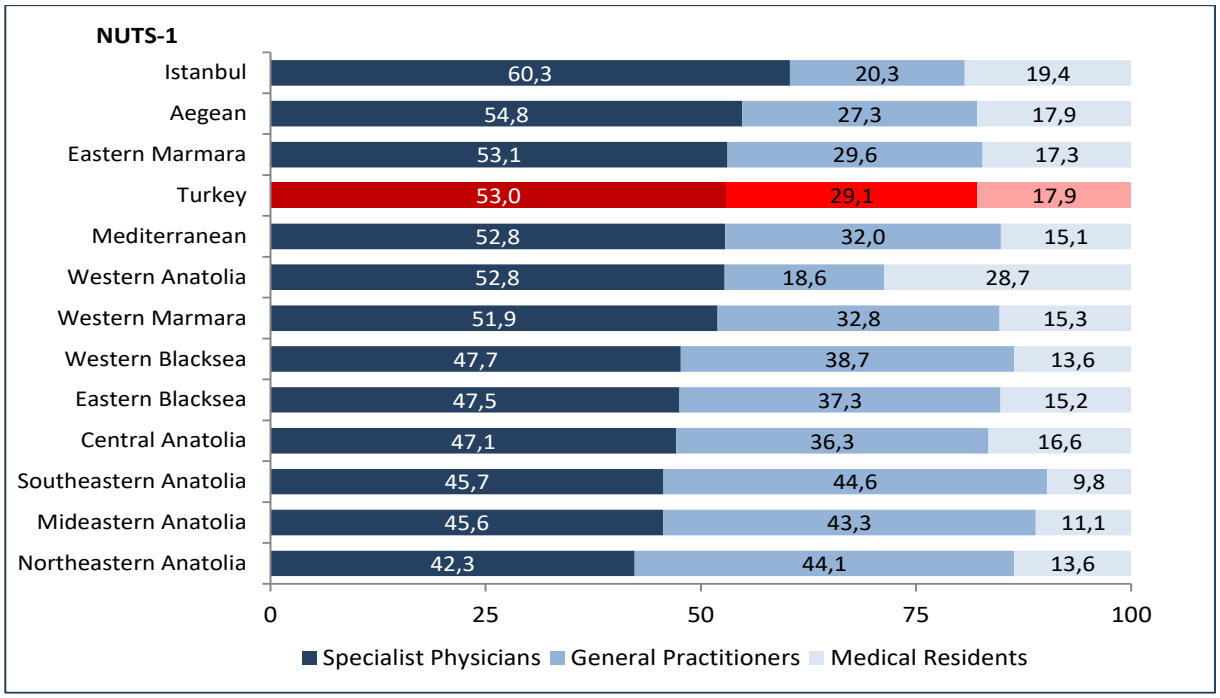


Source: General Directorate of Health Services

Map 10.3. Number of Specialist Physicians per 100.000 Population by Provinces, All Sectors, 2019

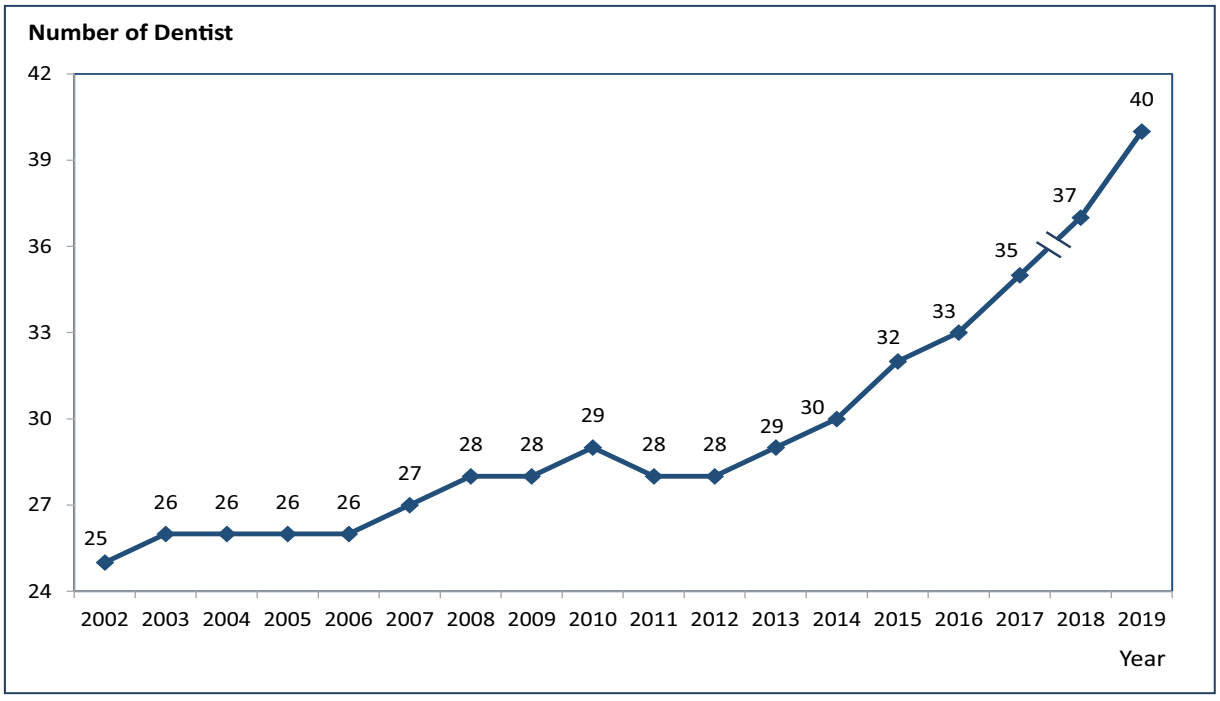
Source: General Directorate of Health Services

Figure 10.7. Distribution of Specialist Physicians, General Practitioners and Medical Residents by NUTS-1, All Sectors, (%), 2019



Source: General Directorate of Health Services

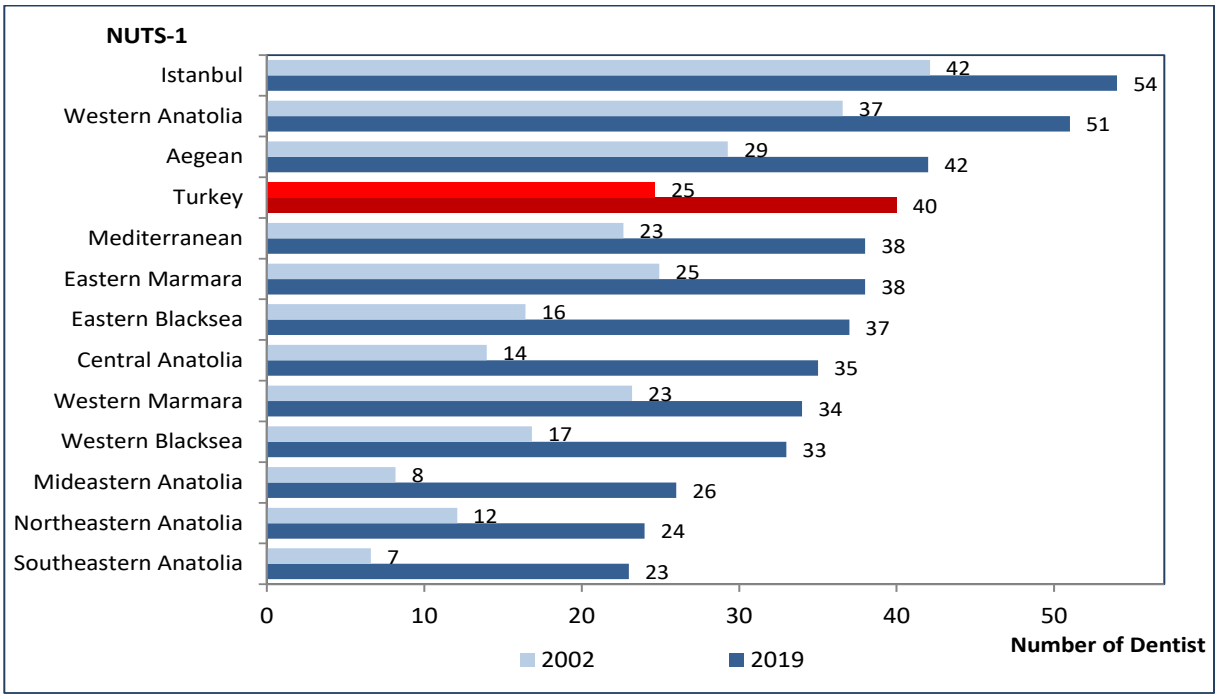
Figure 10.8. Number of Total Dentists per 100.000 Population by Years, All Sectors



Source: General Directorate of Health Services

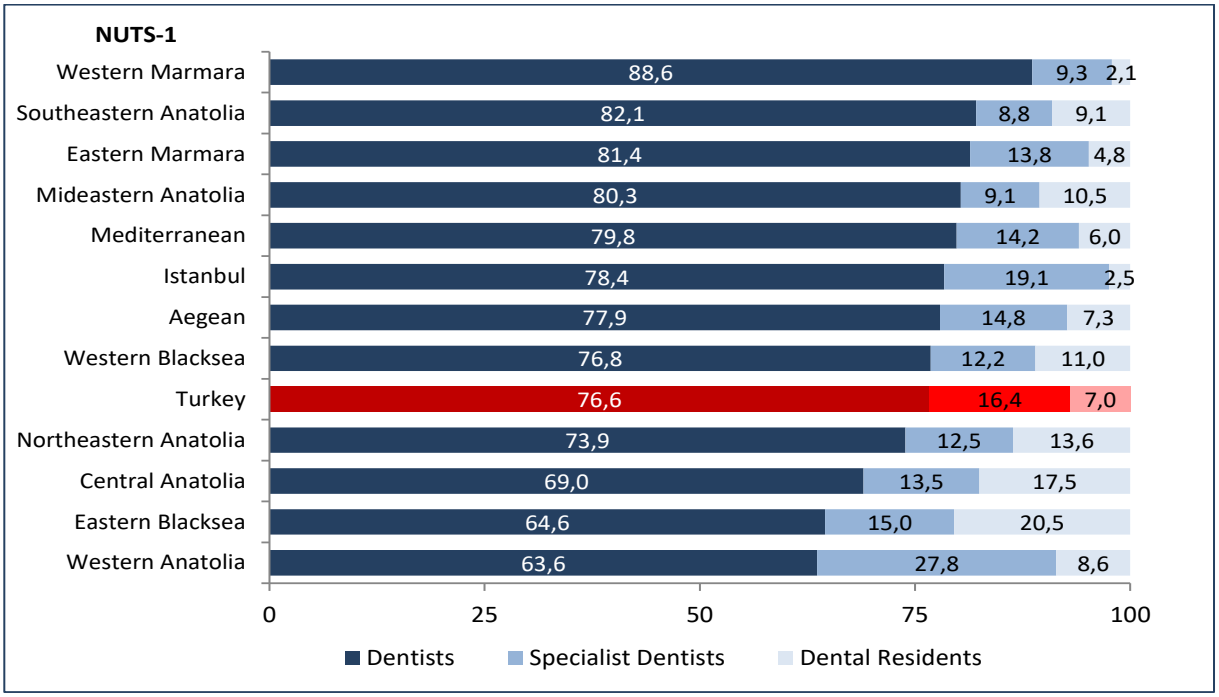
Note: Unlike the previous years, the number of dentists includes dental residents for the year of 2018 and 2019. Number of dentists per 100.000 population not including dental residents is 37 for 2019.

Figure 10.9. Number of Total Dentists per 100.000 Population by NUTS-1, All Sectors, 2002, 2019



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

Figure 10.10. Distribution of Dentists, Specialist Dentists and Dental Residents by NUTS-1, All Sectors, (%), 2019

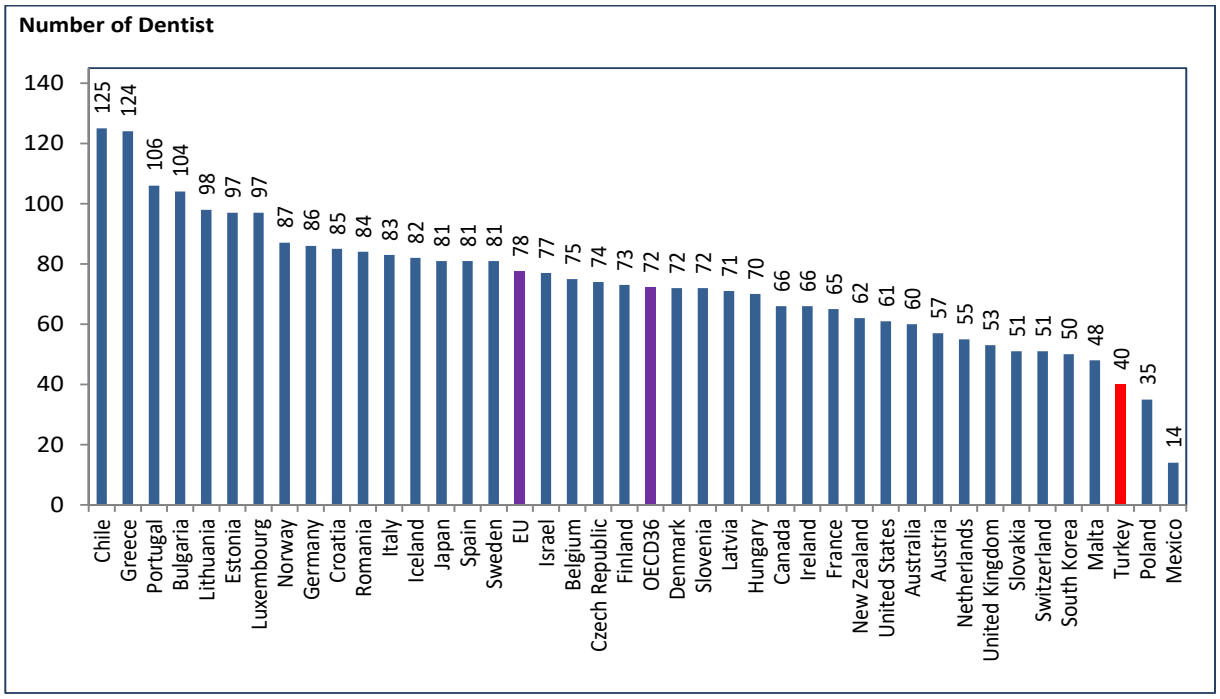


Source: General Directorate of Health Services

Map 10.4. Number of Total Dentists per 100.000 Population by Provinces, All Sectors, 2019

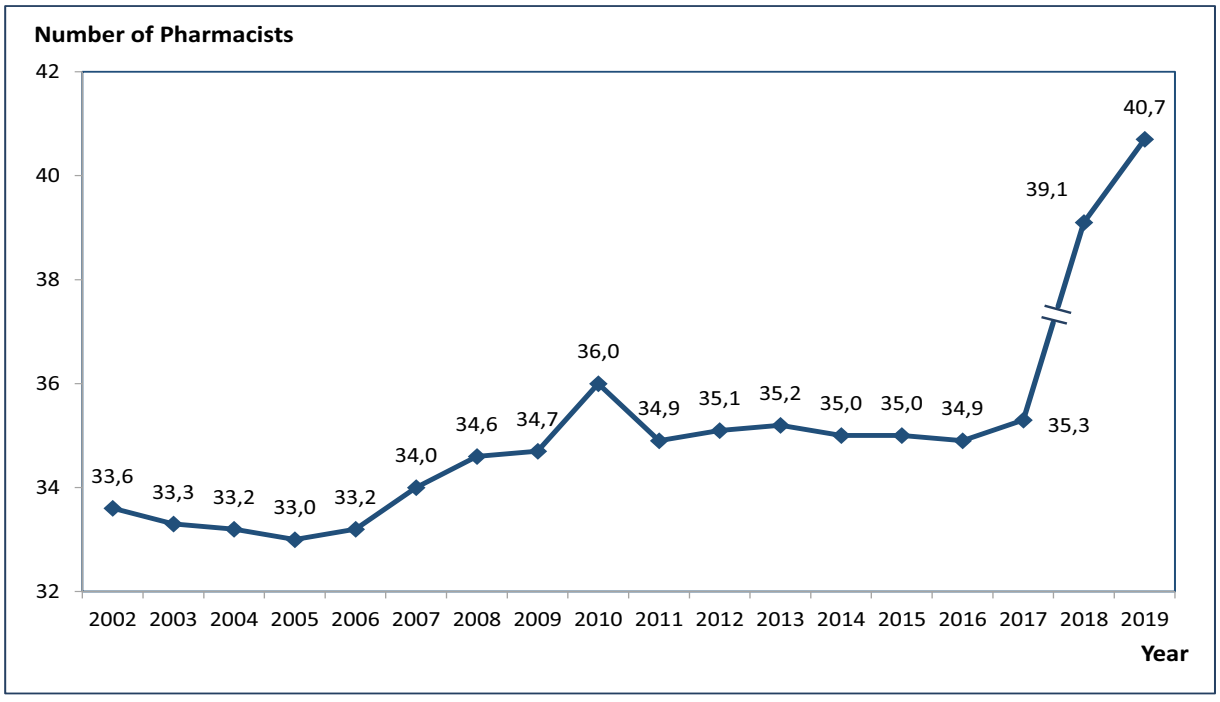
Source: General Directorate of Health Services

Figure 10.11. International Comparison of Number of Total Dentists per 100.000 Population, 2018



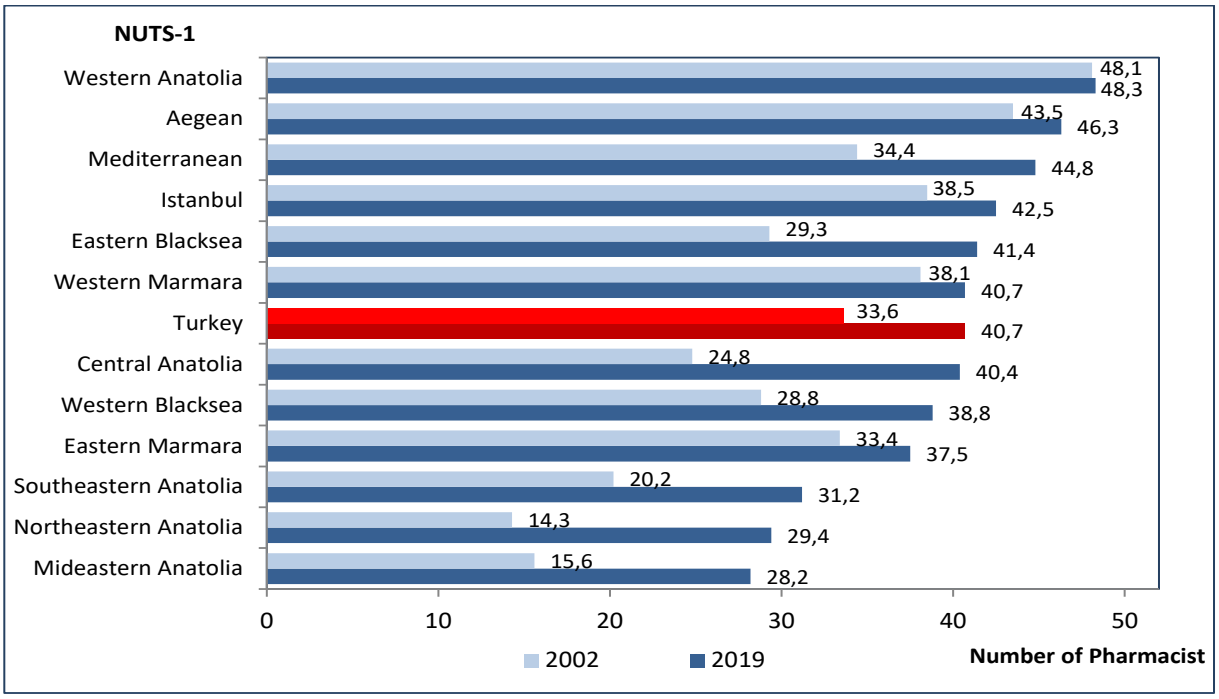
Source: General Directorate of Health Services, OECD Health Data 2020, EUROSTAT Database
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

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



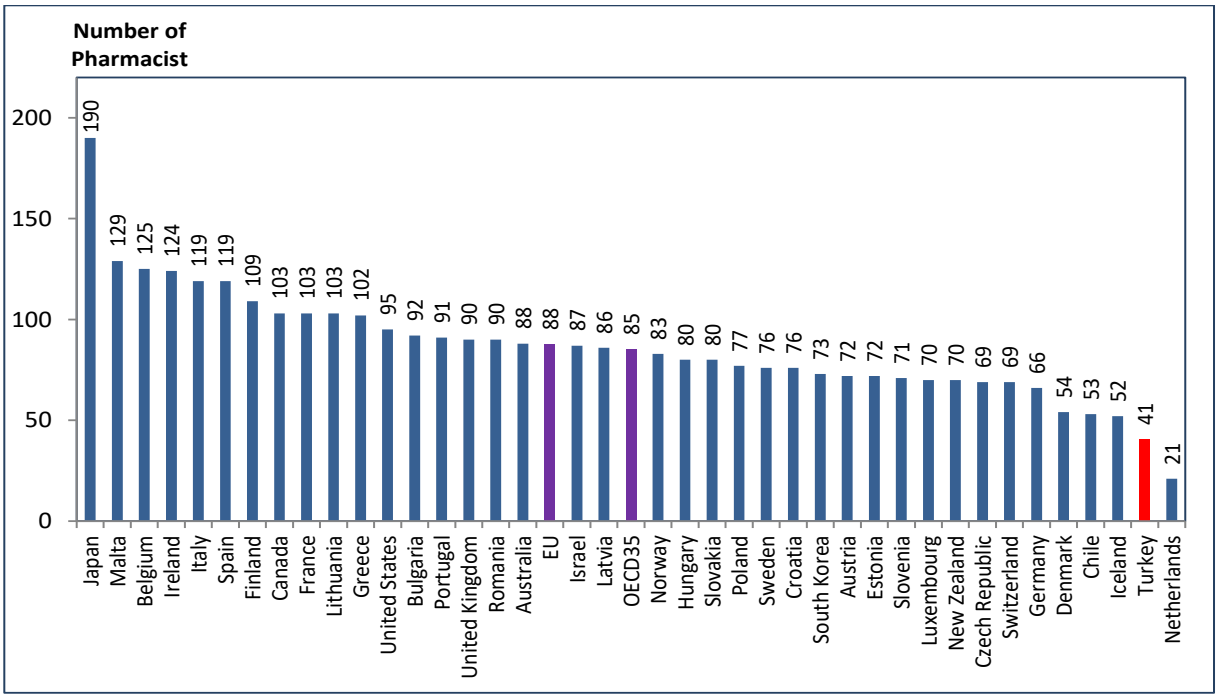
Source: General Directorate of Health Services
Note: Unlike the previous years, the number of pharmacists include second pharmacists and graduated intern pharmacists for the year of 2018 and 2019. Number of pharmacists per 100.000 population not including second pharmacists and graduated intern pharmacist is 38,1 for 2019.

Figure 10.13. Number of Pharmacists per 100.000 Population by NUTS-1, All Sectors, 2002, 2019



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

Figure 10.14. International Comparison of Number of Pharmacists per 100.000 Population, 2018

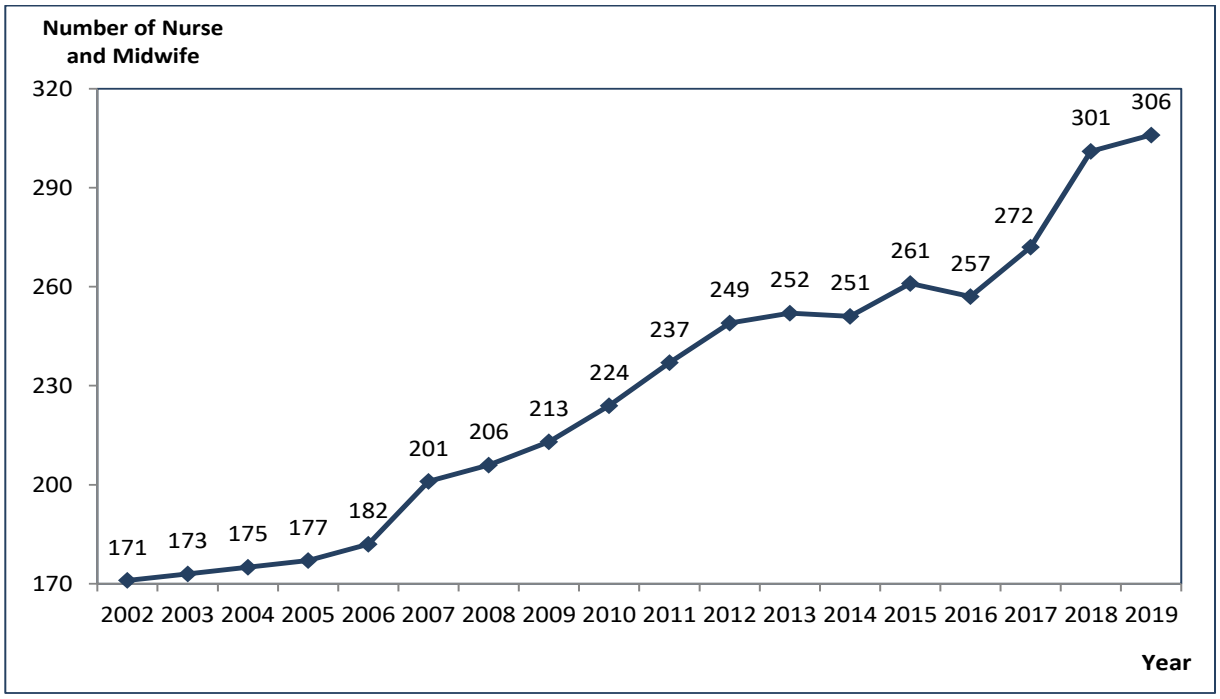


Source: General Directorate of Health Services, OECD Health Data 2020, EUROSTAT Database
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Map 10.5. Number of Pharmacists per 100.000 Population by Provinces, All Sectors, 2019

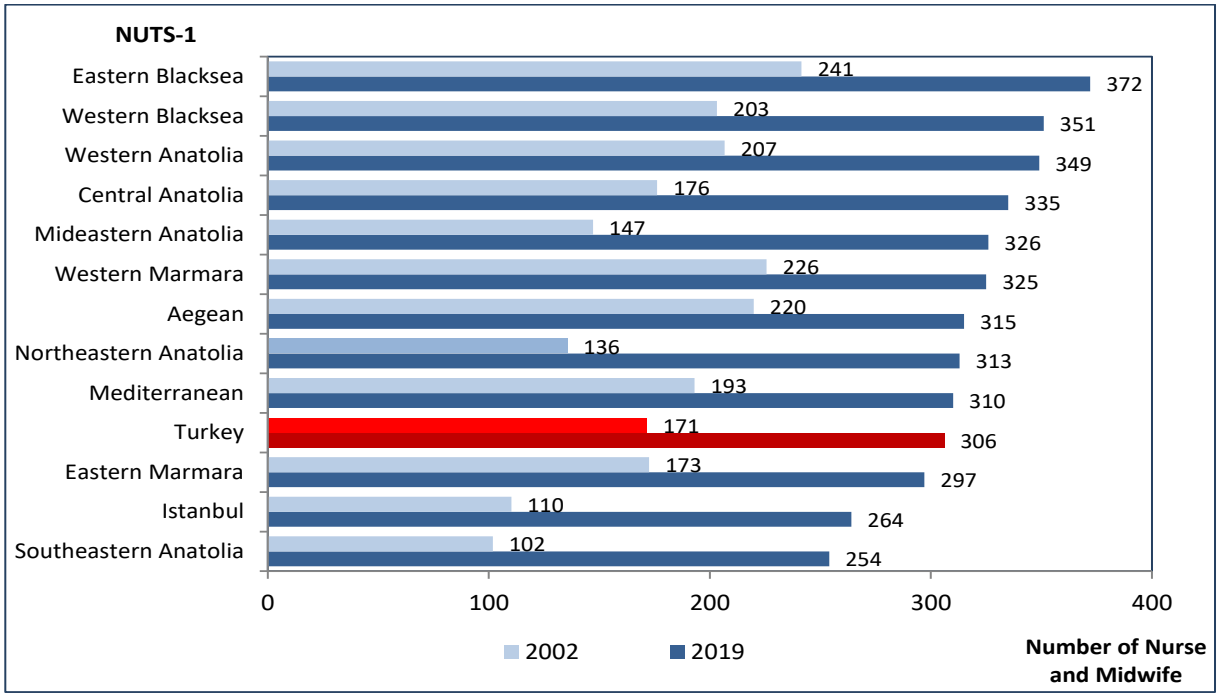
Source: General Directorate of Health Services

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



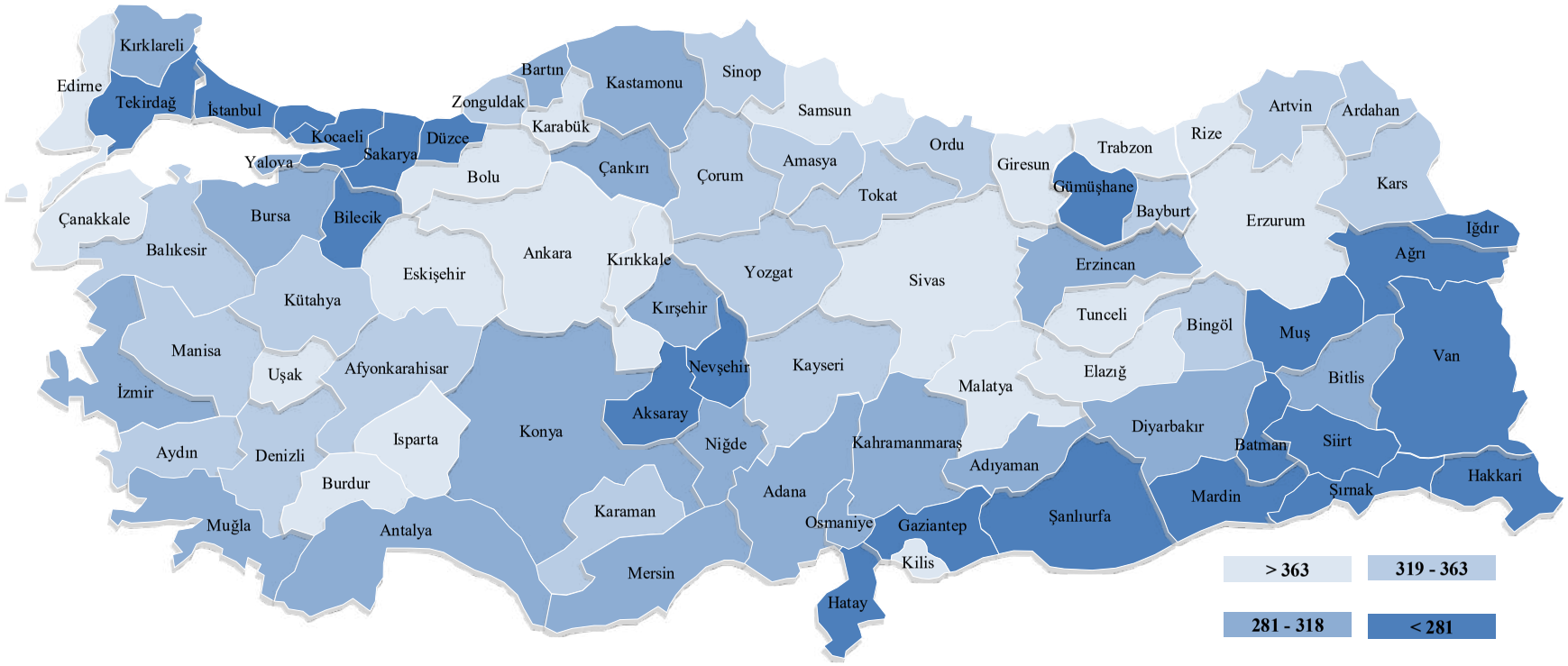
Source: General Directorate of Health Services

Figure 10.16. Number of Nurses and Midwives per 100.000 Population by NUTS-1, All Sectors, 2002, 2019



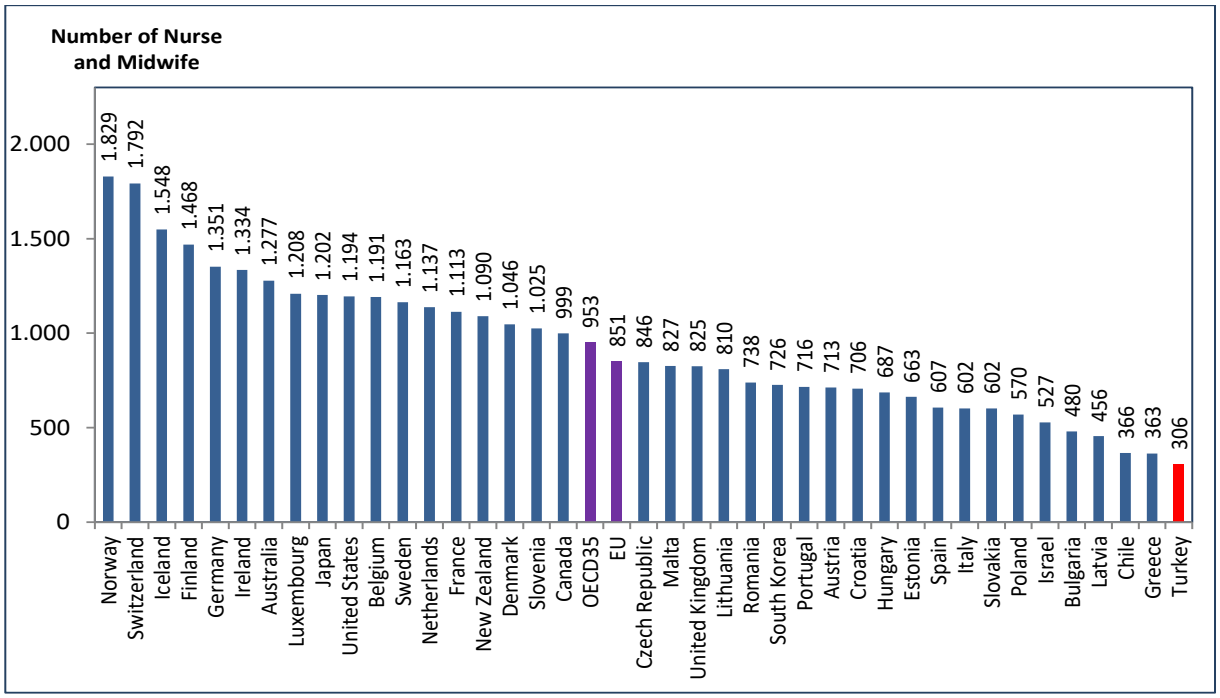
Source: General Directorate of Health Services

Map 10.6. Number of Nurses and Midwives per 100.000 Population by Provinces, All Sectors, 2019



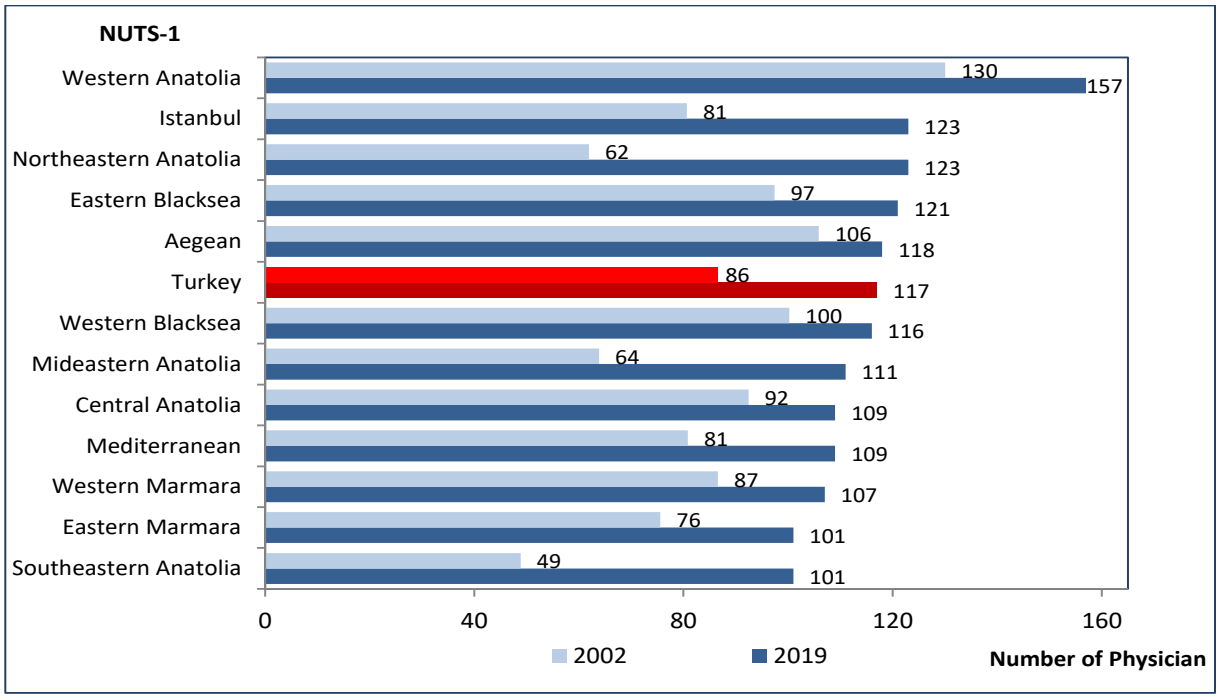
Source: General Directorate of Health Services

Figure 10.17. International Comparison of Number of Nurses and Midwives per 100.000 Population, 2018



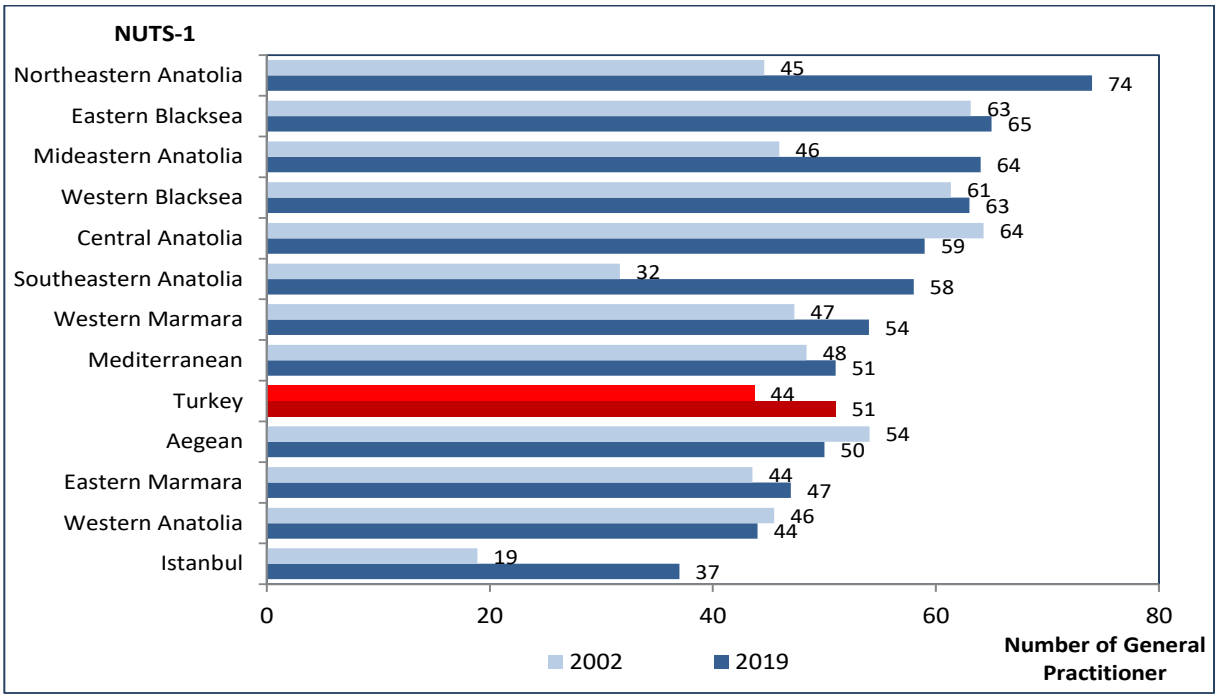
Source: General Directorate of Health Services, EUROSTAT Database, OECD Health Data 2020
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year of 2018 or nearest.

Figure 10.18. Number of Total Physicians per 100.000 Population by NUTS-1, MoH, 2002, 2019



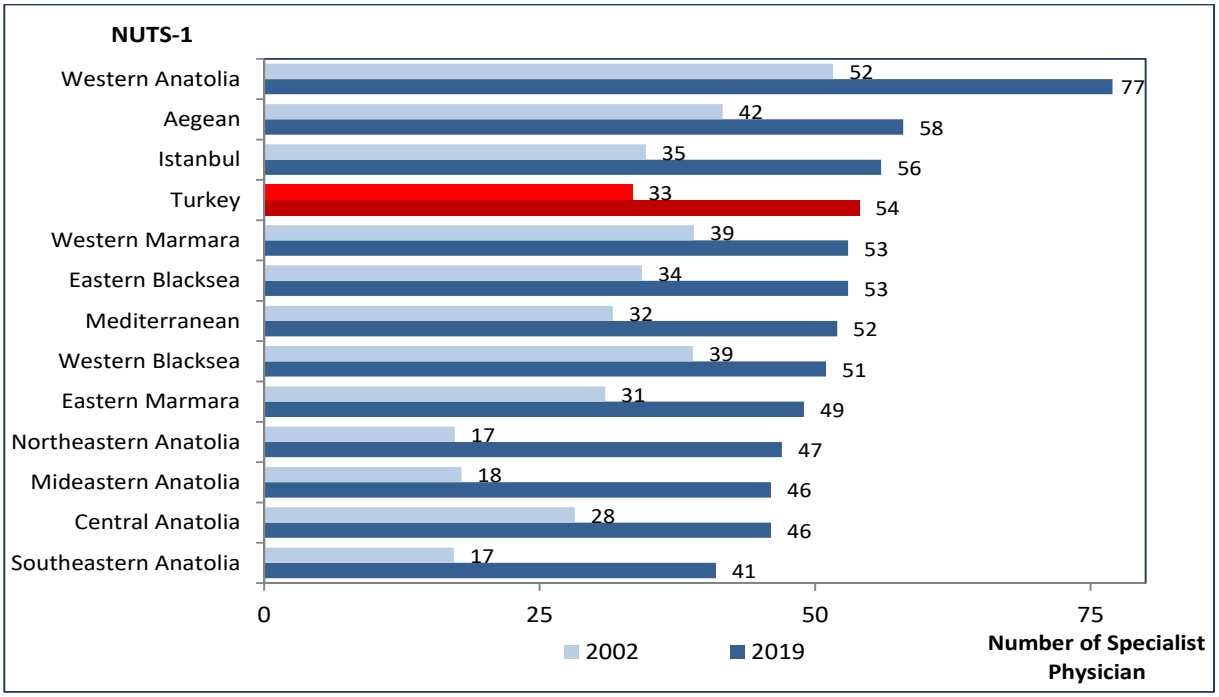
Source: General Directorate of Health Services

Figure 10.19. Number of General Practitioners per 100.000 Population by NUTS-1, MoH, 2002, 2019



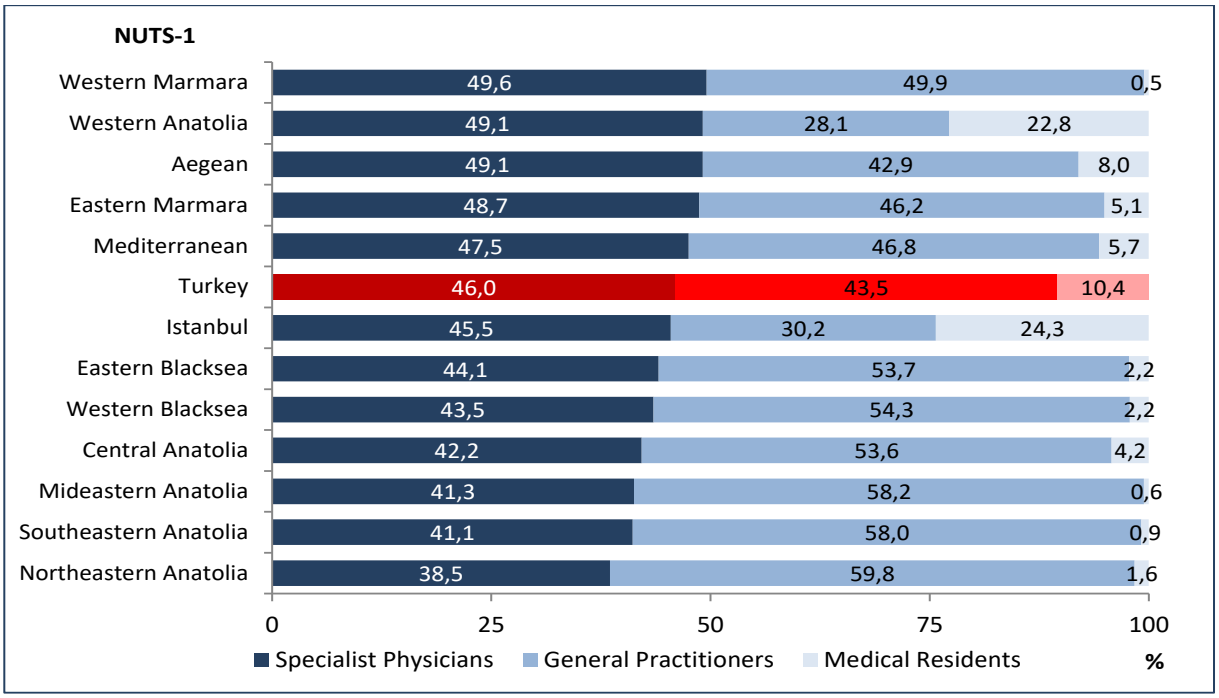
Source: General Directorate of Health Services

Figure 10.20. Number of Specialist Physicians per 100.000 Population by NUTS-1, MoH, 2002, 2019



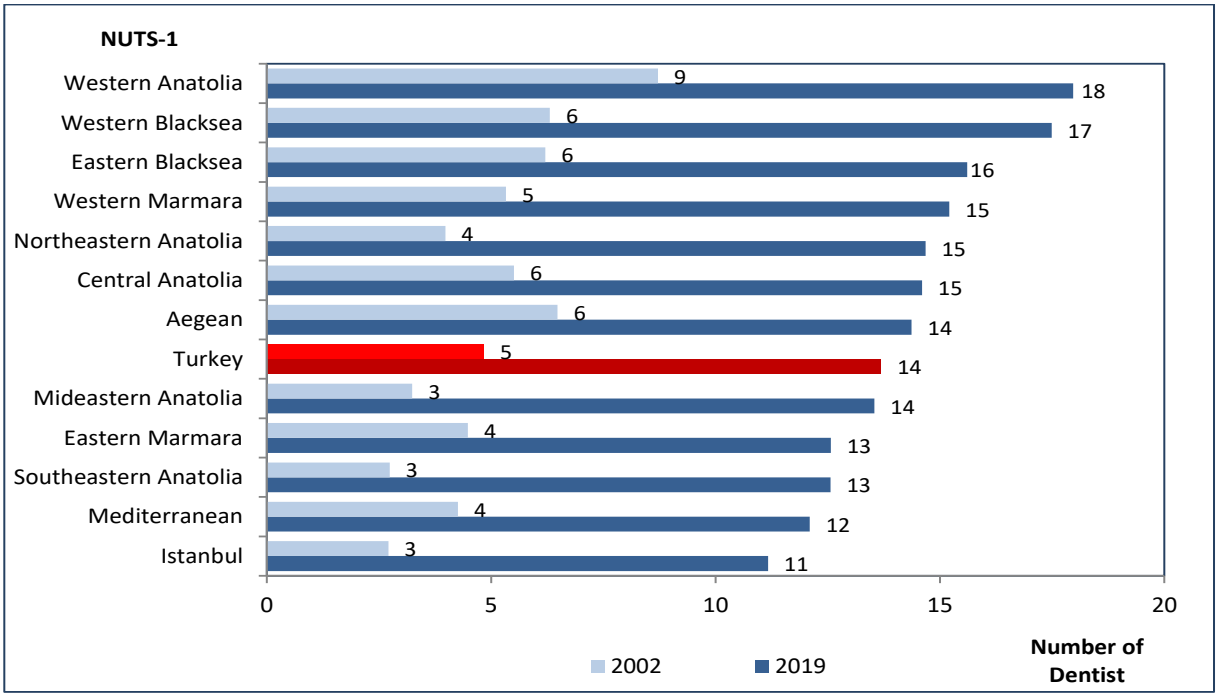
Source: General Directorate of Health Services

Figure 10.21. Distribution of Specialist Physicians, General Practitioners and Medical Residents by NUTS-1, MoH, (%), 2019



Source: General Directorate of Health Services

Figure 10.22. Number of Total Dentists per 100.000 Population by NUTS-1, MoH, 2002, 2019



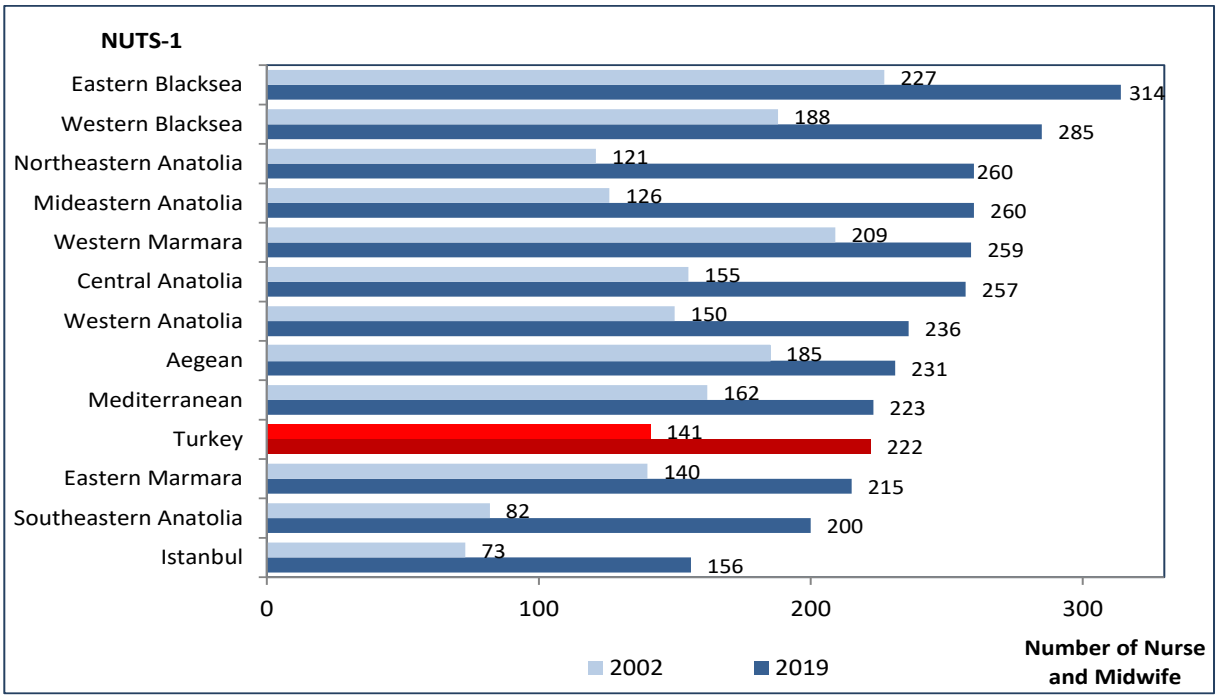
Source: General Directorate of Health Services
Note: Data for 2002 does not include dental residents.

Table 10.5. Distribution of Dentists, Specialist Dentists and Dental Residents by NUTS-1, MoH, (%), 2019

NUTS-1	Specialist Dentist	Dentist	Dental Resident
Istanbul	10,2	89,0	0,8
Western Marmara	7,5	92,5	0,0
Aegean	10,2	89,2	0,7
Eastern Marmara	7,9	91,9	0,2
Western Anatolia	20,4	78,4	1,2
Mediterranean	8,4	91,2	0,4
Central Anatolia	6,6	93,1	0,3
Western Blacksea	6,5	93,1	0,4
Eastern Blacksea	8,6	91,4	0,0
Northeastern Anatolia	2,5	96,9	0,6
Mideastern Anatolia	3,0	97,0	0,0
Southeastern Anatolia	3,5	96,5	0,0
Turkey	9,2	90,3	0,5

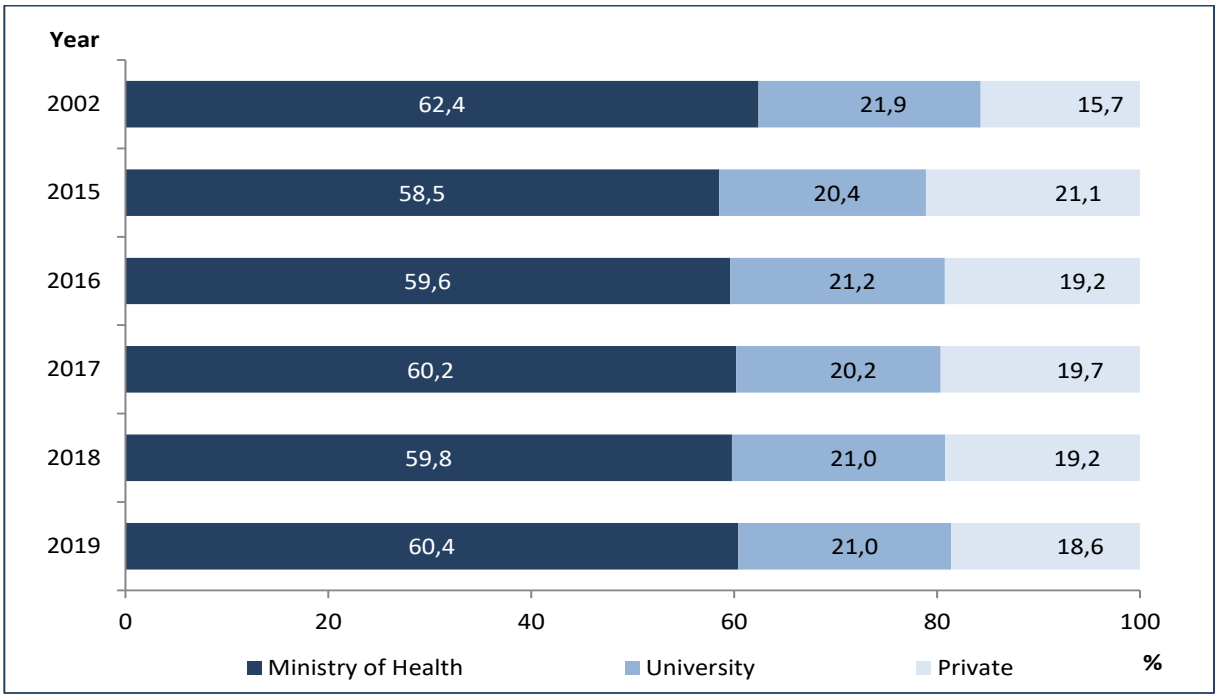
Source: General Directorate of Health Services

Figure 10.23. Number of Nurses and Midwives per 100.000 Population by NUTS-1, MoH, 2002, 2019



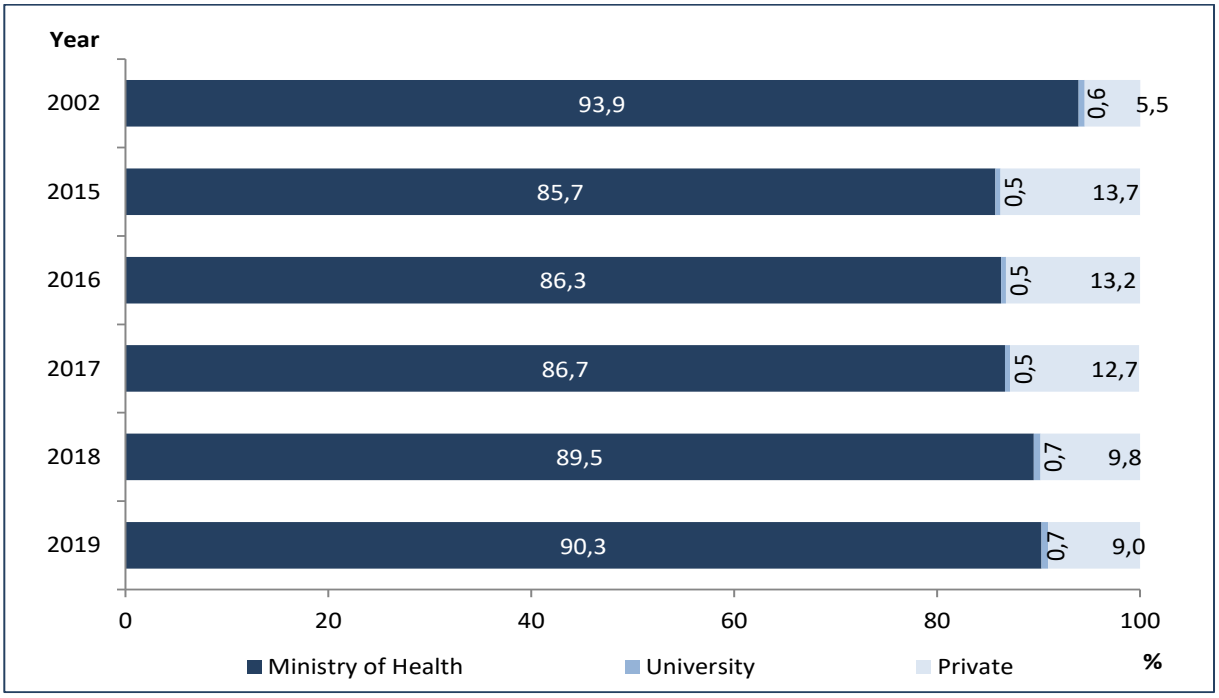
Source: General Directorate of Health Services

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



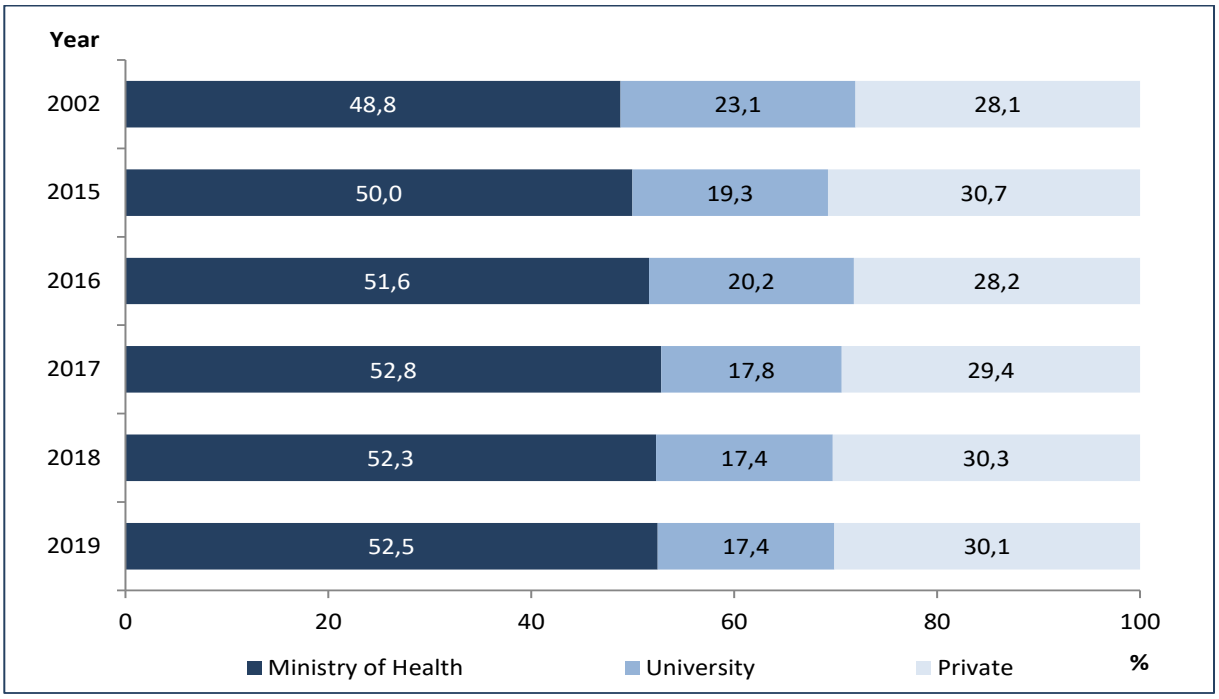
Source: General Directorate of Health Services

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



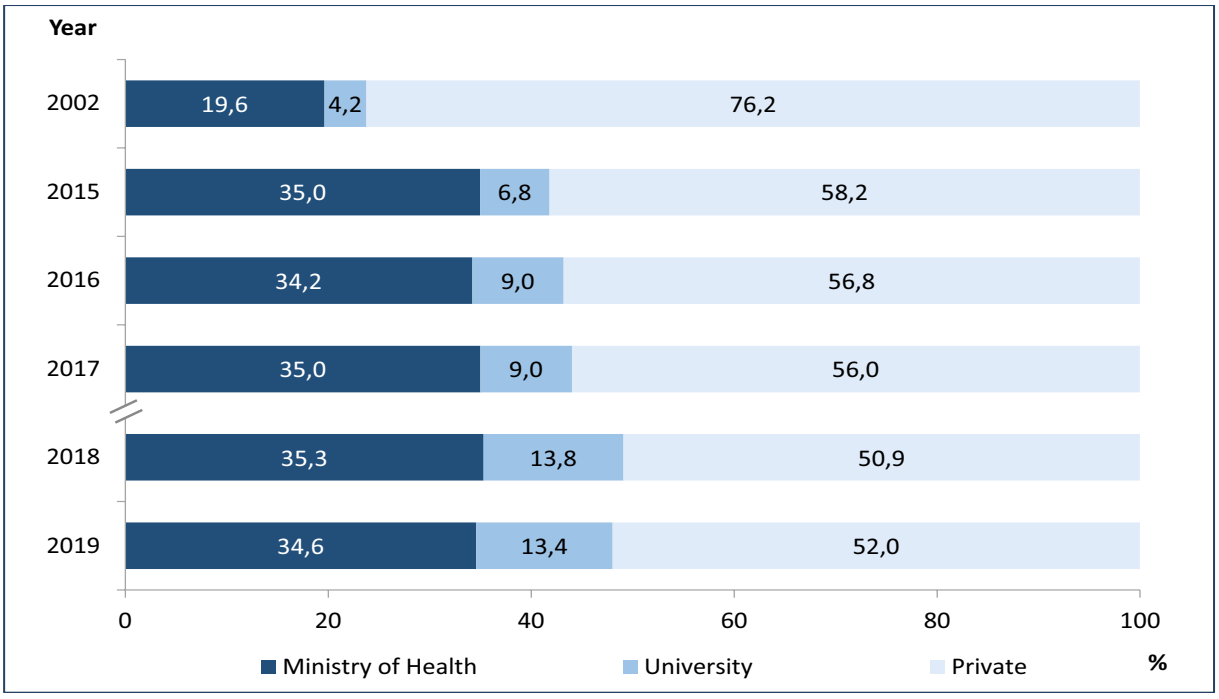
Source: General Directorate of Health Services

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



Source: General Directorate of Health Services

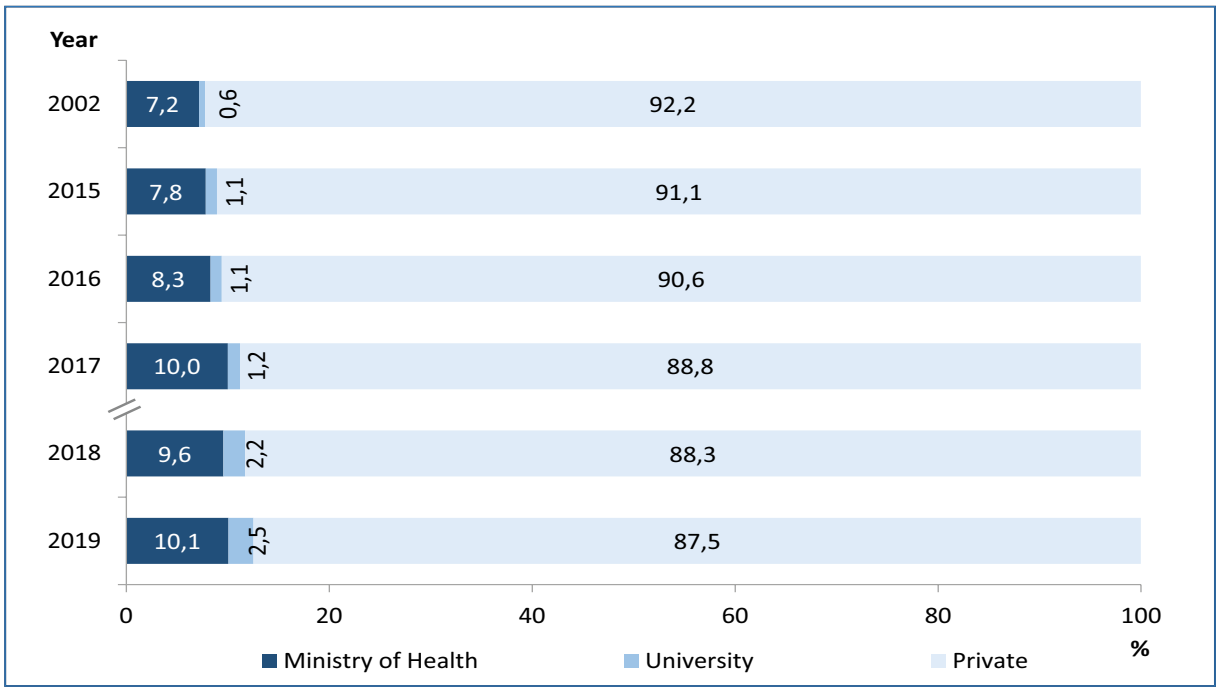
Figure 10.27. Distribution of Total Dentists by Years and Sectors, (%)



Source: General Directorate of Health Services

Note: Unlike the previous years, the number of dentists includes dental residents for the year of 2018 and 2019. Distribution of total dentists not including dental residents is 37,0%, 7,1% and 55,9% for MoH, University and Private sector respectively.

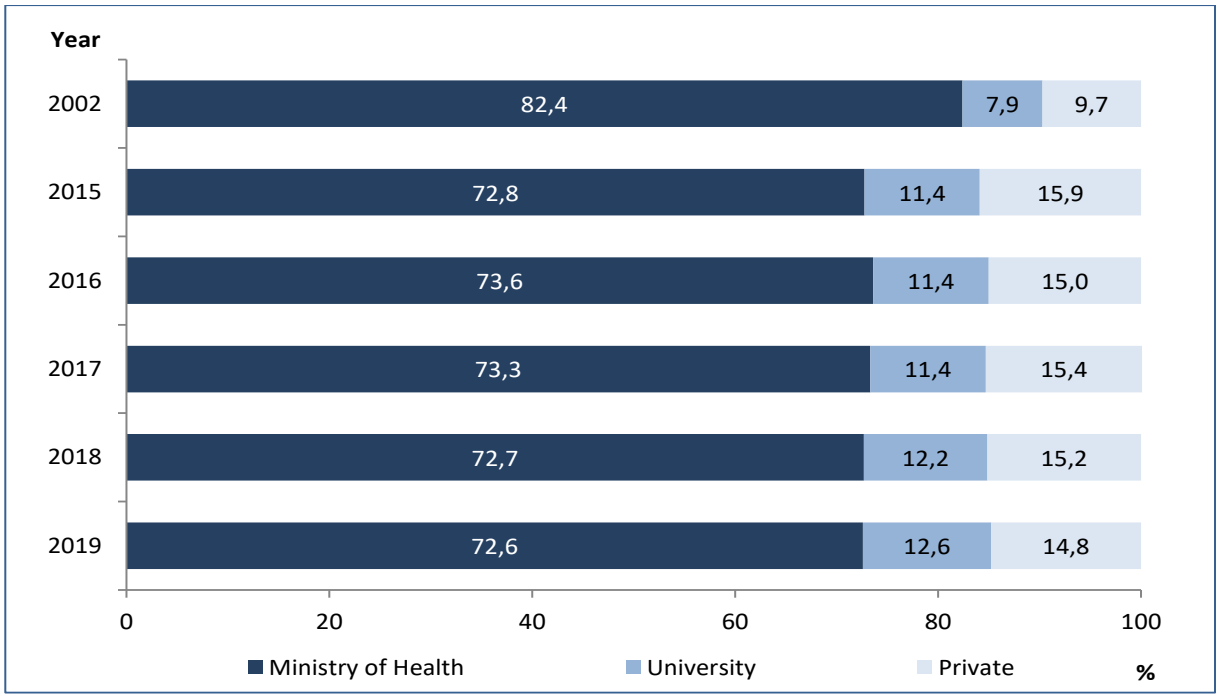
Figure 10.28. Distribution of Pharmacists by Years and Sectors, (%)



Source: General Directorate of Health Services

Note: Unlike the previous years, the number of pharmacists includes second pharmacist and graduated intern pharmacist for the year of 2018 and 2019. Distribution of pharmacist not including second pharmacist and graduated intern pharmacist is 10,7%, 2,6% and 86,6% for MoH, University and Private sector respectively.

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



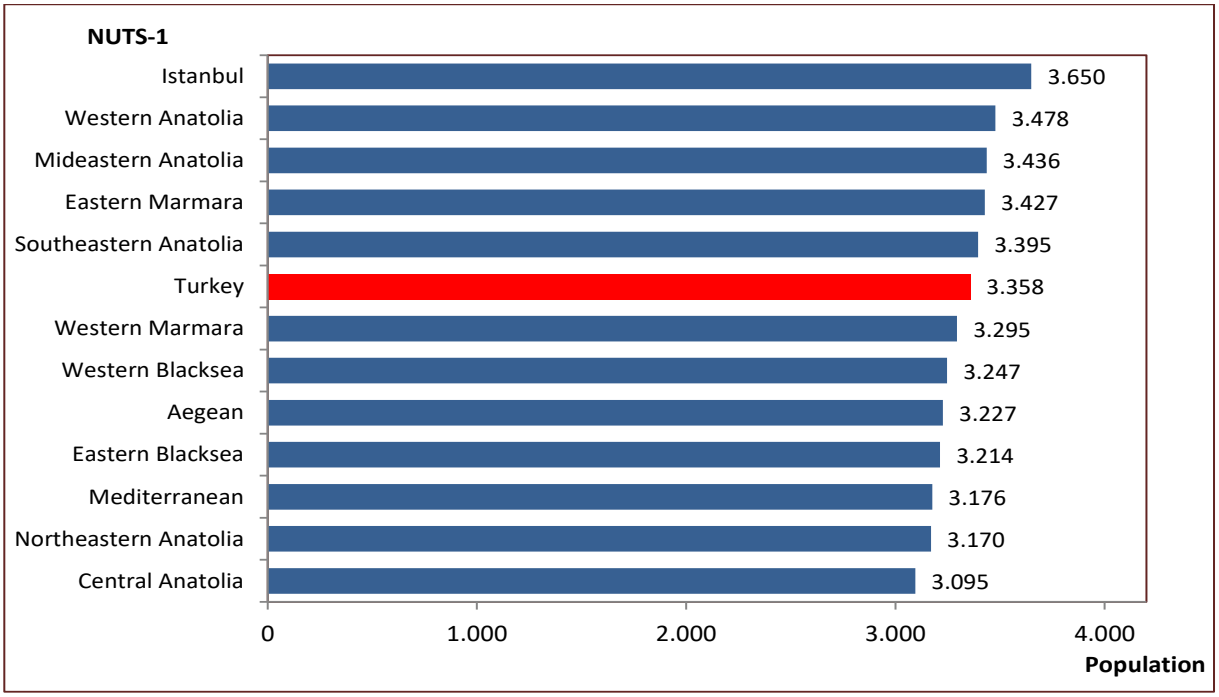
Source: General Directorate of Health Services

Table 10.6. Distribution of MoH Personnel by Service Units, 2019

	Hospitals	Family Medicine Unit	Other Facilities	Total
Specialist Physicians	41.680	1.981	1.037	44.698
General Practitioners	13.420	22.781	6.099	42.300
Medical Residents	10.147	0	0	10.147
Total Physicians	**65.247**	**24.762**	**7.136**	**97.145**
Total Dentists	5.144	-	6.243	11.387
Pharmacists	3.052	-	352	3.404
Nurses	118.625	8.143	5.565	132.333
Midwives	27.902	13.159	11.015	52.076
Other Health Personnel	76.067	1.892	46.799	124.758
Other Personnel and Procurement of Services	188.890	16.815	23.630	229.335
Total Personnel	484.927	64.771	100.740	650.438

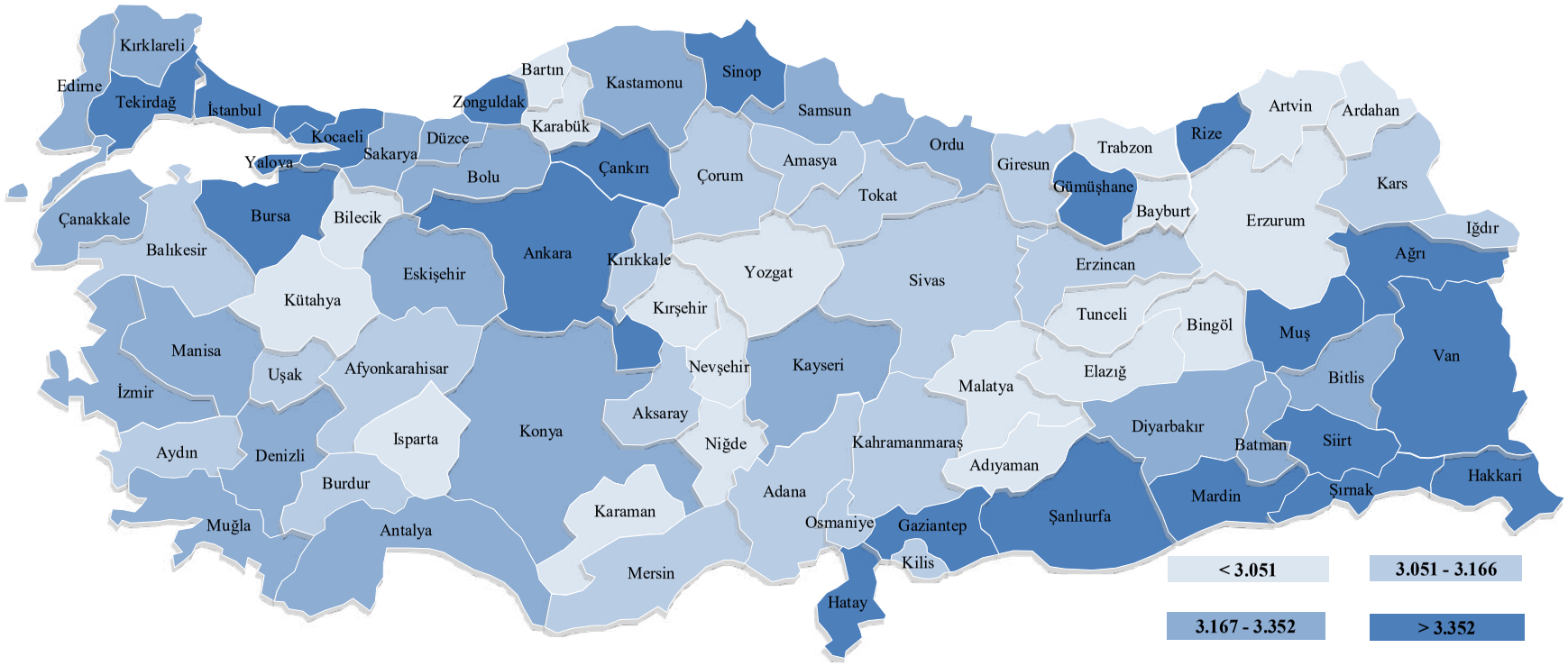
Source: General Directorate of Health Services, General Directorate of Public Health

Figure 10.30. Population per Actively Working Family Medicine by NUTS-1, 2019



Source: General Directorate of Health Services

Map 10.7. Population per Actively Working Family Medicine by Provinces, 2019



Source: General Directorate of Public Health

Table 10.7. 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
2015-2016	85	13.059	71.370	6.896	14.263
2016-2017	85	13.044	75.902	7.651	13.123
2017-2018	94	14.555	82.865	8.530	14.133
2018-2019	96	15.859	89.356	9.395	14.810
2019-2020	103	17.076	95.035	10.854	15.842

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

Table 10.8. 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
2015-2016	43	3.825	17.027	1.710	1.636
2016-2017	46	4.269	18.890	2.128	1.541
2017-2018	50	4.895	21.285	2.584	1.723
2018-2019	63	6.612	24.896	2.980	1.930
2019-2020	76	7.442	28.941	3.119	2.118

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

Table 10.9. Number of Students and Academic Staff Member in Faculties of 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
2015-2016	25	2.135	10.108	1.304	726
2016-2017	29	2.319	10.905	1.448	741
2017-2018	31	2.613	11.953	1.545	786
2018-2019	35	3.605	13.943	1.723	862
2019-2020	37	3.883	15.880	1.759	949

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

Table 10.10. Some Health Indicators by Provinces, 2019

City	Specialist Physician	General Practitioner	Medical Resident	Total Physician	Total Dentist	Pharmacist	Nurse	Midwife	Other Health Personnel
Adana	2.369	1.269	817	4.455	796	950	5.334	1.485	5.163
Adıyaman	374	472	85	931	184	209	1.368	573	1.435
Afyonkarahisar	530	451	170	1.151	206	278	1.789	535	1.716
Ağrı	235	320	4	559	56	124	765	279	756
Amasya	224	229	7	460	100	144	781	339	1.014
Ankara	9.556	2.710	5.259	17.525	3.253	2.836	17.201	3.300	14.636
Antalya	3.070	1.403	937	5.410	1.420	1.378	5.770	1.841	6.022
Artvin	107	179	3	289	36	56	417	200	529
Aydın	1.135	645	358	2.138	445	510	2.587	1.043	2.388
Balıkesir	1.053	703	100	1.856	380	536	2.904	1.376	2.763
Bilecik	117	153	1	271	67	75	423	162	589
Bingöl	139	220	3	362	73	72	629	289	674
Bitlis	164	303	3	470	62	81	765	225	687
Bolu	350	200	218	768	180	133	1.084	296	960
Burdur	173	207	2	382	74	129	659	334	831
Bursa	2.800	1.501	900	5.201	1.180	1.173	6.802	1.786	5.655
Çanakkale	553	330	199	1.082	184	217	1.423	592	1.423
Çankırı	105	142	0	247	69	68	402	154	704
Çorum	381	370	66	817	132	203	1.425	483	1.379
Denizli	1.060	561	356	1.977	408	513	2.584	1.026	2.614
Diyarbakır	1.266	1.038	511	2.815	485	502	4.089	1.028	3.224
Edirne	552	257	430	1.239	182	198	1.412	393	1.129
Elazığ	604	404	10	1.018	217	216	2.022	581	1.516
Erzincan	219	191	55	465	81	94	521	212	655
Erzurum	722	578	395	1.695	269	260	2.482	586	1.918
Eskişehir	1.090	482	461	2.033	385	474	3.164	747	2.570
Gaziantep	1.581	992	397	2.970	613	765	4.406	1.184	3.390
Giresun	360	321	25	706	109	200	1.234	476	1.462
Gümüşhane	84	114	1	199	39	35	322	112	417
Hakkari	129	196	3	328	48	49	409	187	494
Hatay	1.195	975	222	2.392	486	647	3.370	1.025	3.109
Isparta	557	297	315	1.169	259	207	1.689	538	1.417
Mersin	1.621	961	340	2.922	600	837	4.199	1.657	3.900
İstanbul	21.054	7.083	6.751	34.888	8.340	6.596	35.067	5.945	28.936
İzmir	6.299	2.366	2.518	11.183	2.309	2.144	10.219	2.684	9.189
Kars	205	256	47	508	50	69	623	290	630
Kastamonu	224	321	3	548	93	131	849	249	1.045
Kayseri	1.303	733	739	2.775	582	658	3.843	1.099	3.567
Kırklareli	284	235	1	520	123	162	724	328	782
Kırşehir	177	171	12	360	58	99	471	257	759
Kocaeli	1.785	906	426	3.117	702	592	4.160	1.189	3.951

Source: General Directorate of Health Services

Table 10.10. Some Health Indicators by Provinces, 2019 - Continued

City	Specialist Physician	General Practitioner	Medical Resident	Total Physician	Total Dentist	Pharmacist	Nurse	Midwife	Other Health Personnel
Konya	2.012	1.259	1.118	4.389	828	977	5.546	1.437	5.176
Kütahya	412	311	78	801	177	212	1.418	470	1.441
Malatya	834	509	378	1.721	301	333	2.423	925	2.174
Manisa	1.381	850	323	2.554	360	606	3.488	1.206	2.991
Kahramanmaraş	797	685	266	1.748	285	388	2.716	841	2.623
Mardin	450	617	2	1.069	183	248	1.443	542	1.479
Muğla	975	613	139	1.727	423	509	2.035	886	2.255
Muş	168	266	4	438	55	75	681	228	623
Nevşehir	192	196	1	389	76	118	586	247	830
Niğde	211	216	3	430	83	132	705	322	912
Ordu	582	502	34	1.118	258	306	1.784	664	1.853
Rize	326	228	174	728	165	142	999	257	914
Sakarya	785	586	262	1.633	339	366	1.899	659	1.797
Samsun	1.476	842	611	2.929	522	560	3.973	1.099	3.742
Siirt	173	255	1	429	55	86	671	183	636
Sinop	136	164	0	300	58	86	553	195	700
Sivas	567	451	199	1.217	275	232	1.868	609	1.764
Tekirdağ	804	522	226	1.552	359	354	1.952	599	1.804
Tokat	434	405	146	985	225	217	1.658	538	1.630
Trabzon	870	485	507	1.862	375	376	2.860	672	2.624
Tunceli	67	99	1	167	31	23	210	149	356
Şanlıurfa	1.089	1.229	200	2.518	338	642	3.217	988	2.660
Uşak	297	218	6	521	152	149	939	498	879
Van	656	623	270	1.549	220	261	2.420	656	2.063
Yozgat	291	330	40	661	90	141	1.085	430	1.113
Zonguldak	511	338	225	1.074	218	224	1.703	462	1.297
Aksaray	279	256	6	541	98	162	781	292	969
Bayburt	55	71	1	127	17	20	206	74	270
Karaman	177	163	7	347	68	109	608	226	655
Kırıkkale	273	180	160	613	158	106	803	261	1.080
Batman	377	377	4	758	111	183	1.290	356	1.231
Şırnak	208	354	5	567	88	109	672	246	649
Bartın	122	134	2	258	51	81	405	160	433
Ardahan	53	96	1	150	27	24	225	107	306
Iğdır	92	134	5	231	36	55	371	142	364
Yalova	255	159	0	414	99	103	576	185	715
Karabük	231	175	38	444	85	96	684	248	726
Kilis	113	161	3	277	40	56	374	156	464
Osmaniye	336	337	1	674	162	221	1.085	441	1.481
Düzce	326	202	171	699	99	133	804	231	779
Turkey	85.199	46.843	28.768	160.810	32.925	33.841	198.103	55.972	182.456

Source: General Directorate of Health Services

Explanations for Chapter 10

☑ Data collection method was changed in 2018 and personnel data were obtained from Health Personnel Tracking System (SPTS) Database.

☑ Number of health care professionals working in central organization is not included in personnel data within chapter for the 2019. Health care professionals working in central organization by titles are given in Table 10.4.

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

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

☑ 4-point Likert scale was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the scale intervals. The value of the provinces was rounded up to the closest whole number (except Map 10.5). The value of the provinces was rounded up to 1 decimal place while making Map 10.5. These whole numbers were considered while creating the Likert scales.

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

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

☑ **Owner Pharmacist and Pharmacist Manager:** Pharmacist who has a Pharmacy license and right to operate a pharmacy.

☑ **Second Pharmacist:** In community pharmacy, second pharmacist work with the pharmacist who is owner of pharmacy or responsible for the pharmacy. They work in this pharmacy according to the prescribing number or endorsement of pharmacy or they can work independent of these criteria.

☑ **Graduated Intern Pharmacist:** In 2013 and later years, after graduating from the faculty of pharmacy, the pharmacists, who is called graduated intern pharmacist, work with responsible manager in community pharmacy or hospital pharmacy under the service contract for at least one year. It is a necessary condition to open a community pharmacy or to work as a responsible manager in a community pharmacy.

☑ Healthcare Professionals working in the following branches were included in the category of "Other Healthcare Professionals": Surgery Technician, Anesthesia Technician, Biologist, Environmental Health Technician, Child Development Specialist, Dental Technician, Dental Technician, Dietitian, Physical Therapy Technician, Physiotherapist, Emergency and First Aid Technician, First and Emergency Care Repairman, Heart-Lung Pump Operation Technician, Laboratory Repairman, Laboratory Technician, Audiologist, Audiometric Repairman, Audiometric Technician, Orthopedic Technician, Pathological Anatomy Technician, Perfusion Pump Technician, Prosthetic Technician, Psychologist, Radiographer, Health Physicist, Health Officer of the War, Health Technician, Health Repairman, Social Worker, Medical Secretary, Medical Technologist, Public Health Technician.

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

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

☑ "Other Institutions" indicated in the distribution of the Ministry of Health personnel: include 112 Emergency Care Center, Tuberculosis Dispensary, Cancer Early Diagnosis and Screening Center, Public Health Laboratory, CEKUS Unit, Oral and Dental Health Center personnel.

☑ In the table where the Medical Faculty Statistics are given: Ataturk University, Gazi, Hacettepe and Istanbul Universities offer medical education both in English and in Turkish in different departments and they are not listed separately. The number of faculty members from other departments is not included. Faculty/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 $	612.447	31.004		749		31.753	
2006	Million ₺	795.757	40.949	5,1	3.120	0,4	44.069	5,5
	Million US $	552.367	28.424		2.166		30.590	
	Million PPP US $	944.158	48.585		3.702		52.287	
2007	Million ₺	887.714	46.495	5,2	4.409	0,5	50.904	5,7
	Million US $	683.020	35.774		3.392		39.167	
	Million PPP US $	1.041.680	54.559		5.174		59.733	
2008	Million ₺	1.002.756	52.320	5,2	5.420	0,5	57.740	5,8
	Million US $	782.865	40.847		4.231		45.078	
	Million PPP US $	1.139.548	59.457		6.159		65.616	
2009	Million ₺	1.006.372	55.294	5,5	2.616	0,3	57.911	5,8
	Million US $	651.543	35.799		1.694		37.492	
	Million PPP US $	1.113.541	61.183		2.895		64.078	
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 $	1.269.621	63.742		3.321		67.063	
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 $	1.454.111	67.660		3.349		71.009	
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 $	1.550.689	68.919		3.825		72.744	
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 $	1.703.670	74.467		4.380		78.848	
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 $	1.860.471	80.469		5.316		85.785	
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 $	2.022.940	83.282		6.696		89.978	
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 $	2.116.185	90.672		5.814		96.486	
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 $	2.282.304	95.395		7.040		102.435	
2018	Million ₺	3.758.316	154.998	4,1	10.236	0,3	165.234	4,4
	Million US $	797.124	32.875		2.171		35.045	
	Million PPP US $	2.337.508	96.402		6.366		102.768	
2019	Million ₺	4.320.191	187.673	4,3	13.357	0,3	201.031	4,7
	Million US $	760.778	33.049		2.352		35.401	
	Million PPP US $	2.347.246	101.967		7.257		109.224	

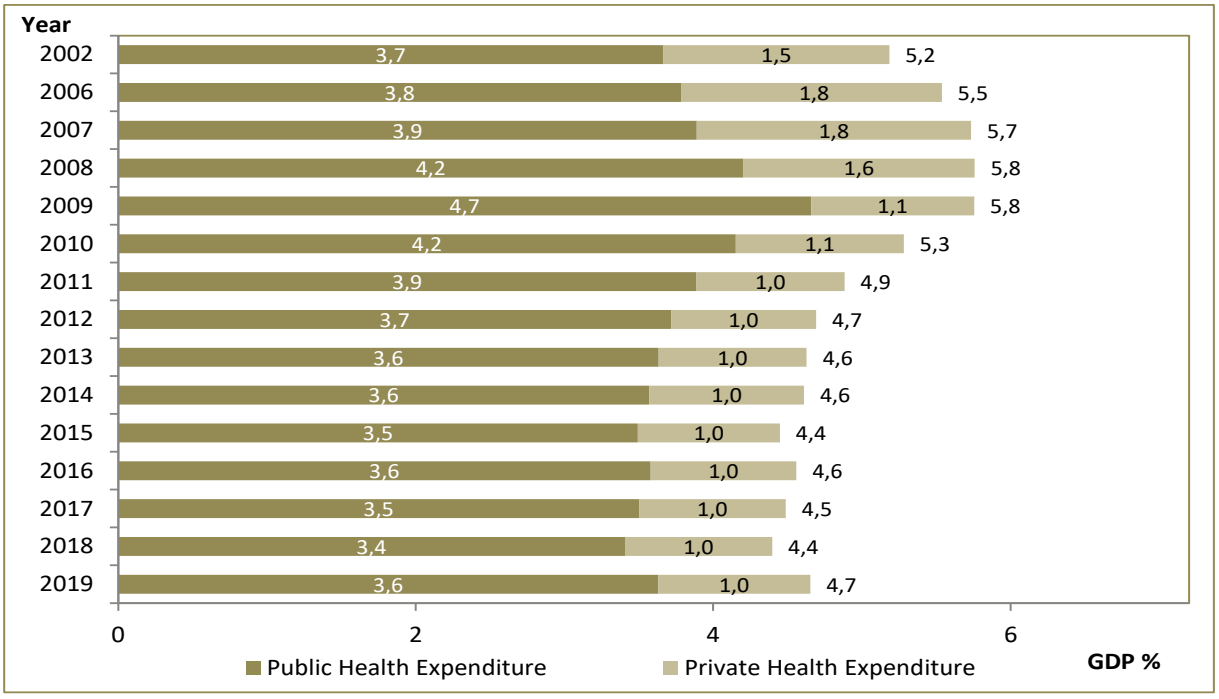
Source: TURKSTAT, OECD Health Data 2020

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 $	612.447	21.695		749		22.444	
2006	Million ₺	795.757	28.194	3,5	1.922	0,2	30.116	3,8
	Million US $	552.367	19.571		1.334		20.905	
	Million PPP US $	944.158	33.452		2.280		35.732	
2007	Million ₺	887.714	31.981	3,6	2.549	0,3	34.530	3,9
	Million US $	683.020	24.607		1.961		26.568	
	Million PPP US $	1.041.680	37.528		2.991		40.519	
2008	Million ₺	1.002.756	38.033	3,8	4.126	0,4	42.159	4,2
	Million US $	782.865	29.693		3.221		32.914	
	Million PPP US $	1.139.548	43.221		4.689		47.910	
2009	Million ₺	1.006.372	44.511	4,4	2.379	0,2	46.890	4,7
	Million US $	651.543	28.817		1.540		30.357	
	Million PPP US $	1.113.541	49.251		2.632		51.883	
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 $	1.269.621	49.718		2.996		52.715	
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 $	1.454.111	53.539		2.952		56.490	
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 $	1.550.689	54.564		3.076		57.640	
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 $	1.703.670	58.345		3.533		61.878	
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 $	1.860.471	62.448		3.990		66.438	
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 $	2.022.940	65.072		5.592		70.664	
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 $	2.116.185	71.125		4.619		75.744	
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 $	2.282.304	74.132		5.796		79.927	
2018	Million ₺	3.758.316	119.941	3,2	8.080	0,2	128.021	3,4
	Million US $	797.124	25.439		1.714		27.153	
	Million PPP US $	2.337.508	74.598		5.025		79.624	
2019	Million ₺	4.320.191	146.232	3,4	10.586	0,2	156.819	3,6
	Million US $	760.778	25.751		1.864		27.616	
	Million PPP US $	2.347.246	79.451		5.752		85.203	

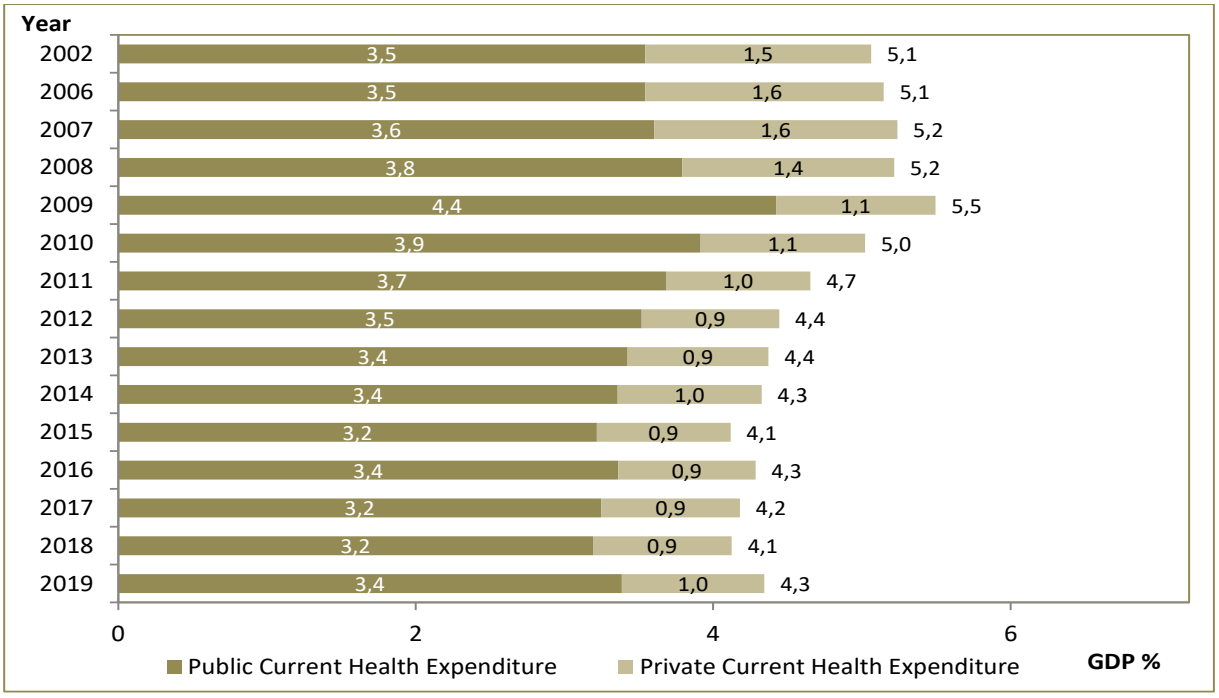
Source: TURKSTAT, OECD Health Data 2020

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



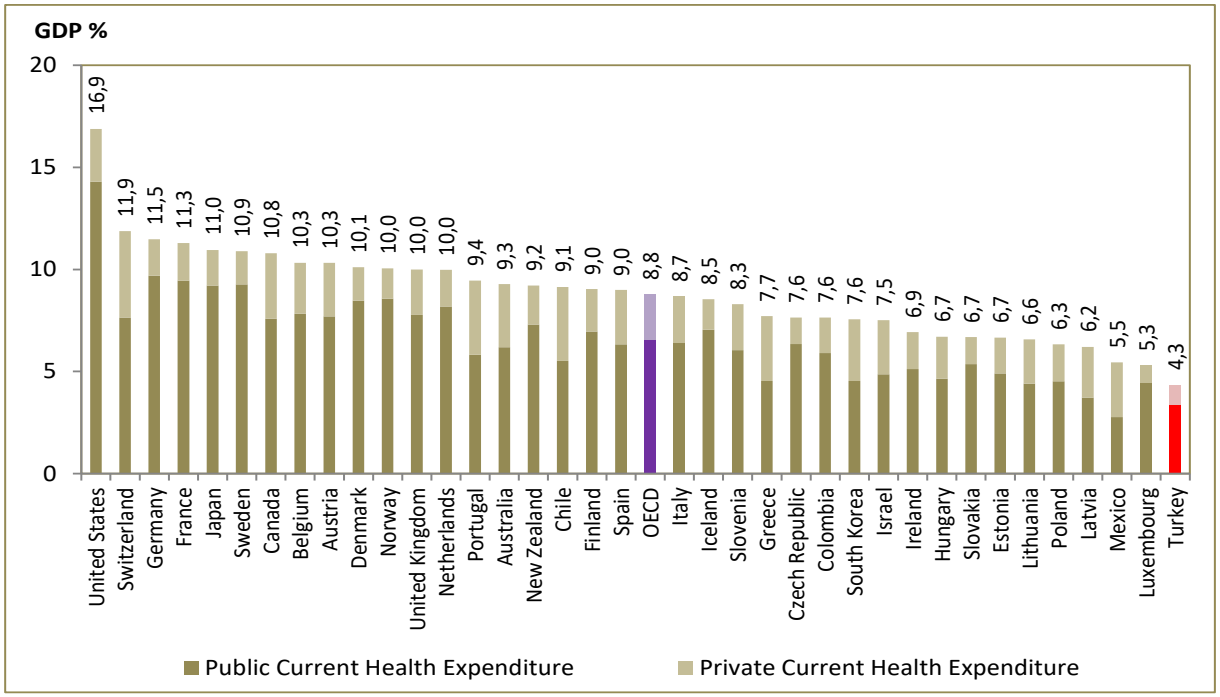
Source: TURKSTAT

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



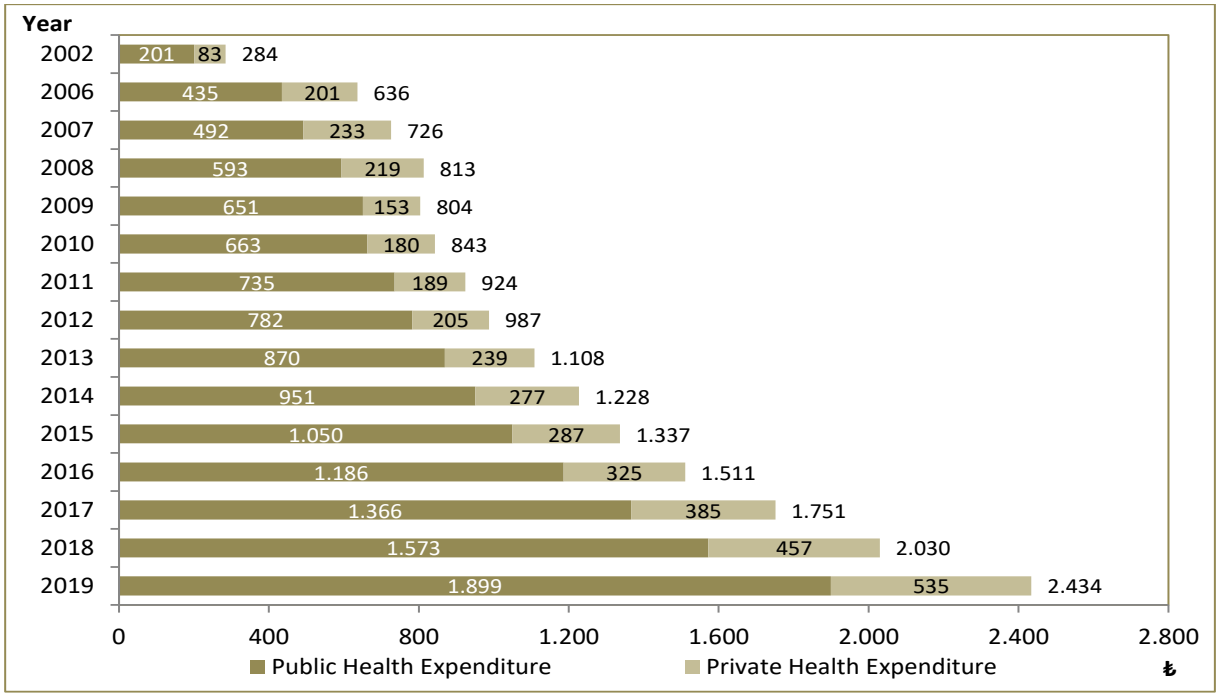
Source: TURKSTAT

Figure 11.3. International Comparison of Current Health Expenditure as a Share of GDP, (%), 2018



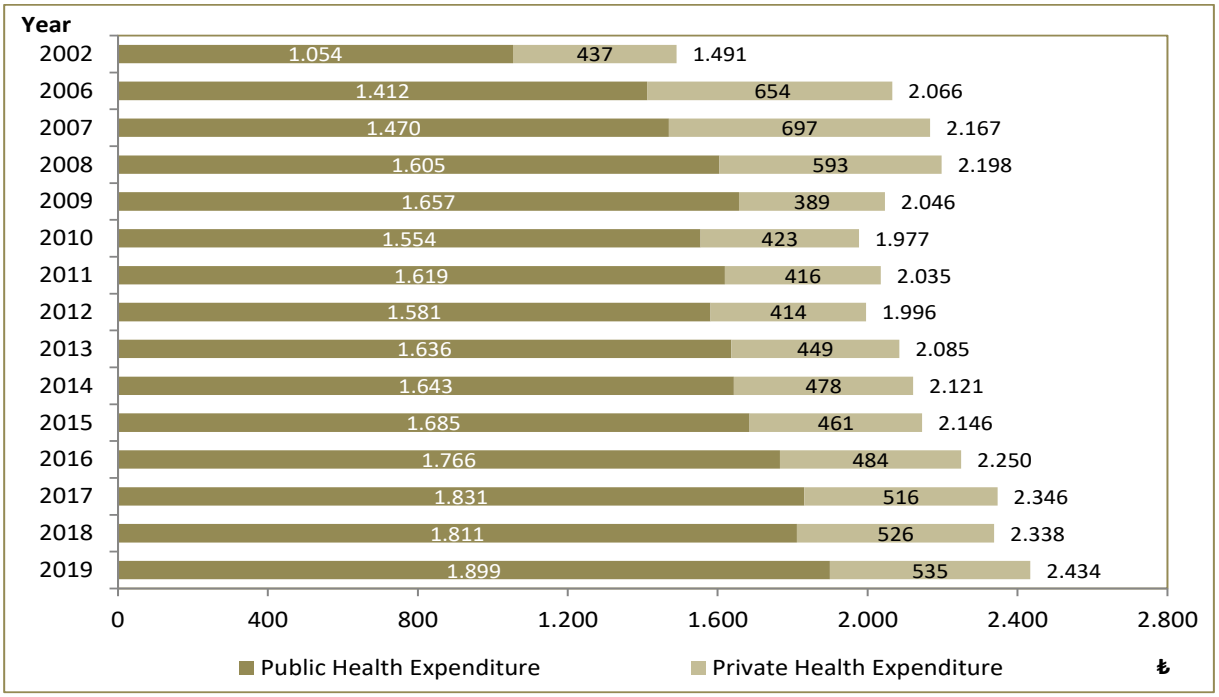
Source: TURKSTAT, OECD Health Data 2020
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year 2018 or nearest.

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



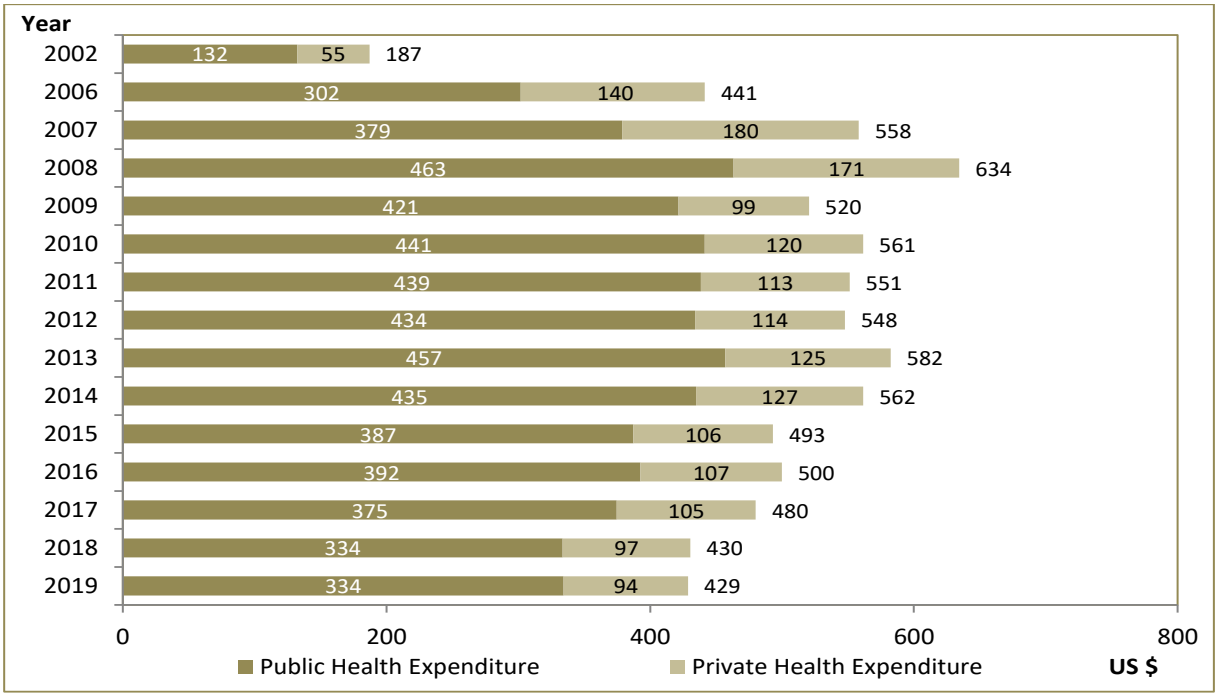
Source: TURKSTAT

Figure 11.5. Public and Private Health Expenditure per Capita at 2019 Price Level by Years, Real, in ₺



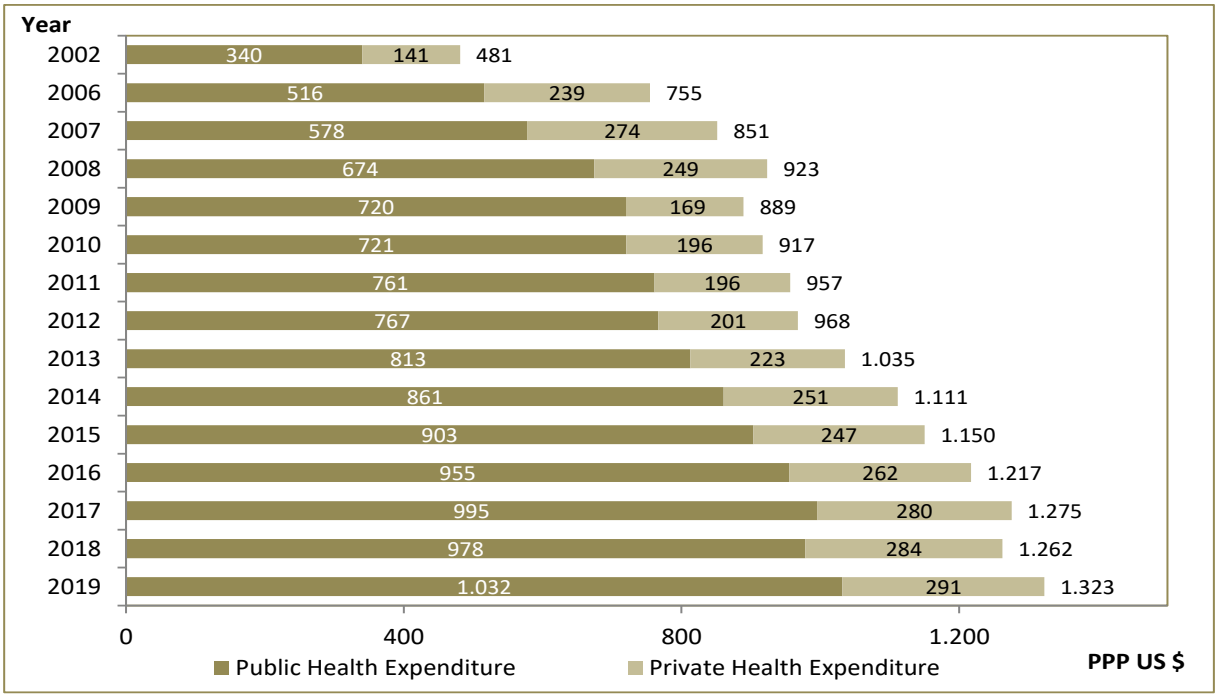
Source: TURKSTAT

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



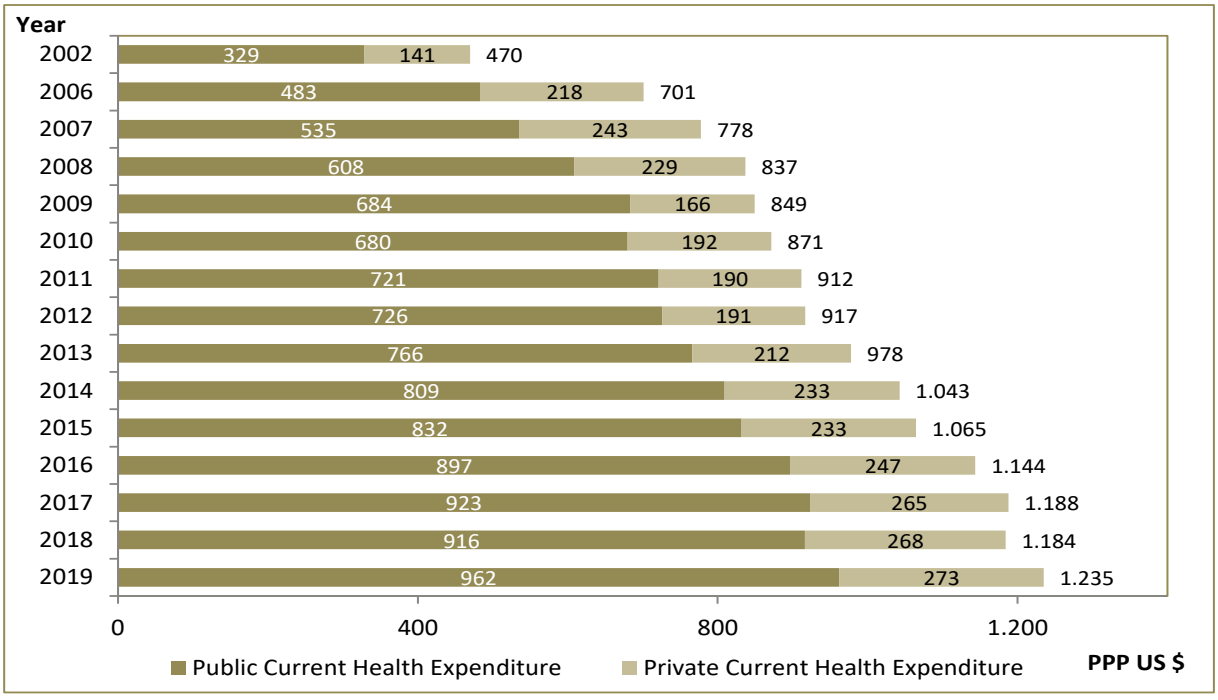
Source: TURKSTAT

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



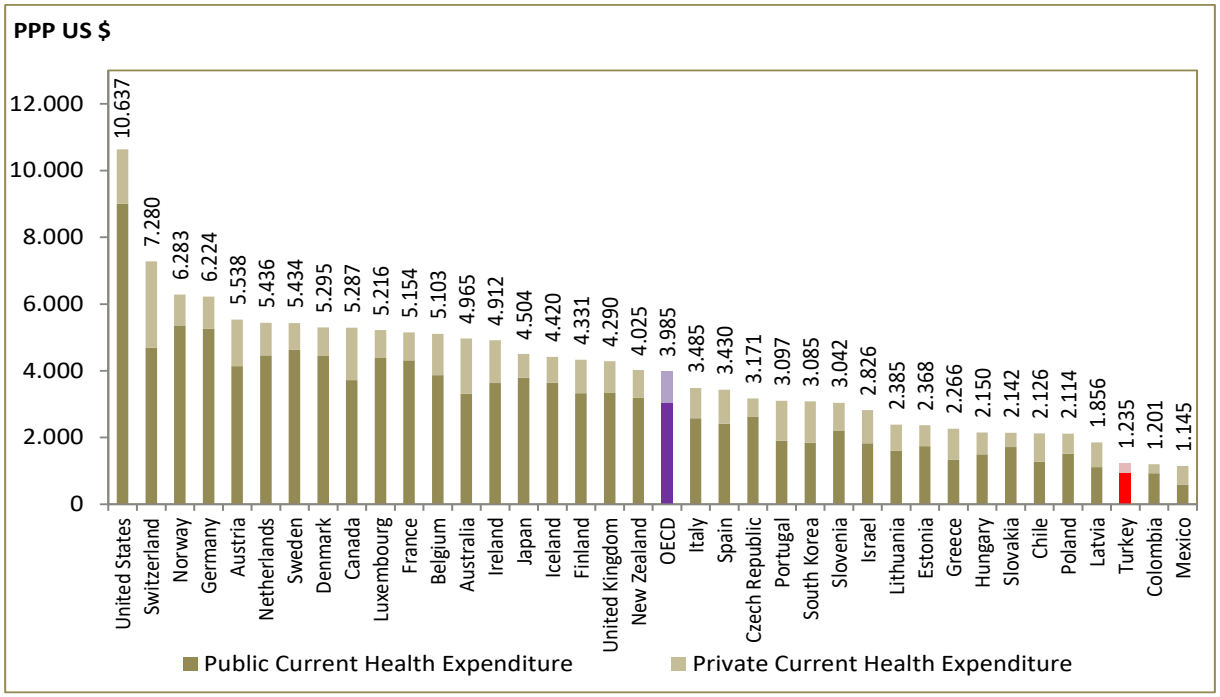
Source: TURKSTAT, OECD Health Data 2020

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



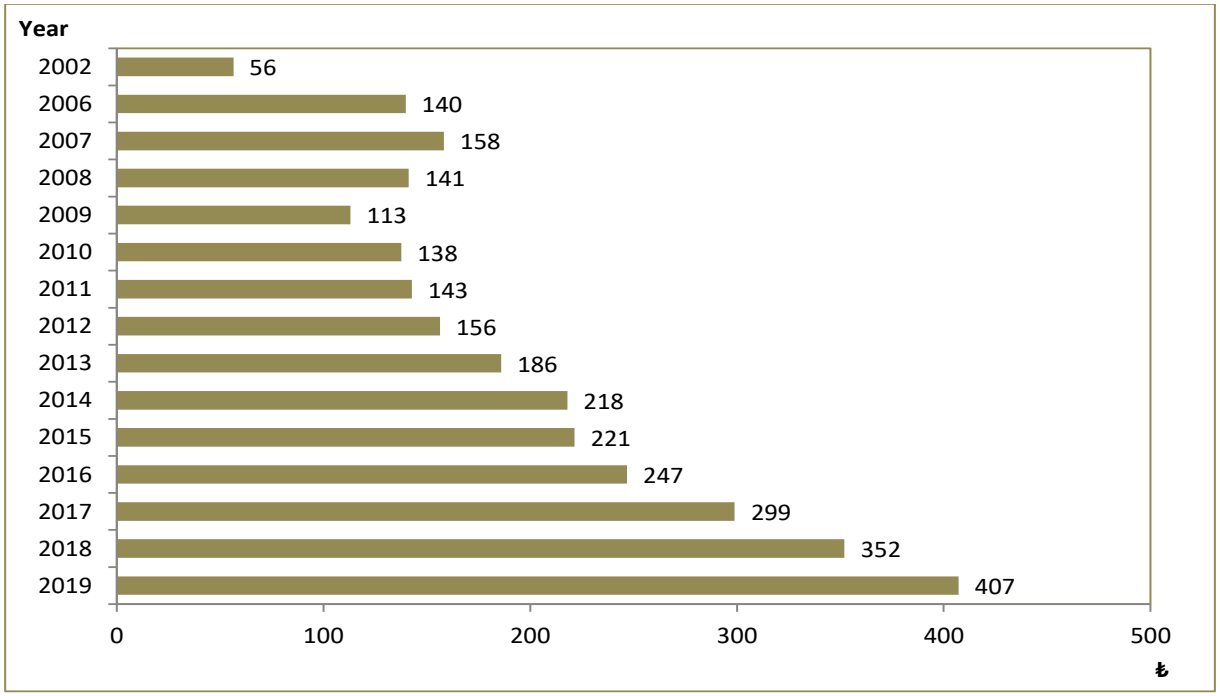
Source: TURKSTAT, OECD Health Data 2020

Figure 11.9. International Comparison of Current Health Expenditure per Capita, PPP US $, 2018



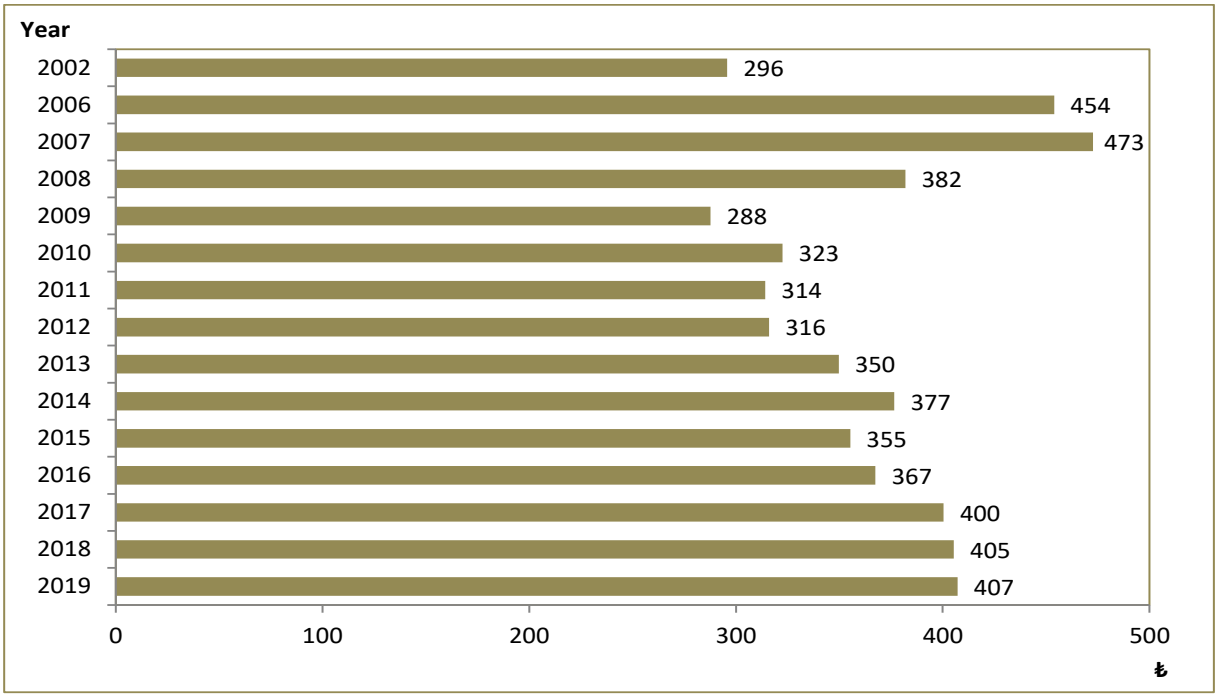
Source: TURKSTAT, OECD Health Data 2020
Note: Turkey's data belong to the year 2019. Countries' data belong to the year 2018 or nearest.

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



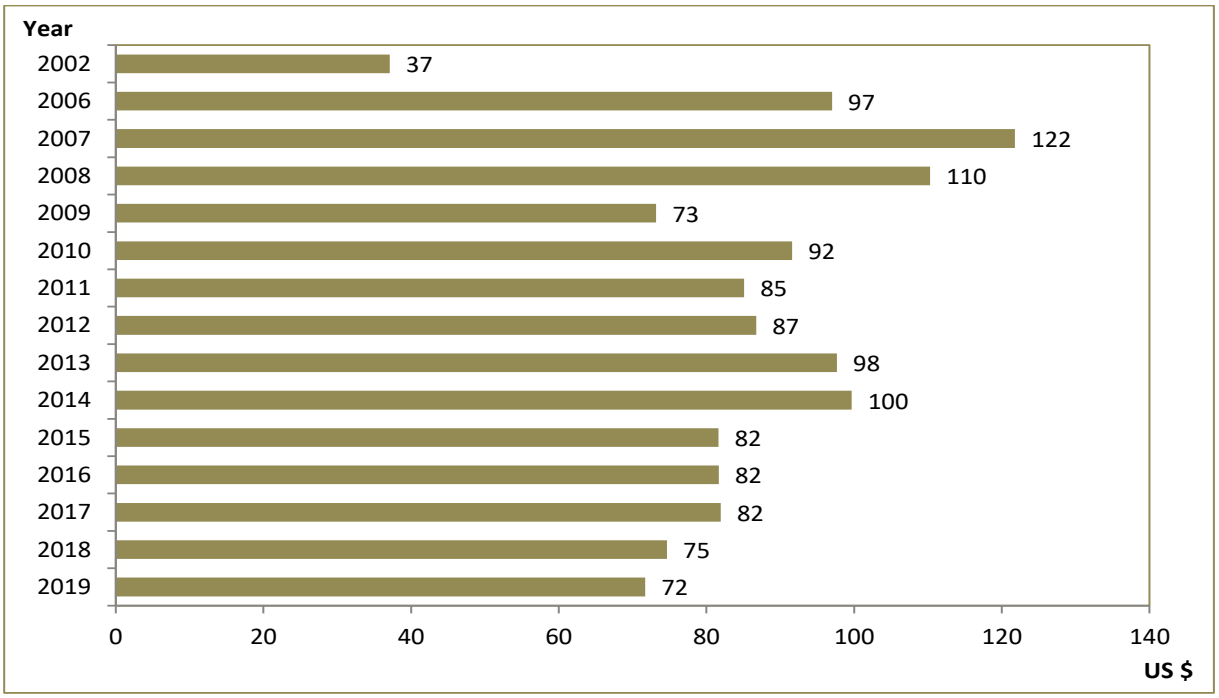
Source: TURKSTAT

Figure 11.11. Out-of-Pocket Health Expenditure per Capita at 2019 Price Level, Real, in ₺



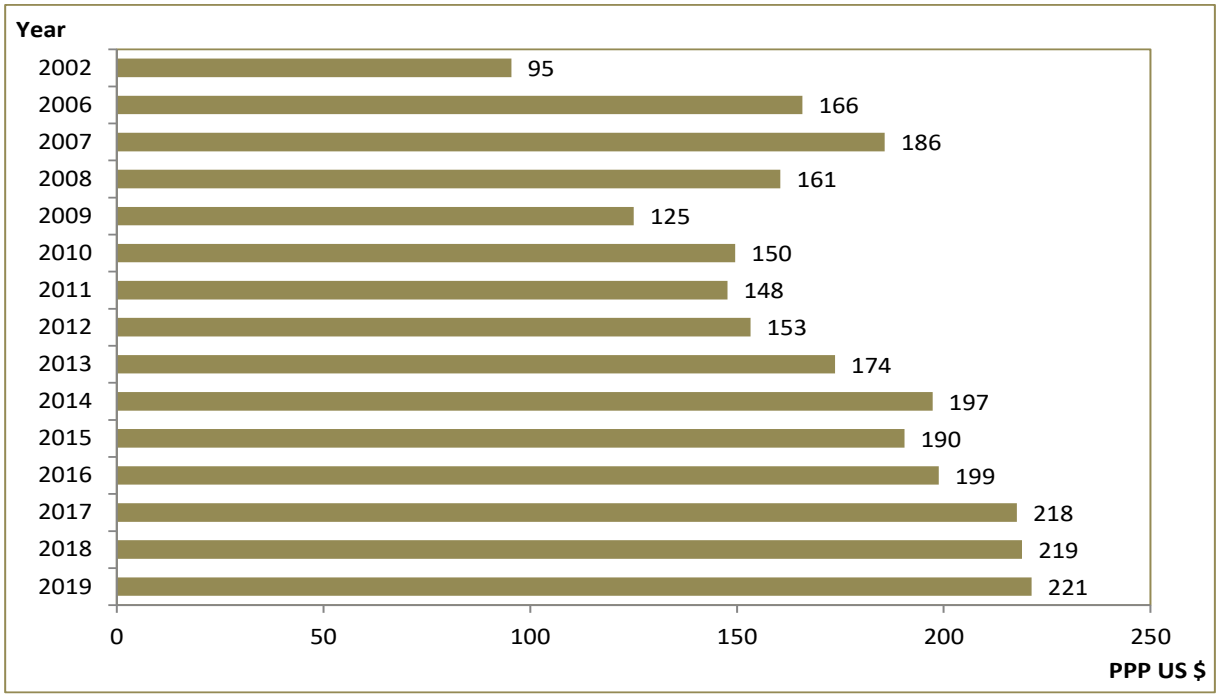
Source: TURKSTAT

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



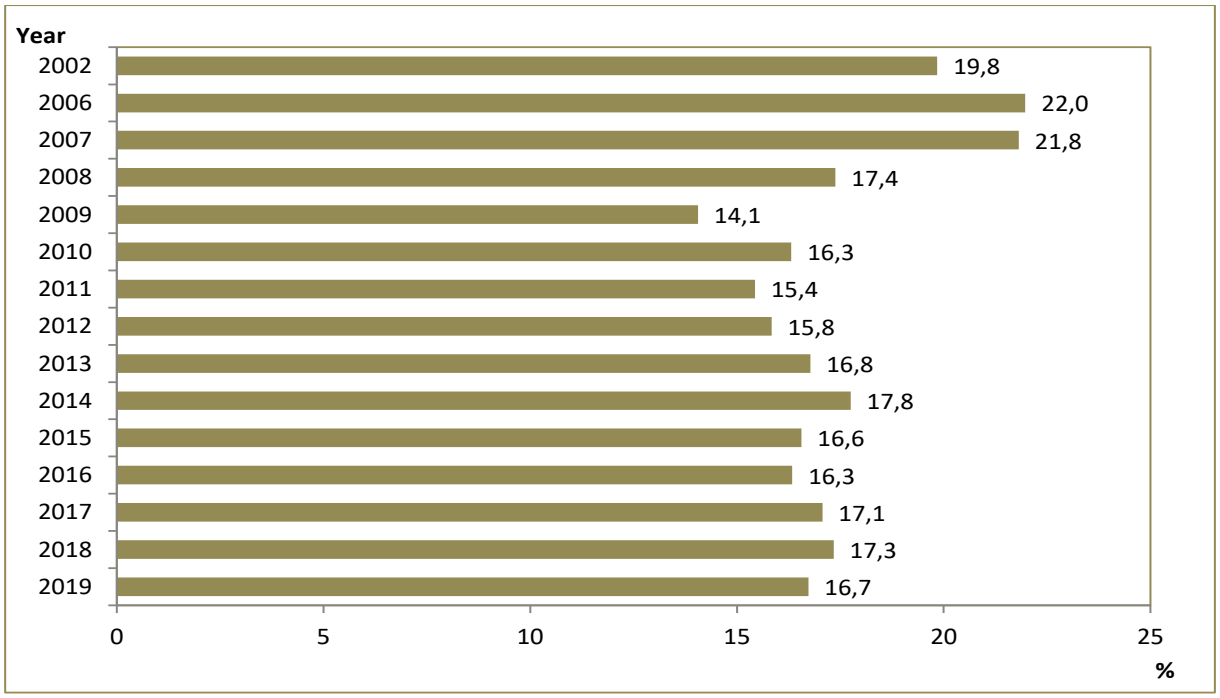
Source: TURKSTAT

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



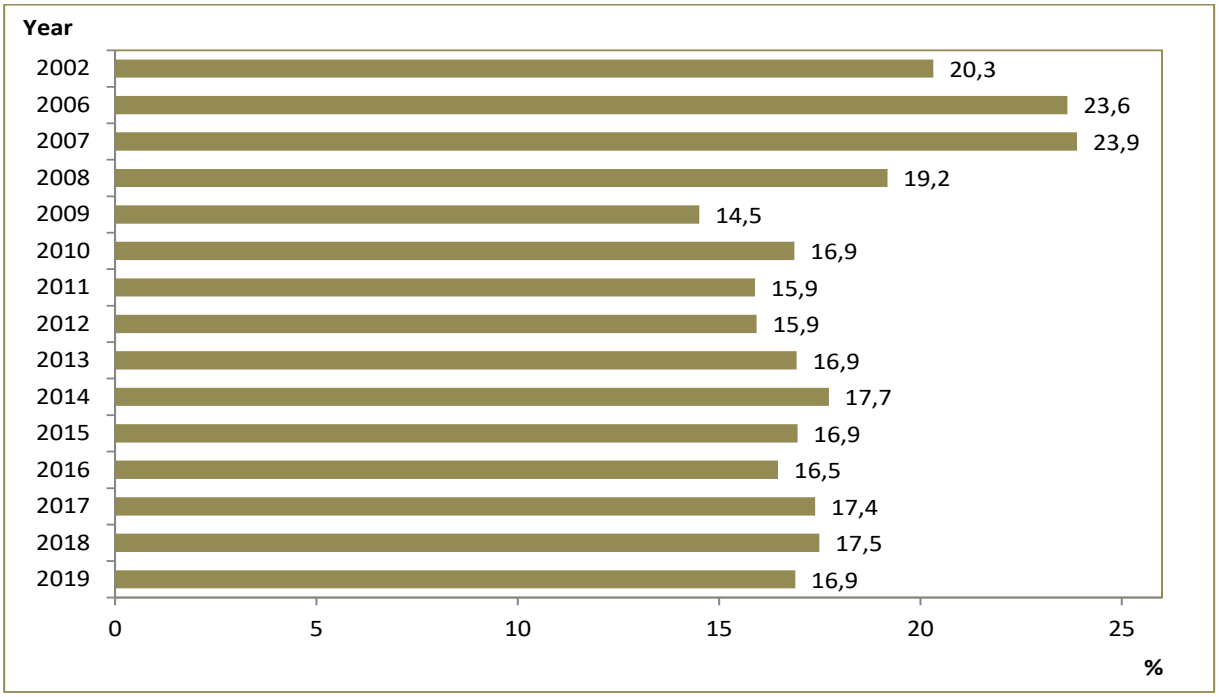
Source: TURKSTAT, OECD Health Data 2020

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



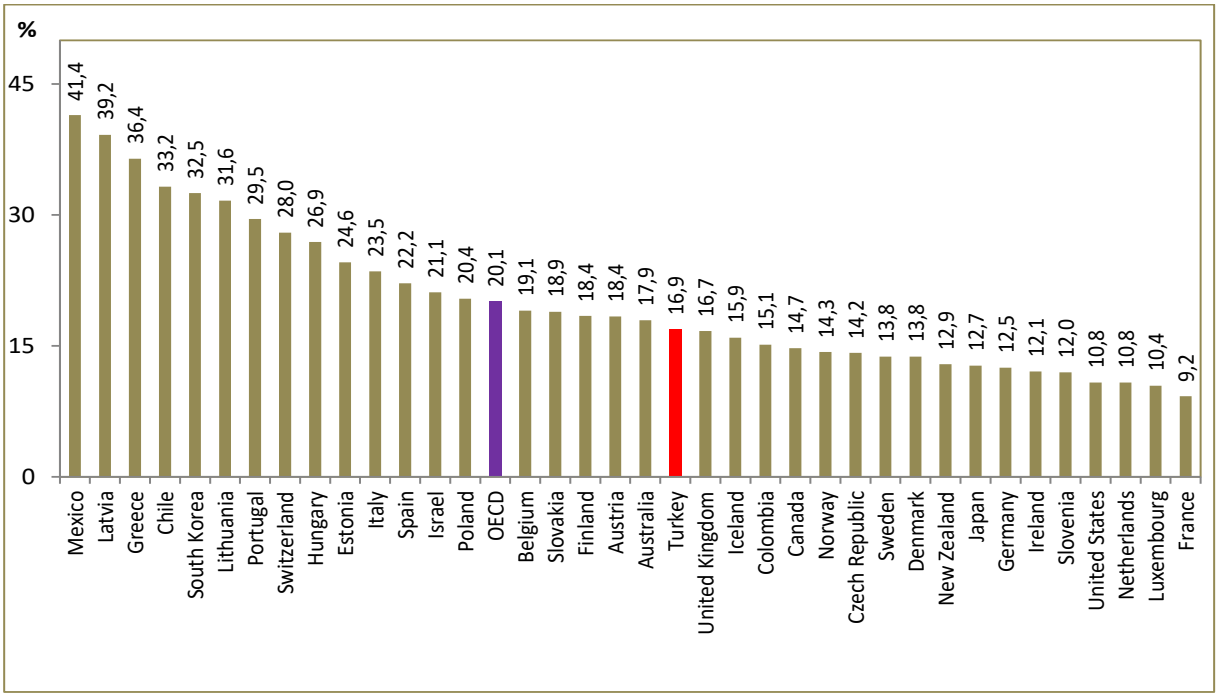
Source: TURKSTAT

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



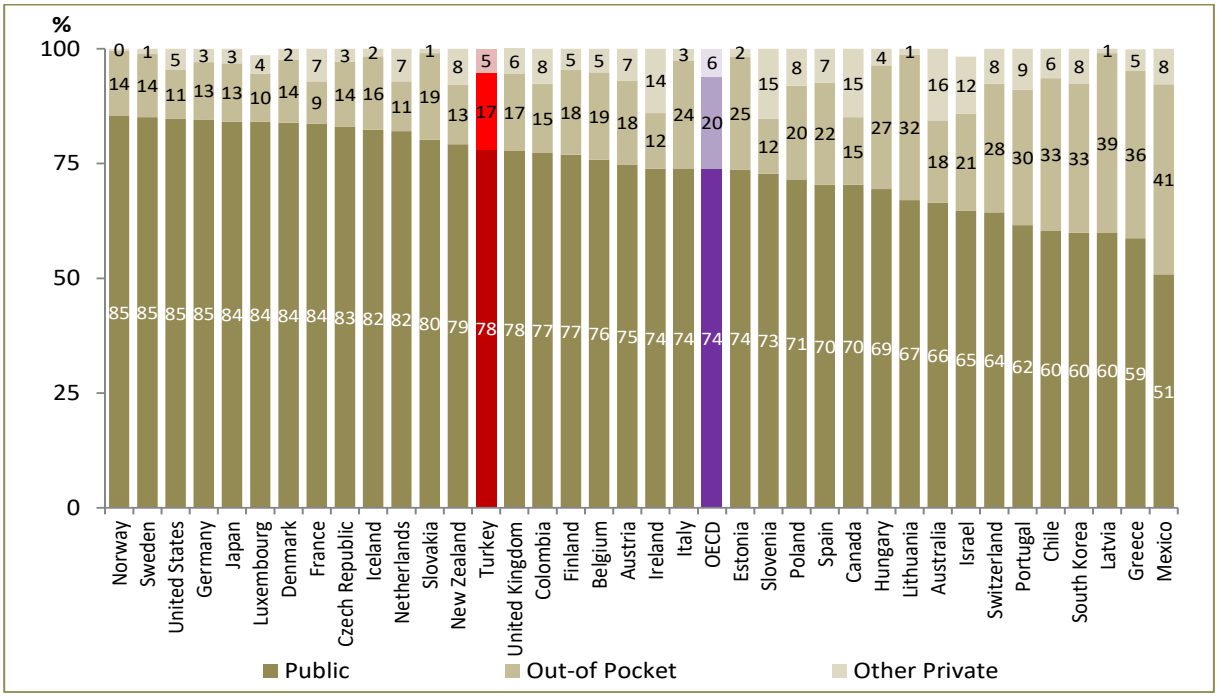
Source: TURKSTAT

Figure 11.16. International Comparison of Out-of-Pocket Current Health Expenditure as a Share of Current Health Expenditure, (%), 2018



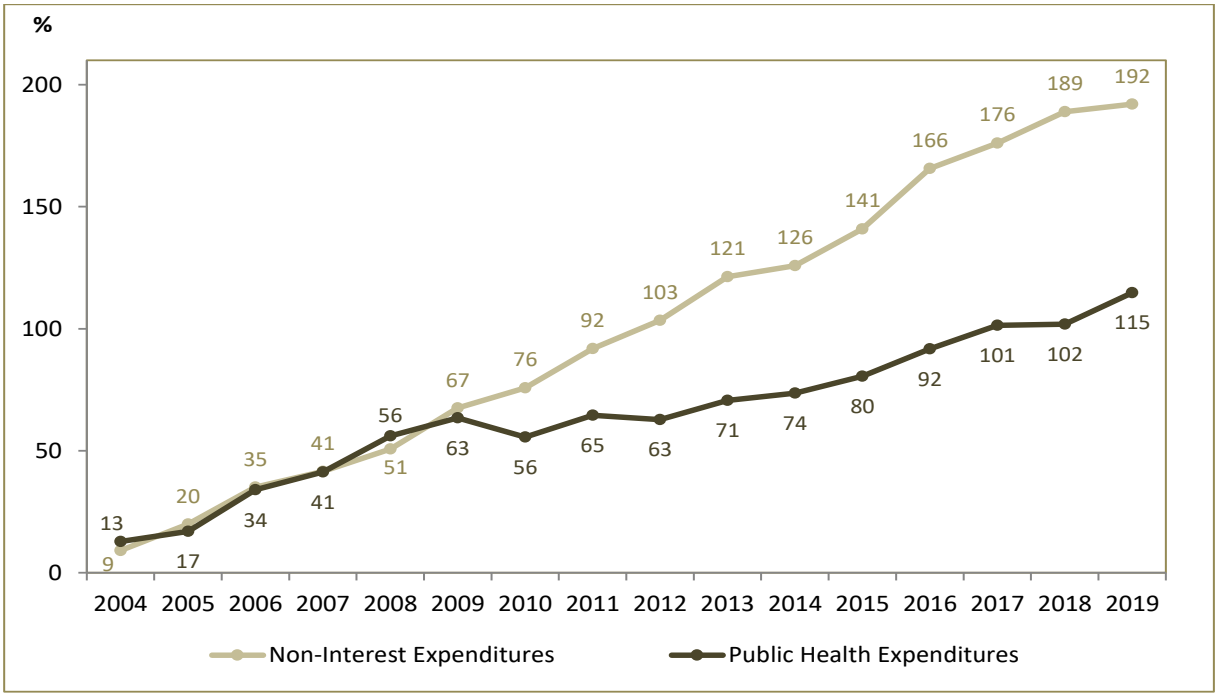
Source: TURKSTAT, OECD Health Data 2020
Note: Turkey's data belongs to the year 2019. Countries' data belong to the year 2018 or nearest.

Figure 11.17. International Comparison of Distribution of Current Health Expenditure by Financing Type, 2018



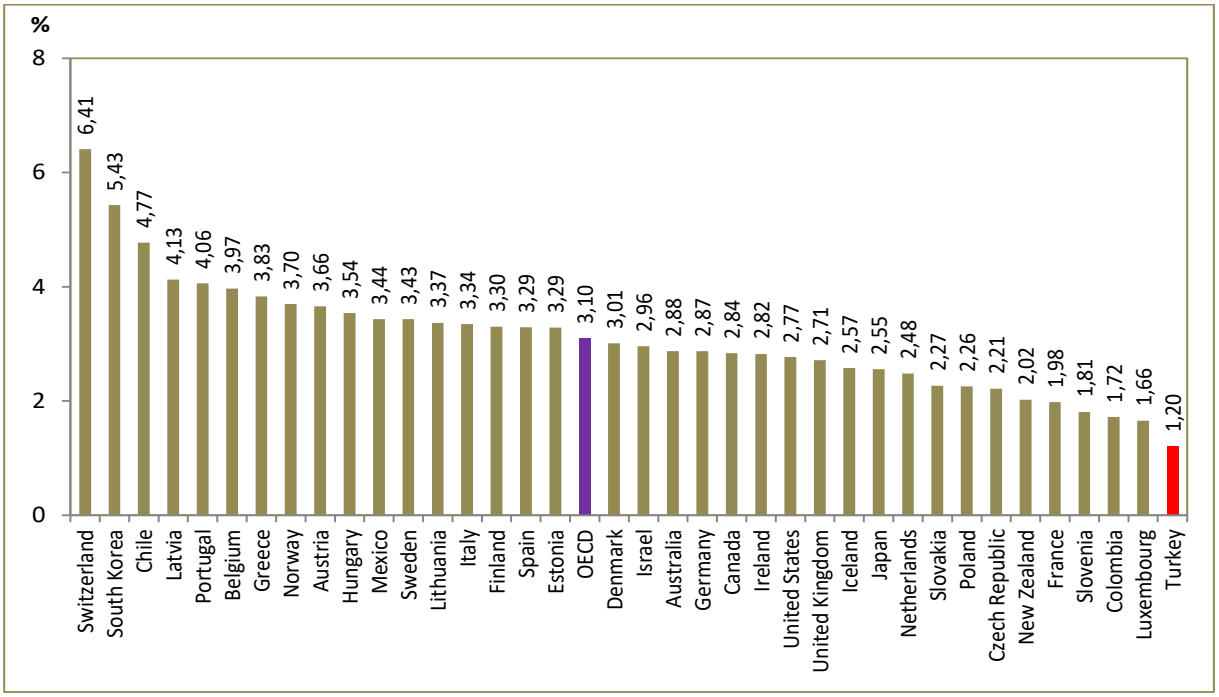
Source: TURKSTAT, OECD Health Data 2020
Note: Turkey's data belong to the year 2019. Countries' data belong to the year 2018 or nearest. Some countries' total does not give 100% due to having some other financing types.

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



Source: Public Health Expenditure; 2003-2019 TURKSTAT, Non-Interest Expenditures; Presidency of Turkey, Directorate of Strategy and Budgeting
Note: Rates of increase were calculated based on the year 2003.

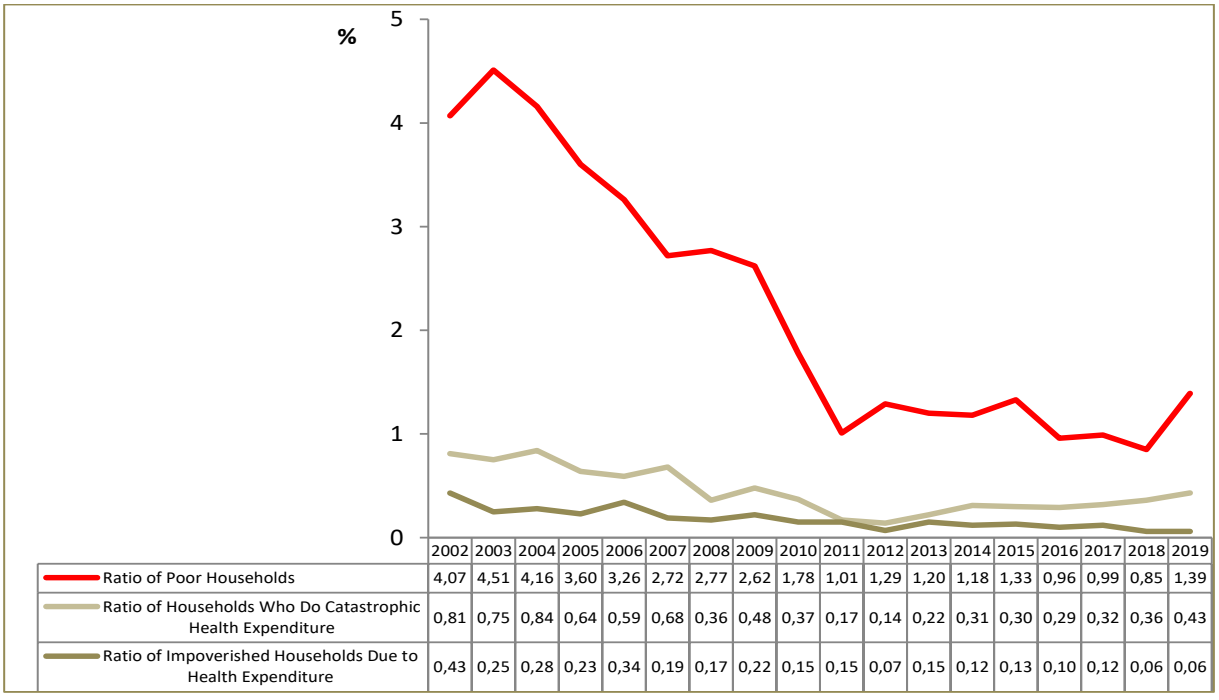
Figure 11.19. International Comparison of Ratio of Out-of-Pocket Current Health Expenditure in Household Final Consumption Expenditure, 2018



Source: TURKSTAT, OECD Health Data 2020

Note: Turkey's data belongs to the year 2019. Countries' data belong to the year 2018 or nearest.

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



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Ratio of Poor Households	4,07	4,51	4,16	3,60	3,26	2,72	2,77	2,62	1,78	1,01	1,29	1,20	1,18	1,33	0,96	0,99	0,85	1,39
Ratio of Households Who Do Catastrophic Health Expenditure	0,81	0,75	0,84	0,64	0,59	0,68	0,36	0,48	0,37	0,17	0,14	0,22	0,31	0,30	0,29	0,32	0,36	0,43
Ratio of Impoverished Households Due to Health Expenditure	0,43	0,25	0,28	0,23	0,34	0,19	0,17	0,22	0,15	0,15	0,07	0,15	0,12	0,13	0,10	0,12	0,06	0,06

Source: TURKSTAT, Household Budget Survey Micro Data Set

Explanations for Chapter 11

☑ Tables and graphs on health expenditures were calculated by TURKSTAT according to the OECD System of Health Accounts.

☑ While the expenditure figures were being converted into real figures, CPI 12-month average change rate released by the TURKSTAT was used.

☑ **Total Health Expenditure:** All expenditures made for prevention, improvement, care, nutrition and emergency programs designed to promote and prevent health status are defined as "Health Expenditures". Total Health Expenditure is the sum of Current Health Expenditure and Investment Expenditure.

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

☑ **Catastrophic Health Expenditure:** Households with rate of health expenditure to payment capacity is greater than 40% are described as "households with catastrophic health expenditures".

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

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

Year	Mid-year Population (in thousand)	US $	PPP US $	CPI
2002	66.003	1,521	0,591	5,240
2003	66.795	1,492	0,737	4,182
2004	67.599	1,432	0,793	3,851
2005	68.435	1,348	0,835	3,560
2006	69.295	1,441	0,843	3,248
2007	70.158	1,300	0,852	2,987
2008	71.052	1,281	0,880	2,704
2009	72.039	1,545	0,904	2,545
2010	73.142	1,502	0,920	2,344
2011	74.224	1,677	0,966	2,202
2012	75.176	1,802	1,020	2,022
2013	76.148	1,903	1,070	1,881
2014	77.182	2,186	1,105	1,728
2015	78.218	2,711	1,162	1,605
2016	79.278	3,022	1,241	1,489
2017	80.313	3,648	1,373	1,340
2018	81.407	4,715	1,608	1,152
2019	82.579	5,679	1,841	1,000

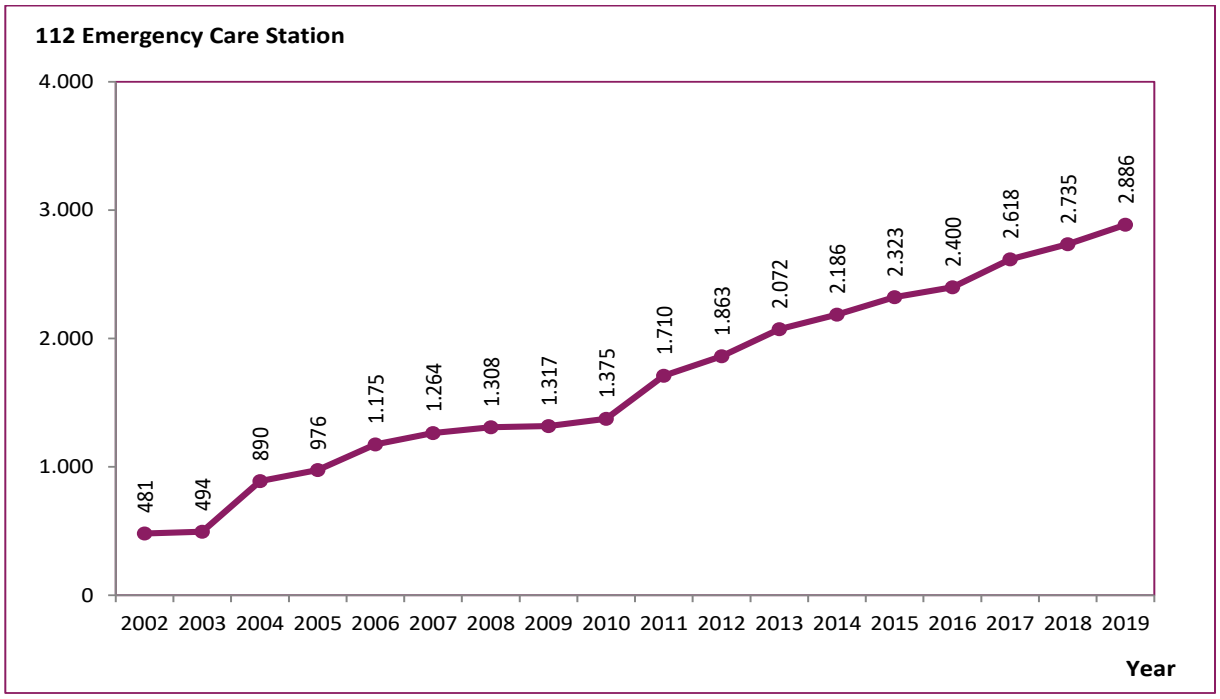
Source: TURKSTAT, OECD Health Data 2020



CHAPTER 12

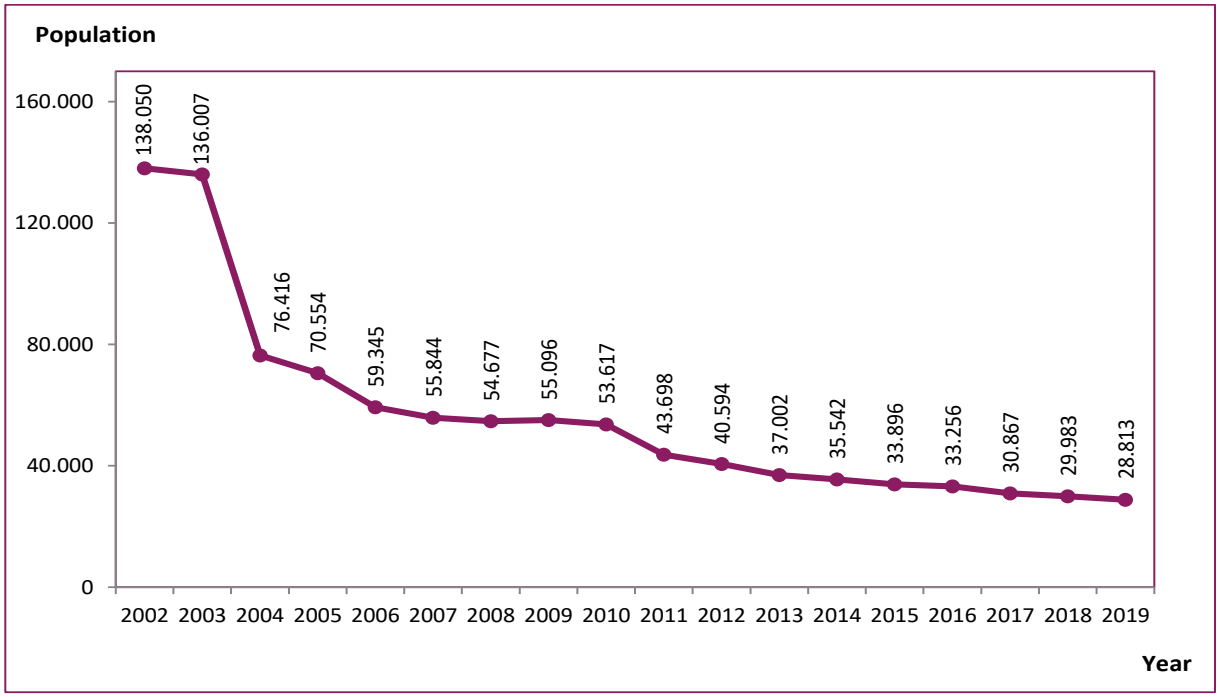
Emergency Health Services

Figure 12.1. Number of 112 Emergency Care Station by Years, Ministry of Health



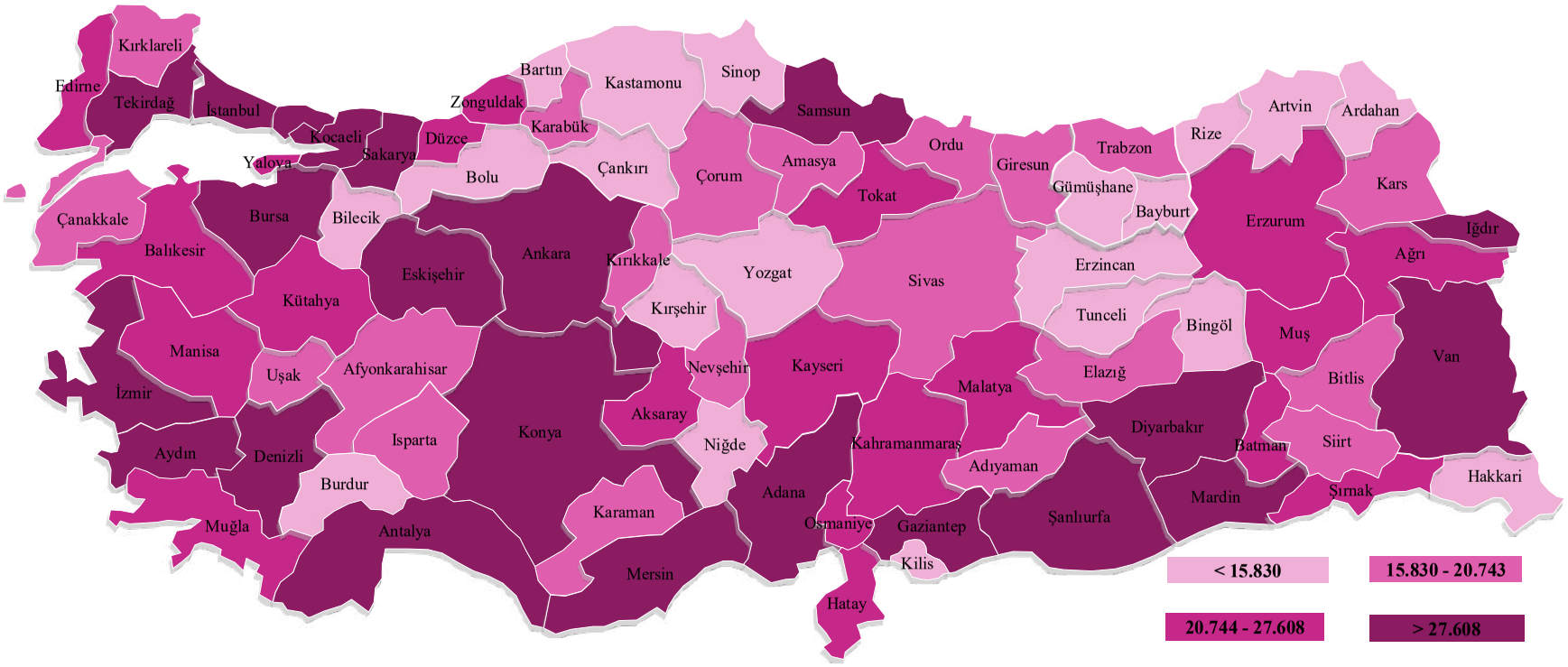
Source: General Directorate of Emergency Health Services

Figure 12.2. Population per 112 Emergency Care Station by Years, Ministry of Health



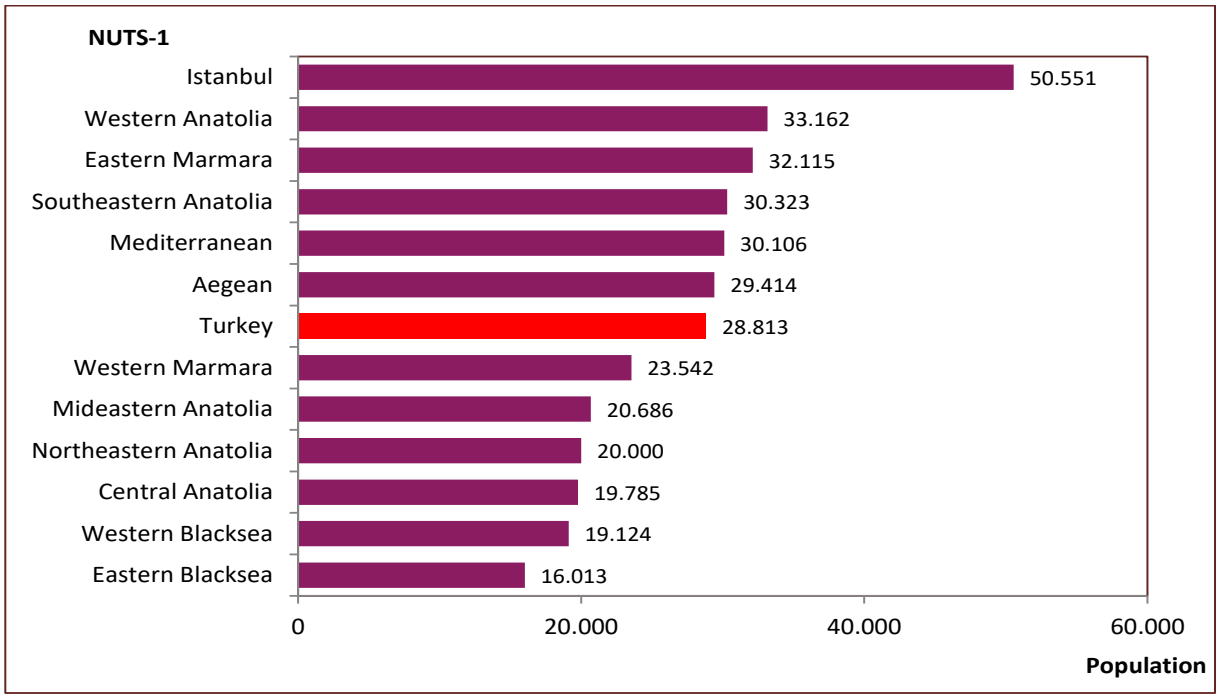
Source: General Directorate of Emergency Health Services

Map 12.1. Population per 112 Emergency Care Station by Provinces, Ministry of Health, 2019



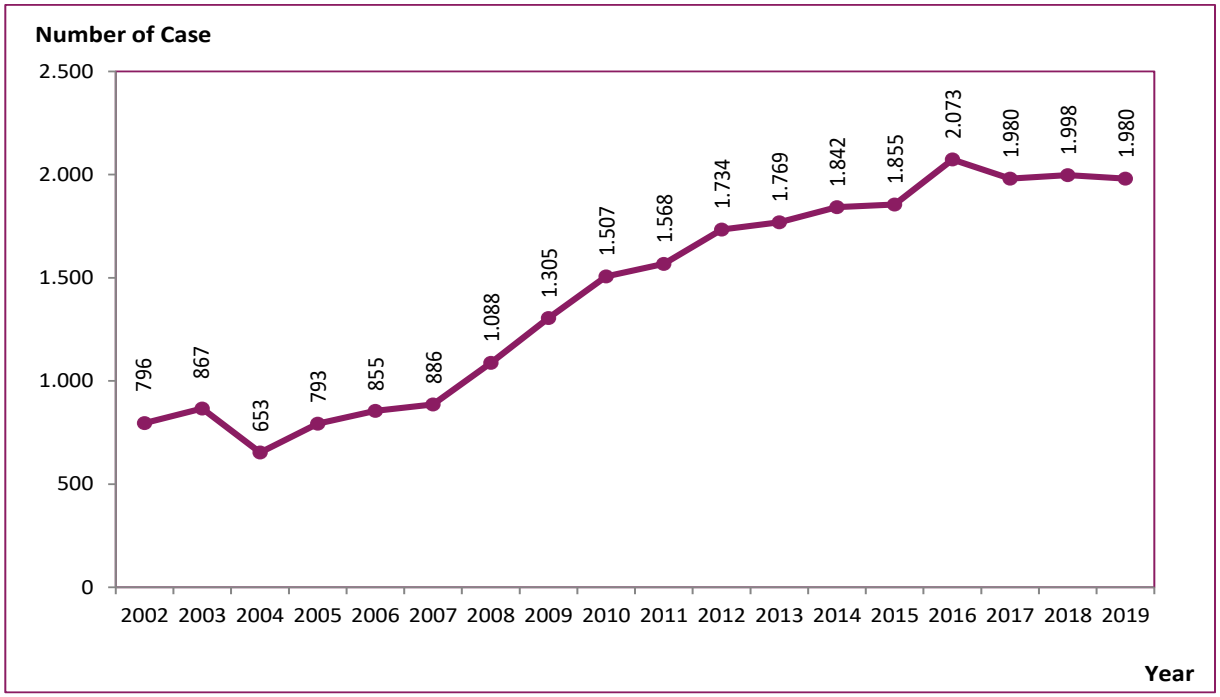
Source: General Directorate of Emergency Health Services

Figure 12.3. Population per 112 Emergency Care Station by NUTS-1, Ministry of Health, 2019



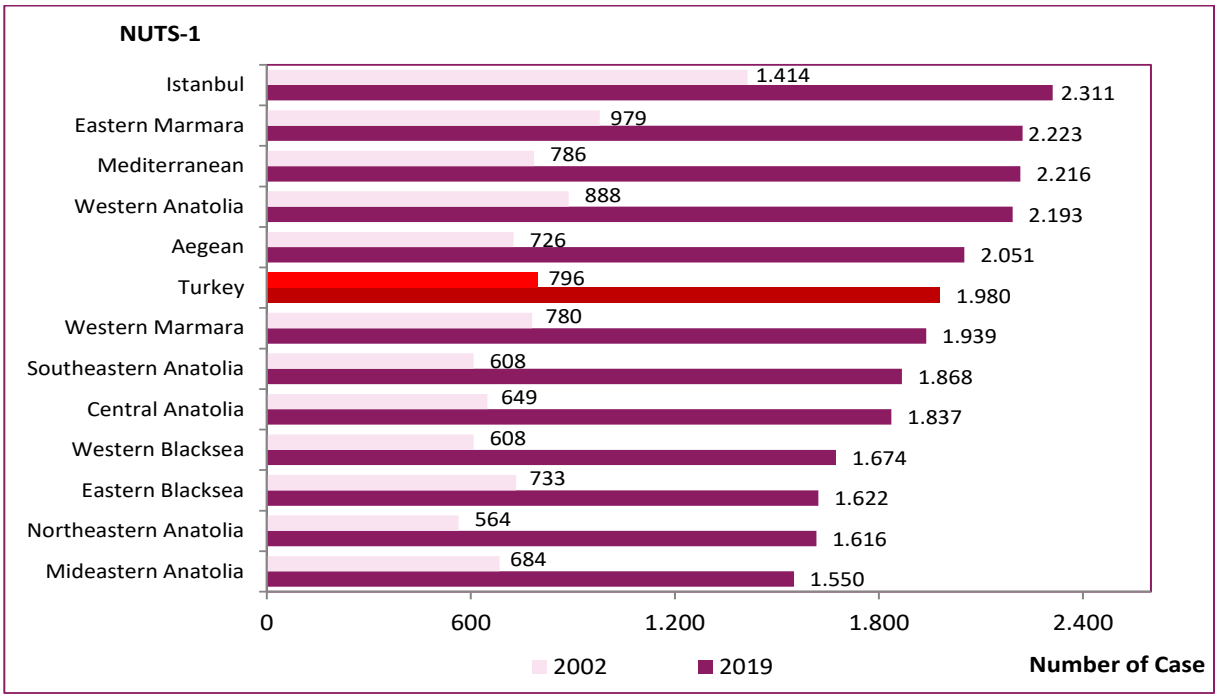
Source: General Directorate of Emergency Health Services

Figure 12.4. Number of Case per 112 Emergency Care Station by Years



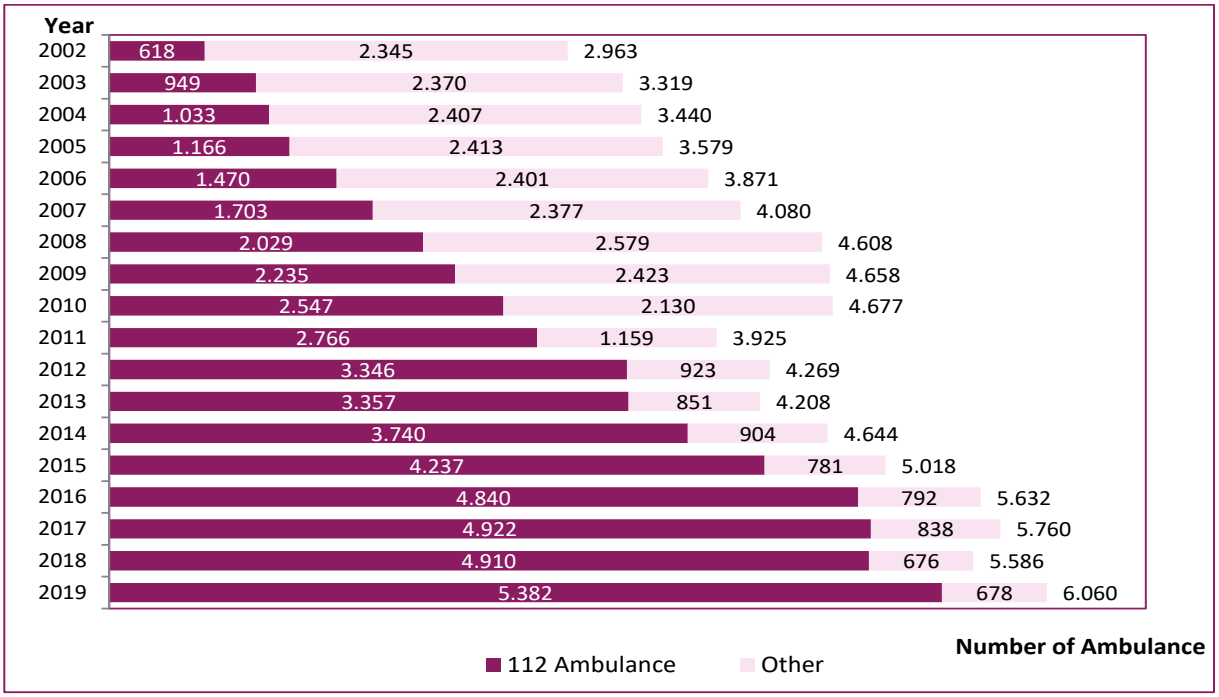
Source: General Directorate of Emergency Health Services

Figure 12.5. Number of Case per 112 Emergency Care Station by NUTS-1, 2002, 2019



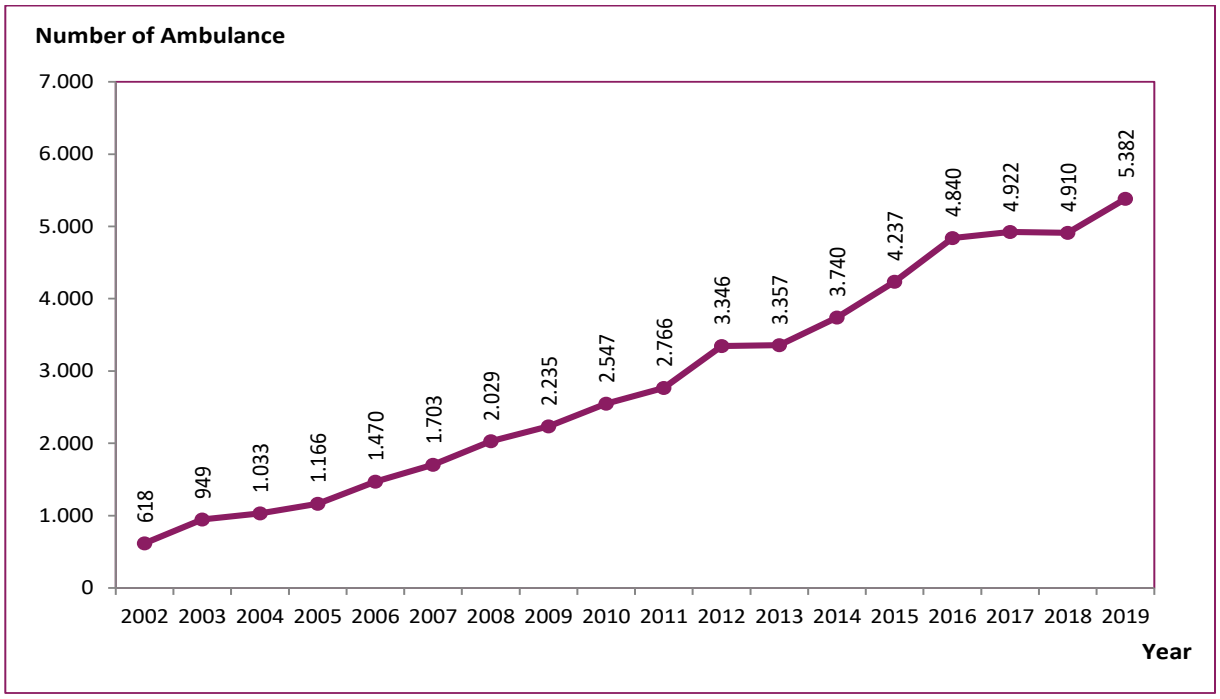
Source: General Directorate of Emergency Health Services

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



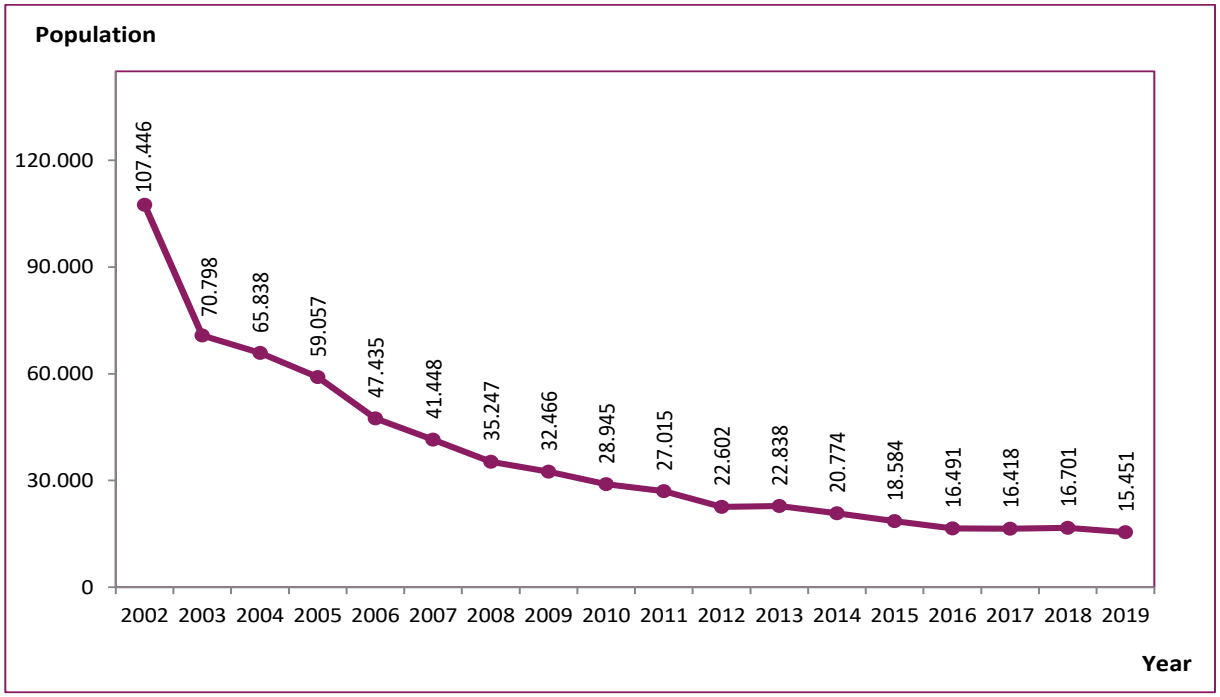
Source: General Directorate of Emergency Health Services

Figure 12.7. Number of 112 Emergency Care Ambulance by Years, Ministry of Health



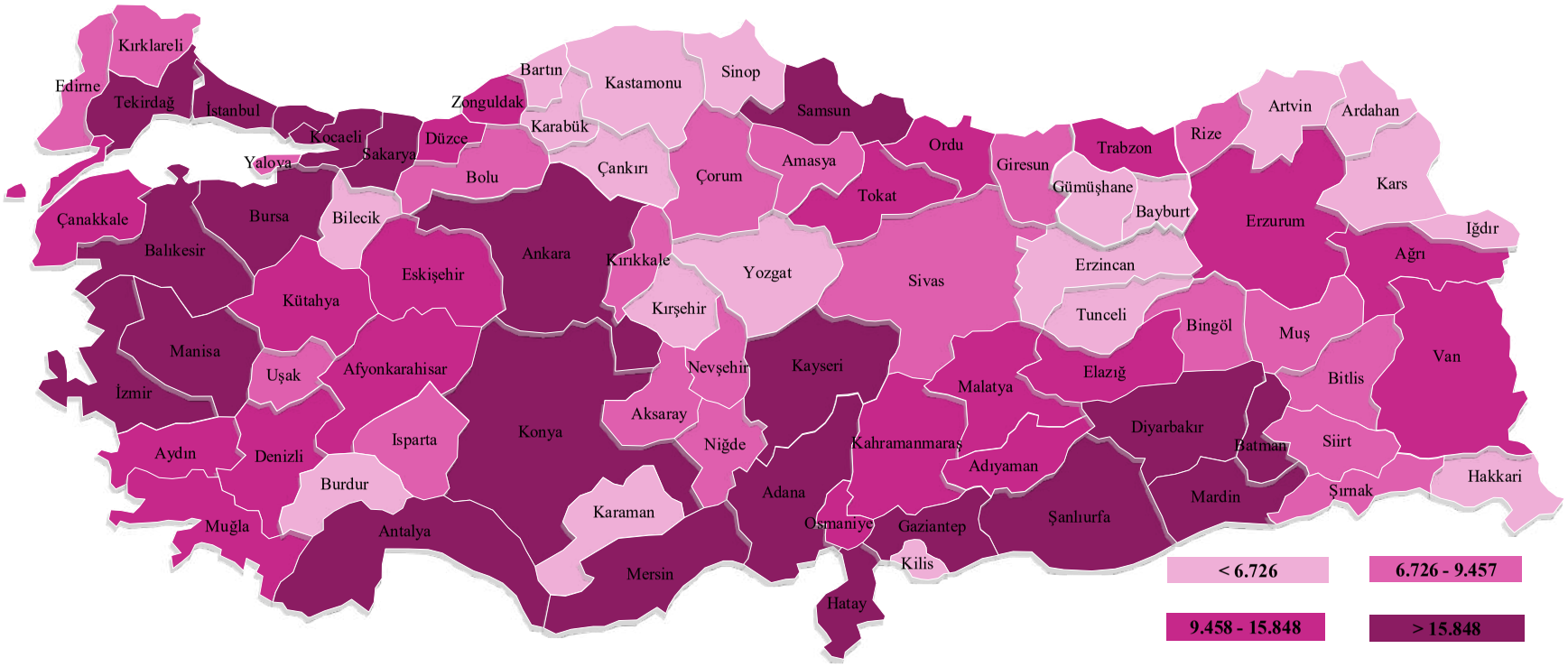
Source: General Directorate of Emergency Health Services

Figure 12.8. Population per 112 Emergency Care Ambulance by Years, Ministry of Health



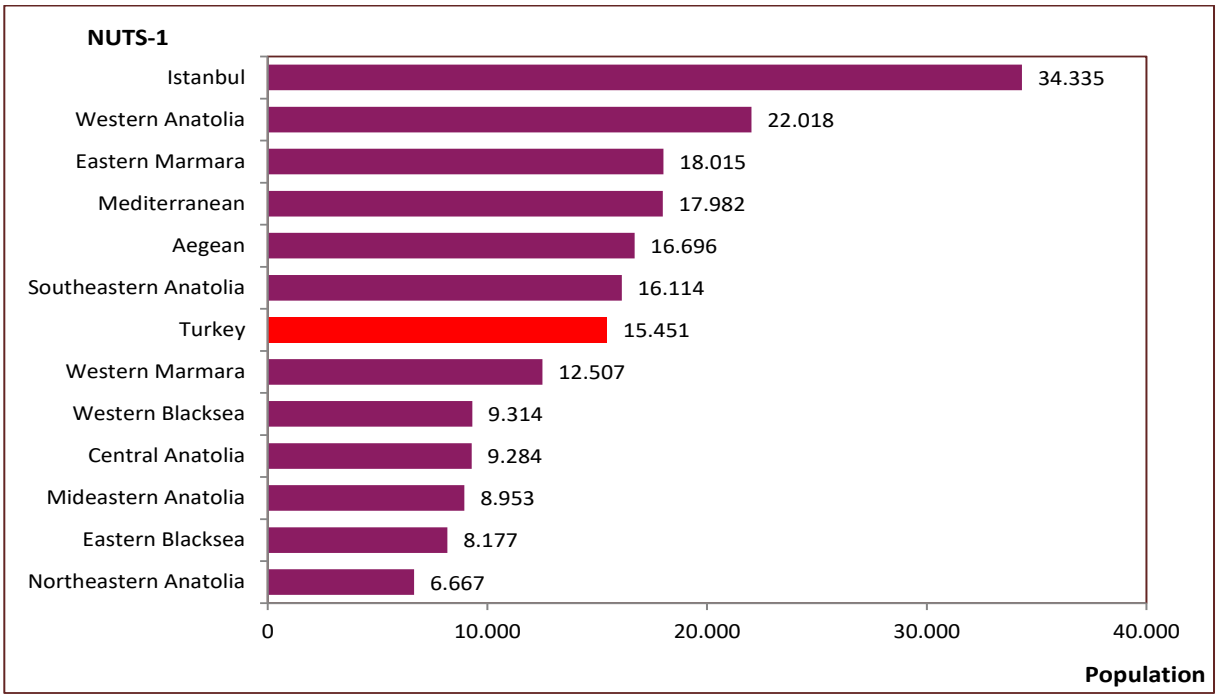
Source: General Directorate of Emergency Health Services

Map 12.2. Population per 112 Emergency Care Ambulance by Provinces, Ministry of Health, 2019



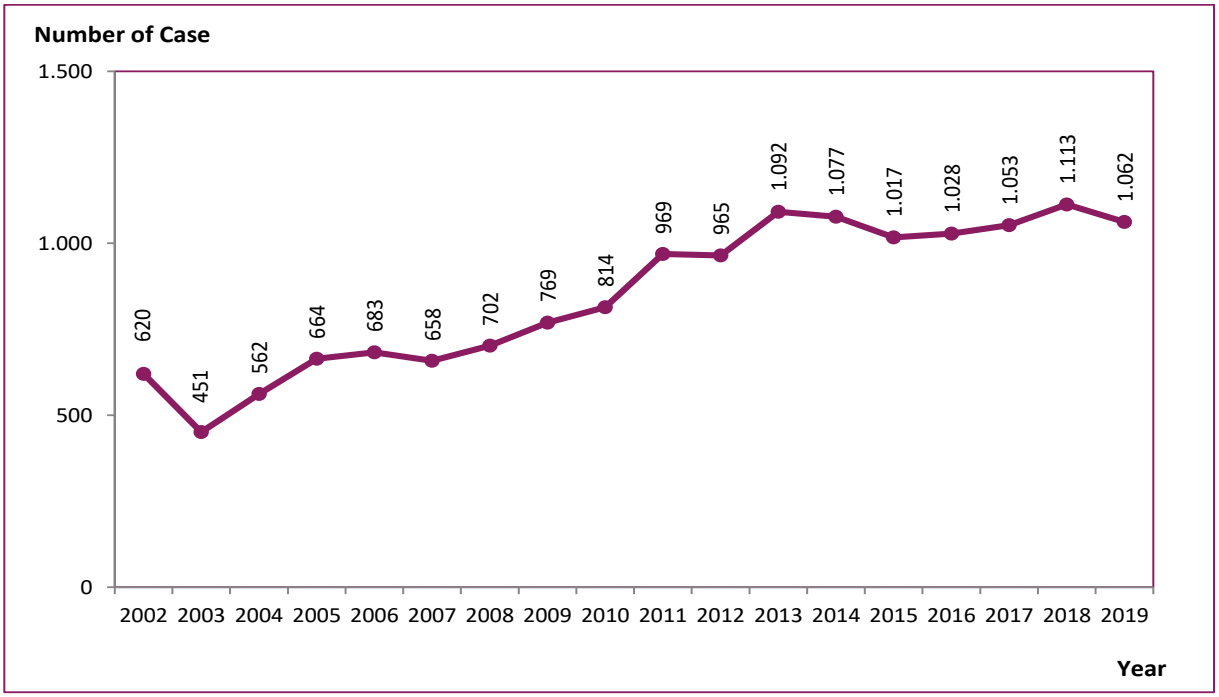
Source: General Directorate of Emergency Health Services

Figure 12.9. Population per 112 Emergency Care Ambulance by NUTS-1, Ministry of Health, 2019



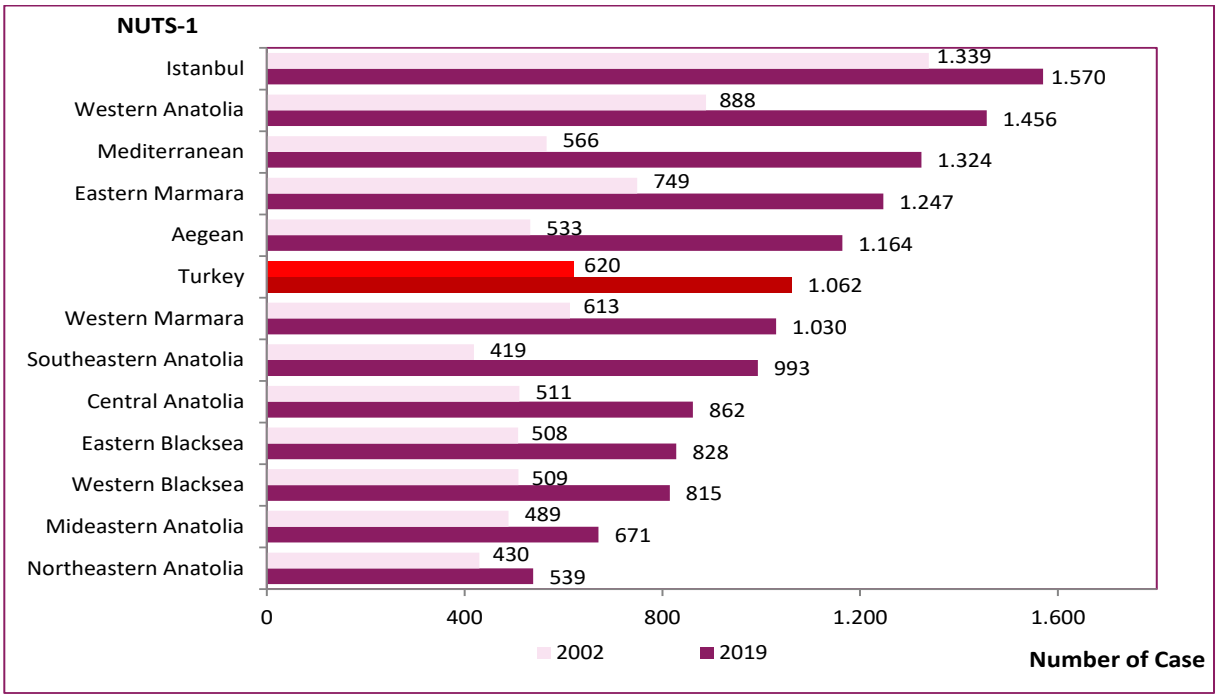
Source: General Directorate of Emergency Health Services

Figure 12.10. Total Number of Case per 112 Emergency Care Ambulance by Years



Source: General Directorate of Emergency Health Services

Figure 12.11. Total Number of Case per 112 Emergency Care Ambulance by NUTS-1, 2002, 2019



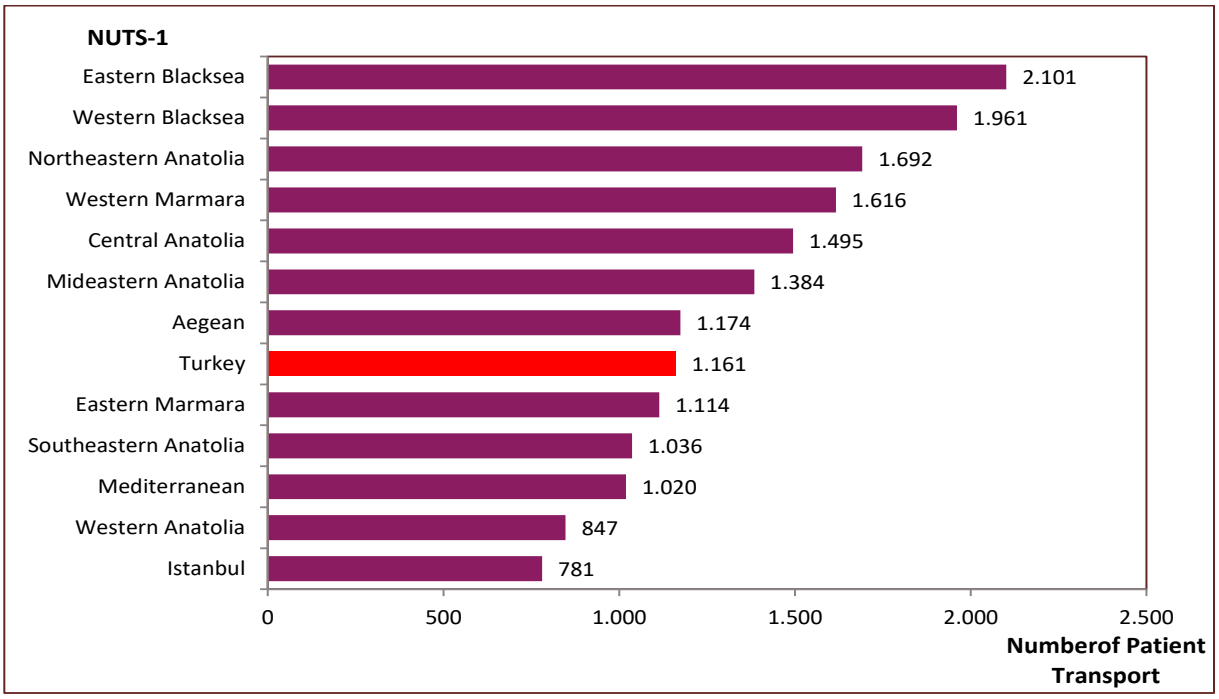
Source: General Directorate of Emergency Health Services

Table 12.1. Number of Vehicle and Transferred Patients by Types of Specialized Ambulance, Ministry of Health, 2019

	Number of Vehicle	Number of Transferred Patients
Snow-Pallet Ambulance	245	759
Intensive Care & Bariatric Ambulance	91	7.512
Motorcycle Ambulance	62	8.449
Ambulance with 4 Stretchers	62	3.321
Snow Track Ambulansı	22	74
Helicopter Ambulance	17	1.955
Sea Ambulance	6	3.695
Air Ambulance	3	1.157

Source: General Directorate of Emergency Health Services
Note: Number of specialized ambulance except helicopter, air and sea ambulances is included in 112 ambulance number.

Figure 12.12. Number of Total Patient Transport per 100.000 Population by NUTS-1, 2019



Source: General Directorate of Emergency Health Services

Table 12.2. Distribution of Reasons of Patient Transport within the City and Out of the City by 112 Emergency Ambulance , (%), 2019

Reason	within the City	out of the City
Requirement of Leading Privatized Physician	38,85	40,05
Requirement of Intensive Care	11,78	18,18
Requirement of Specialist Physician	24,47	13,52
Requirement of Medical Equipment	6,74	9,05
Other	8,08	7,53
No Space	7,23	5,60
Patient Demand	1,28	3,51
Requirement of Subspecialty Specialist Physicians	0,84	1,04
Requirement of Burn Unit	0,10	0,85
Amputation - Replantation	0,05	0,23
Modifications in Related Service Items	0,24	0,23
Medical-Technical Failure	0,33	0,13
Organ Transplant	0,004	0,09
Total	**100**	**100**

Source: General Directorate of Emergency Health Services

Table 12.3. The Rate of Unfounded Incidents to 112 Emergency Call Center by NUTS-1, (%), 2019

NUTS-1	The Rate of Unfounded Incidents
Istanbul	18,2
Western Anatolia	17,8
Northeastern Anatolia	13,3
Mideastern Anatolia	12,1
Turkey	**12,0**
Southeastern Anatolia	11,8
Aegean	11,3
Western Marmara	10,3
Mediterranean	10,2
Eastern Marmara	9,0
Eastern Blacksea	8,7
Central Anatolia	7,6
Western Blacksea	7,5

Source: General Directorate of Emergency Health Services

Table 12.4. Some Health Indicators by Provinces, 2019

City	Number of 112 Emergency Care Station	Population per 112 Emergency Care Station	Number of 112 Emergency Care Ambulance	Population per 112 Emergency Care Ambulance	The Rate of Unfounded Incidents (%)
Adana	55	40.690	95	23.557	14,3
Adıyaman	31	20.209	47	13.329	10,0
Afyonkarahisar	37	19.716	65	11.223	9,3
Ağrı	20	26.810	49	10.943	15,1
Amasya	20	16.890	40	8.445	8,8
Ankara	153	36.857	225	25.063	22,3
Antalya	62	40.511	95	26.439	12,8
Artvin	21	8.137	49	3.487	9,5
Aydın	36	30.860	72	15.430	8,0
Balıkesir	52	23.627	74	16.603	10,1
Bilecik	14	15.673	36	6.095	8,3
Bingöl	19	14.727	39	7.175	14,2
Bitlis	19	18.322	46	7.568	14,0
Bolu	22	14.369	47	6.726	9,9
Burdur	23	11.774	42	6.448	6,2
Bursa	76	40.212	115	26.575	11,0
Çanakkale	28	19.363	54	10.040	11,8
Çankırı	19	10.305	41	4.775	4,4
Çorum	30	17.695	63	8.426	8,3
Denizli	35	29.635	73	14.208	7,1
Diyarbakır	61	28.793	99	17.741	11,7
Edirne	17	24.347	51	8.116	8,4
Elazığ	34	17.385	62	9.534	9,9
Erzincan	16	14.672	53	4.429	14,8
Erzurum	31	24.583	71	10.733	12,4
Eskişehir	32	27.734	56	15.848	7,6
Gaziantep	48	43.112	78	26.530	10,0
Giresun	26	17.246	57	7.867	9,7
Gümüşhane	15	10.968	43	3.826	13,0
Hakkari	19	14.789	51	5.510	19,7
Hatay	59	27.608	88	18.510	8,1
Isparta	22	20.223	50	8.898	6,5
Mersin	63	29.213	99	18.590	8,2
İstanbul	307	50.551	452	34.335	18,2
İzmir	104	41.993	157	27.817	15,0
Kars	16	17.838	45	6.342	13,5
Kastamonu	33	11.497	64	5.928	8,7
Kayseri	51	27.596	86	16.365	7,6
Kırklareli	20	18.092	49	7.384	8,8
Kırşehir	16	15.184	39	6.229	5,9
Kocaeli	46	42.457	69	28.305	8,4

Source: General Directorate of Emergency Health Services

Table 12.4. Some Health Indicators by Provinces, 2019- Continued

City	Number of 112 Emergency Care Station	Population per 112 Emergency Care Station	Number of 112 Emergency Care Ambulance	Population per 112 Emergency Care Ambulance	The Rate of Unfounded Incidents (%)
Konya	76	29.373	104	21.465	7,7
Kütahya	27	21.454	46	12.593	7,2
Malatya	35	22.862	75	10.669	10,2
Manisa	58	24.838	85	16.948	9,0
Kahramanmaraş	44	26.230	76	15.186	8,9
Mardin	26	32.261	50	16.776	12,2
Muğla	46	21.373	89	11.047	15,1
Muş	16	25.551	47	8.698	10,2
Nevşehir	15	20.201	39	7.769	11,6
Niğde	24	15.119	44	8.247	6,7
Ordu	43	17.539	68	11.091	8,6
Rize	24	14.301	49	7.004	4,3
Sakarya	35	29.419	58	17.753	8,0
Samsun	41	32.891	74	18.224	6,9
Siirt	18	18.349	49	6.740	9,6
Sinop	22	9.920	44	4.960	7,9
Sivas	37	17.269	83	7.698	8,3
Tekirdağ	36	29.317	60	17.590	11,0
Tokat	27	22.694	61	10.045	8,0
Trabzon	39	20.743	63	12.841	9,6
Tunceli	13	6.512	38	2.228	10,9
Şanlıurfa	53	39.125	98	21.159	14,1
Uşak	18	20.584	49	7.561	6,1
Van	35	32.479	81	14.034	12,0
Yozgat	27	15.600	63	6.686	5,6
Zonguldak	24	24.836	43	13.862	7,2
Aksaray	20	20.818	46	9.051	8,4
Bayburt	8	10.605	29	2.926	7,7
Karaman	16	15.830	40	6.332	5,1
Kırıkkale	16	17.689	39	7.257	6,3
Batman	24	25.361	34	17.902	10,7
Şırnak	23	23.027	56	9.457	20,9
Bartın	13	15.250	32	6.195	6,1
Ardahan	12	8.110	46	2.116	14,4
Iğdır	7	28.492	37	5.390	12,7
Yalova	11	24.634	32	8.468	7,3
Karabük	15	16.564	39	6.371	7,1
Kilis	12	11.874	46	3.098	13,7
Osmaniye	25	21.550	46	11.712	6,4
Düzce	17	23.069	38	10.320	5,5
Turkey	**2.886**	**28.813**	**5.382**	**15.451**	**12,0**

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 changed due to TURKSTAT's population revision.

☑ **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.

☑ **Other Ambulance:** Ambulance of the community health centers and hospitals which are only used for patient transformation. The private sector ambulances are not included in the total.

☑ **Unfounded Incidents to the 112 Emergency Call Center:** In case of any emergency illness or injury, the call of the person who dials the 112 emergency call, reaches to the command control center in 24 hours in a day. When the cases can be considered urgent, fully equipped ambulance with a doctor or paramedic and an emergency medical technician is assigned from the nearest station to the scene and reaches the scene of the incident. When the scene is reached, the situation that there is no incident, is called as unfounded incidents.

☑ **The Number of Unfounded Incidents to the 112 Emergency Call Center:** It is calculated as: (Total Number of 112 Emergency Care Ambulance Outputs - Total Number of 112 Emergency Care Ambulance Cases).

☑ **The Rate of Unfounded Incidents to the 112 Emergency Call Center, (%):** It is calculated as: (The Number of Unfounded Incidents x100)/(Total Number of 112 Emergency Care Ambulance Outputs).

☑ **Patient Transport**: Transportation. It is the patient transport process in pre-hospital emergency health services.

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Ministry of Health Publication No: 1186

ISBN: 978-975-590-793-2