HEALTH STATISTICS YEARBOOK

2020

GENERAL DIRECTORATE OF
HEALTH INFORMATION SYSTEMS

THE MINISTRY of HEALTH of TÜRKİYE

HEALTH STATISTICS YEARBOOK

2020

In Health Statistics Yearbook 2020, statistics were calculated according to international standard definition.

Ankara 2022

THE MINISTRY of HEALTH of TÜRKİYE

HEALTH STATISTICS YEARBOOK

2020

Team Leaders

Dr. Şuayip BİRİNCİ

Dr. M. Mahir ÜLGÜ

Editors

Dr. Berrak BORA BAŞARA

İrem SOYTUTAN ÇAĞLAR

Asiye AYGÜN

Tuğcan Adem ÖZDEMİR

Banu KULALİ

Contributors

Dr. Berrak BORA BAŞARA

İrem SOYTUTAN ÇAĞLAR

Asiye AYGÜN

Tuğcan Adem ÖZDEMİR

Banu KULALİ

Gökalp Kadri YENTÜR

Dr. Selen Begüm UZUN

Birsen BİRGE KAYIŞ

Dr. Ayfer PEKERİÇLİ

Saniye KARA

Gözde ÜNAL

ISBN : 978-975-590-853-3

Ministry of Health Publication No : 1241

Contributors

General Directorate of Health Services

- Health Statistics Department
- Health Manpower Planning Department
- Tissue, Organ Transplantation and Dialysis Services Department

General Directorate of Public Health

- Department of Monitoring, Evaluating and Statistics
- Department of Child and Adolescent Health
- Department of Women and Reproductive Health
- Department of Tuberculosis
- Department of Vaccine Preventable Diseases
- Department of Communicable Diseases
- Department of Planning and Organization of Primary Health Care Facilities
- Tobacco and Other Addictive Substances Control Department
- Department of Healthy Nutrition and Active Life
- Department of Zoonotic and Vectorial Diseases
- Department of Community Health Services and Education
- Department of Family Medicine
- Department of Chronic Diseases and Elderly Health
- Cancer Control Department

Turkish Medicines and Medical Devices Agency

- Department of Rational Use of Medicines
- Department of Economic Evaluations and Drug Supply Management

General Directorate of Emergency Health Services

- Department of Monitoring and Evaluating

TABLE of CONTENTS

NOMENCLATURE of TERRITORIAL UNITS FOR STATISTICS (NUTS)

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

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

ABBREVIATIONS

ABPRS : Address Based Population Registration System
ATC : Anatomical Therapeutic Chemical
BCG : Bacillus Calmette-Guerin Vaccination
BMI : Body Mass Index
CHC : Community Health Center
CEKUS : Child, Adolescent, Women and Reproductive Health Unit
CKYS : Core Resource Management System
cm : Centimeter
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
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
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
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
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
PET : Positron Emission Tomography
PIS : Prescription Information System
PPP : Purchasing Power Parity
SİNA : Health Statistics and Causal Analysis
SPTS : Health Personnel Tracking System
SSI : Social Security Institution
TDHS : Türkiye Demographic and Health Survey
₺ : Turkish Lira
TURKSTAT : Turkish Statistical Institute
UNICEF : United Nations Children's Fund
UN IGME : United Nations Inter-Agency Group for Child Mortality Estimation
UNPD : United Nations Population Division
UNU : United Nations University
WHO : World Health Organization
YLD : Years Lived with Disability
YLL : Years of Life Lost

List of Tables

Chapter 1. General Demographic Indicators

Chapter 2. Mortality

Chapter 3. Morbidity

Chapter 4. Risk Factors

Chapter 5. Prevention of Diseases and Protection of Health

Chapter 6. Global Burden of Disease 2019 Türkiye Results

Chapter 7. Health Care Facilities and Infrastructures

Chapter 8. Utilization of Health Care Services

Chapter 9. Pharmaceutical Statistics

Chapter 10. Human Resources for Health

Chapter 11. Health Economics and Financing

Chapter 12. Emergency Health Services

List of Figures and Maps

Chapter 1. General Demographic Indicators

Chapter 2. Mortality

Chapter 3. Morbidity

Chapter 4. Risk Factors

Chapter 5. Prevention of Diseases and Protection of Health

Chapter 6. Global Burden of Disease 2019 Türkiye Results

Chapter 7. Health Care Facilities and Infrastructures

Chapter 8. Utilization of Health Care Services

Chapter 9. Pharmaceutical Statistics

Chapter 10. Human Resources for Health

Chapter 11. Health Economics and Financing

Chapter 12. Emergency Health Services

General Explanations on Health Statistics Yearbook 2020

While the values of the indicators in the Health Statistics Yearbook 2020 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 Türkiye) are taken from the following sources;

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

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

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

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

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

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

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

8. ECDC (European Center for Disease Prevention and Control) reports used for annually international comparisons of communicable diseases. The reports, which include data of European countries, are based on the values which are reported from the countries

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

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

2. **Upper Middle Income Countries (Countries with GNI per capita between $4.096 and $12.695):** Albania, American Samoa, Argentina, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, China, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, Equatorial Guinea, Fiji, Gabon, Georgia, Grenada, Guatemala, Guyana, Iraq, Jamaica, Jordan, Kazakhstan, Kosovo, Lebanon, Libya, Macedonia, Malaysia, Maldives, Marshall Islands, Mauritius, Mexico, Moldova, Montenegro, Namibia, Panama, Paraguay, Peru, Romania, Russia, Serbia, South Africa, St. Lucia, St. Vincent and the Grenadines, Suriname, Thailand, Tonga, Turkmenistan, Tuvalu, Türkiye.

3. **High-Income Countries (Countries with GNI per capita of bigger than $12.695):** Andorra, Antigua and Barbuda, Aruba, Australia, Austria, Bahamas, Bahrain, Barbados, Belgium, Bermuda, British Virgin Islands, Brunei Darussalam, Canada, Cayman Islands, Channel Islands, Chile, Croatia, Curaçao, Czech Republic, Denmark, Estonia, Faeroe Islands, Finland, France, French Polynesia, Germany, Gibraltar, Greece, Greenland, Guam, Hong Kong SAR - China, Hungary, Iceland, Ireland, Isle of Man, Israel, Italy, Japan, Kuwait, Latvia, Liechtenstein, Lithuania, Luxembourg, Macao SAR - China, Malta, Monaco, Nauru, Netherlands, New Caledonia, New Zealand, Northern Mariana Islands, Norway, Oman, Palau, Poland, Portugal, Puerto Rico, Qatar, San Marino, Saudi Arabia, Seychelles, Singapore, Sint Maarten (Dutch part), Slovakia, Slovenia, South Cyprus, South Korea, Spain, St. Kitts and Nevis, St. Martin (French part), Sweden, Switzerland, Taiwan - China, Trinidad and Tobago, Turks and Caicos Islands, United Arab Emirates, United Kingdom, United States, Uruguay, Virgin Islands (U.S.).

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

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

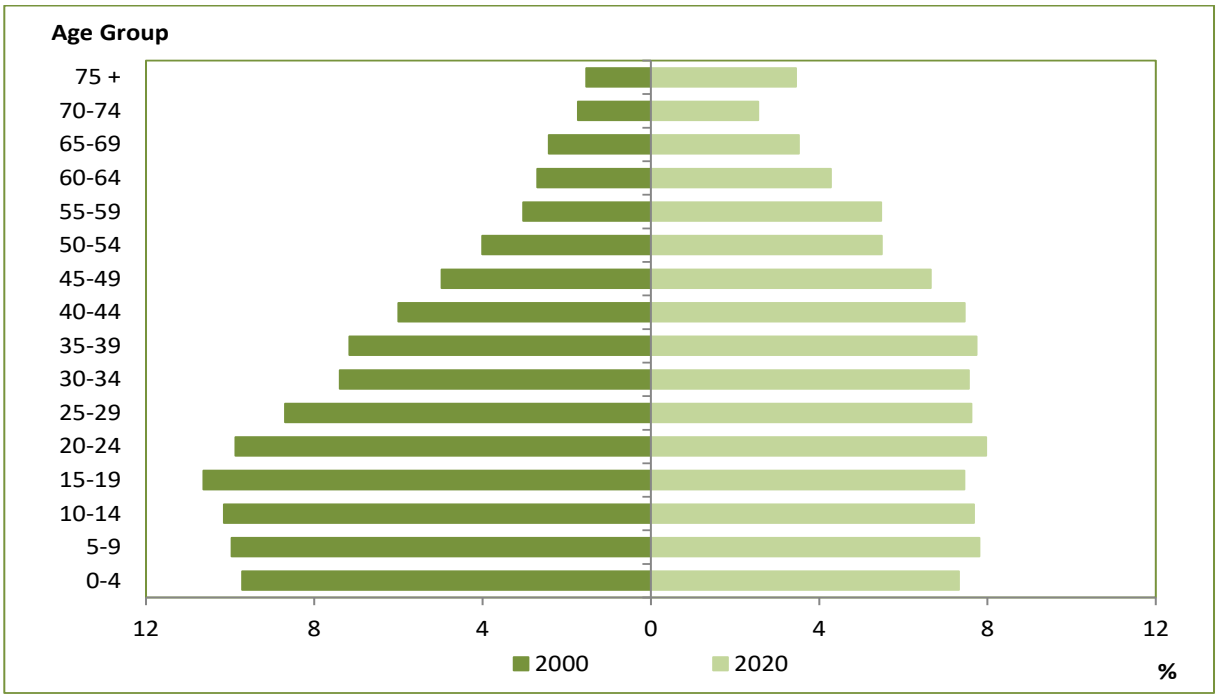
Note: World Bank divides the countries into 4 groups namely high, upper-middle, lower-middle and low income. The countries are grouped based on their gross national income per capita by using Atlas Method. As of 01 July 2021 fiscal year and 2020 calendar year, the countries are defined below.

Income Groups	Low	Lower-Middle	Middle-Upper	High
GNI (per capita) (US $)	≤1.045	1.046 – 4.095	4.096 – 12.695	> 12.695

CHAPTER 1

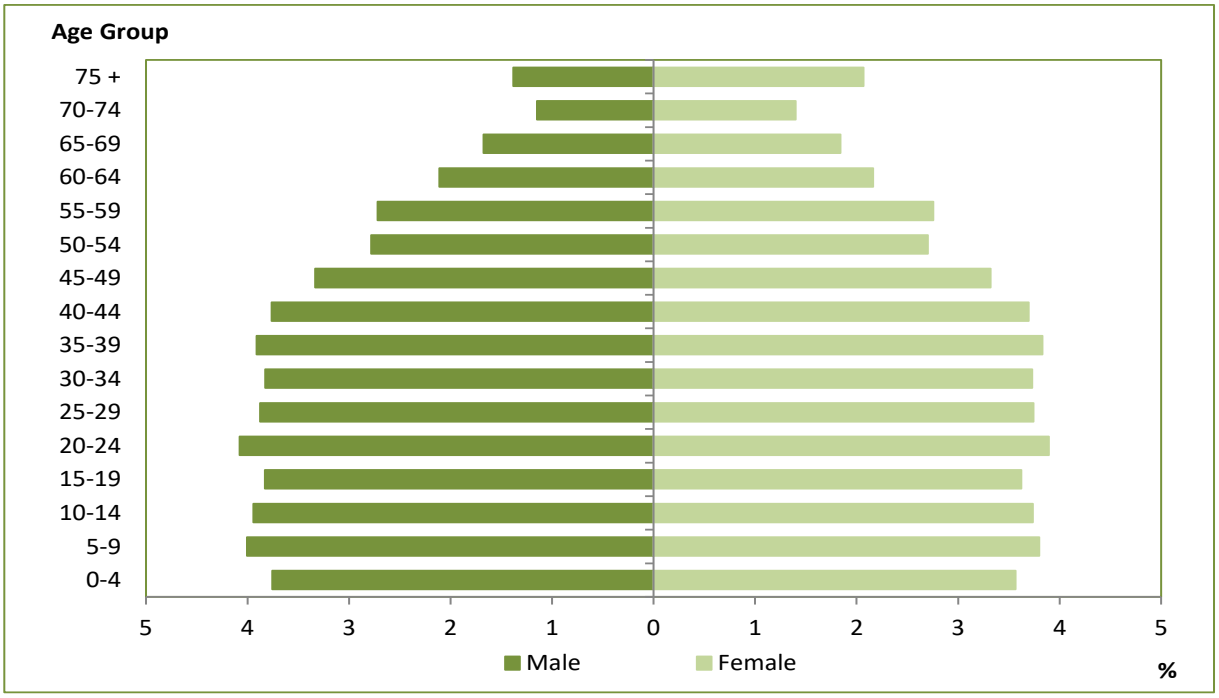
General Demographic Indicators

Figure 1.1. Population Pyramid, (%), 2000, 2020



Source: TURKSTAT

Figure 1.2. Population Pyramid by Sex, (%), 2020



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	2017	2018	2019	2020
Total Population	56.473.035	67.803.927	80.810.525	82.003.882	83.154.997	83.614.362
Rural Population Ratio (%)	48,7	40,8	11,8	12,1	11,5	11,2
Urban Population Ratio (%)	51,3	59,2	88,2	87,9	88,5	88,8
0-14 Aged Population Ratio (%)	35,0	29,8	23,6	23,4	23,1	22,8
65 and Over Aged Population Ratio (%)	4,3	5,7	8,5	8,8	9,1	9,5
Child Dependency Ratio (Aged 0-14) (%)	57,6	46,3	34,7	34,5	34,1	33,7
Elderly Dependency Ratio (Aged 65 and Over) (%)	7,1	8,8	12,6	12,9	13,4	14,1
Total Age Dependency Ratio (%)	64,7	55,1	47,2	47,4	47,5	47,7
Annual Population Growth Rate (‰)	21,7	18,3	12,4	14,7	13,9	5,5
Crude Birth Rate (‰)	24,1	21,6	16,2	15,4	14,4	13,3
Crude Death Rate (‰)	7,1	7,3	5,3	5,2	5,3	-
Total Fertility Rate	2,9	2,5	2,1	2,0	1,9	1,8

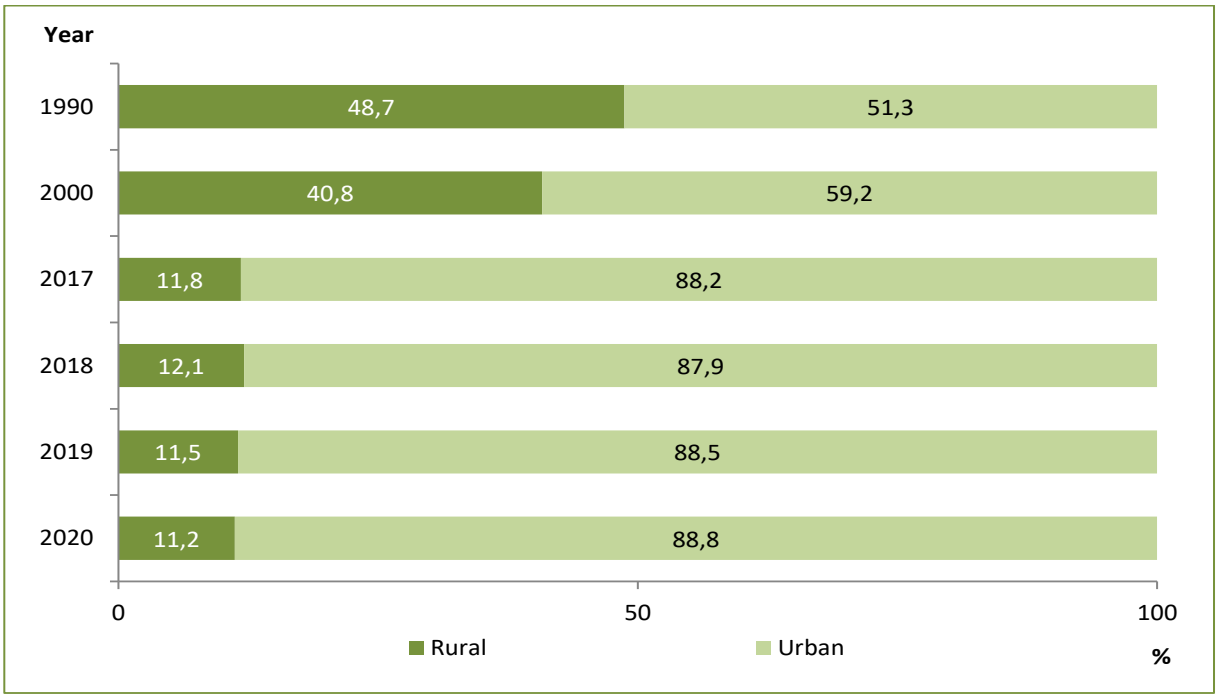
Source: TURKSTAT

Table 1.2. Population by Age Groups, 2000, 2020

Age Group	2000	2020
0-4	6.584.822	6.121.707
5-9	6.756.617	6.526.593
10-14	6.878.656	6.419.937
15-19	7.209.475	6.230.114
20-24	6.690.146	6.663.636
25-29	5.895.255	6.370.954
30-34	5.009.655	6.318.894
35-39	4.854.387	6.473.583
40-44	4.068.756	6.235.110
45-49	3.368.769	5.563.666
50-54	2.717.349	4.584.632
55-59	2.058.422	4.577.587
60-64	1.829.288	3.574.394
65-69	1.645.517	2.938.715
70-74	1.172.643	2.131.705
75 +	1.040.789	2.883.135
Unknown	23.381	-
Türkiye	67.803.927	83.614.362

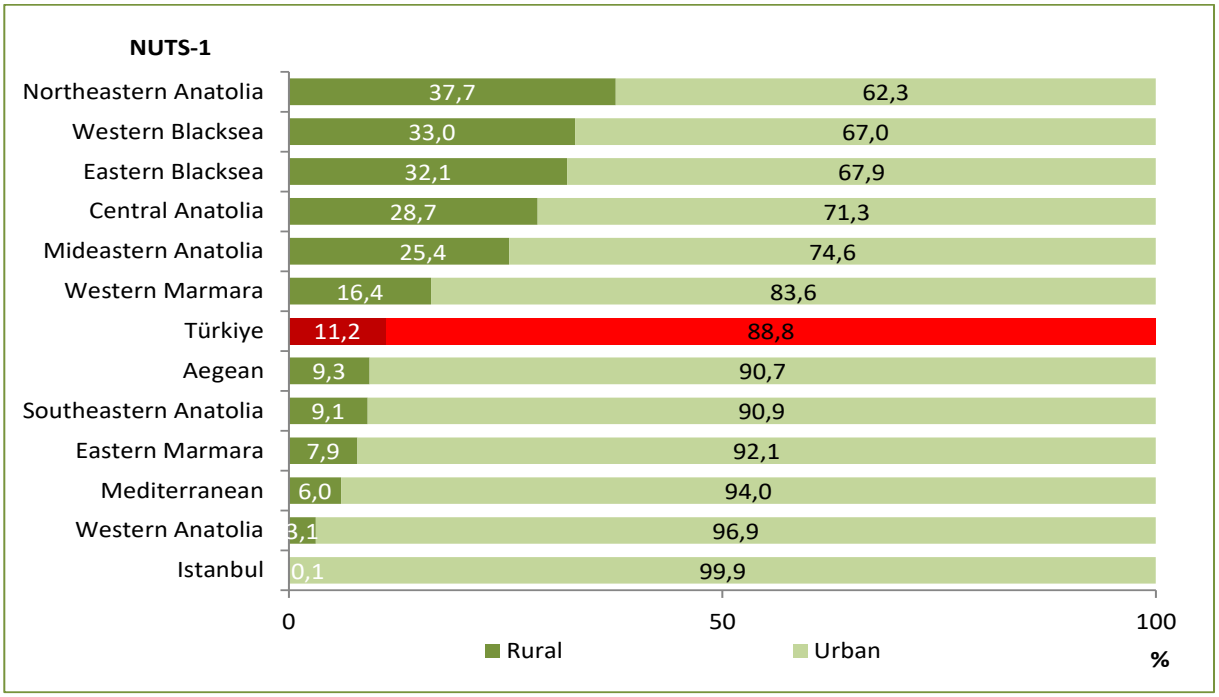
Source: TURKSTAT

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



Source: TURKSTAT

Figure 1.4. Rural and Urban Population Ratio by NUTS-1, (%), 2020

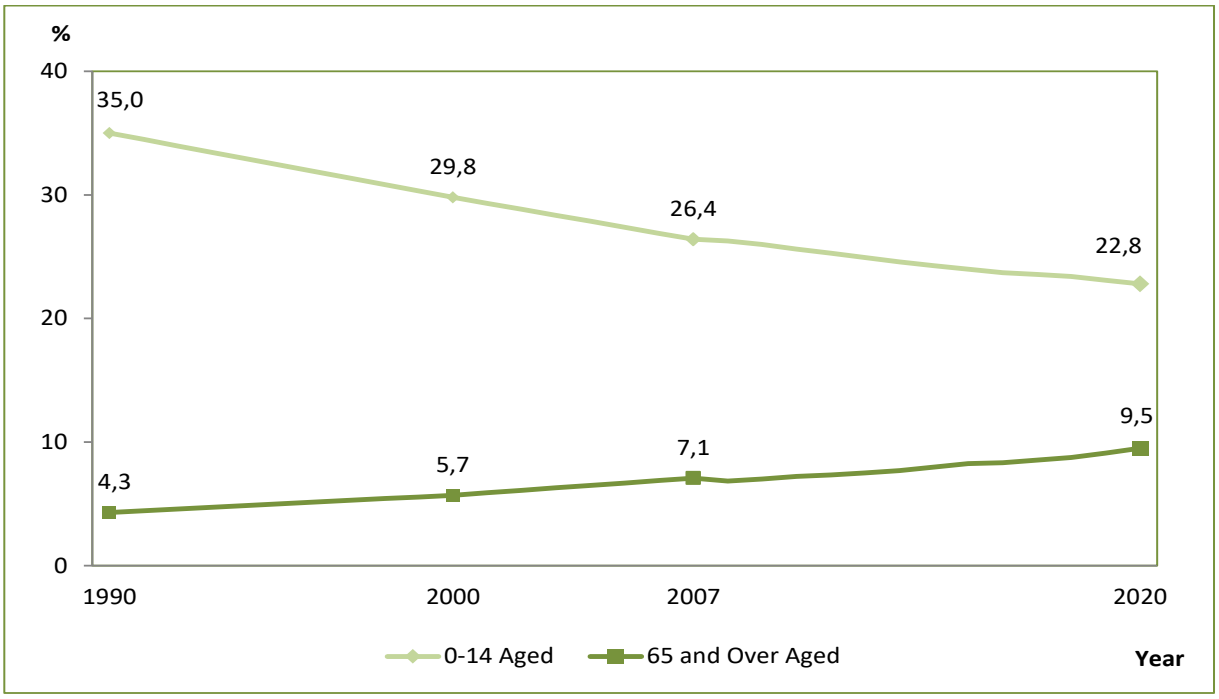


Source: TURKSTAT

Map 1.1.Urban Population Ratio by Provinces, (%), 2020

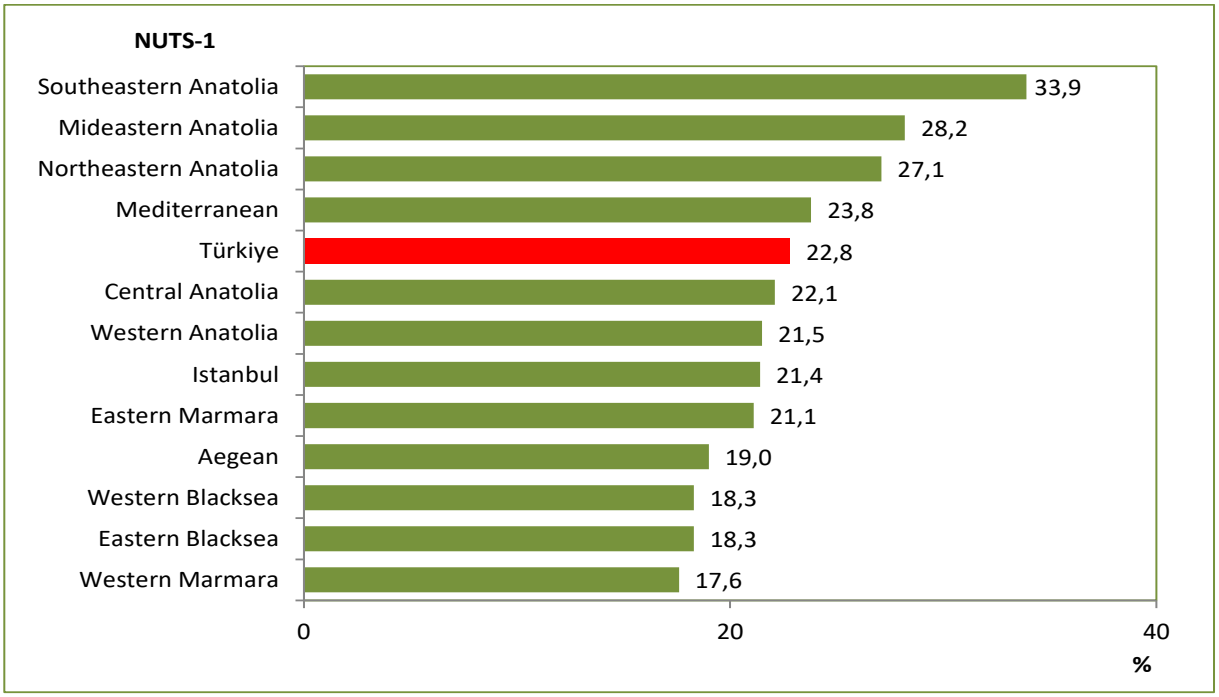
Source: TURKSTAT

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, (%), 2020

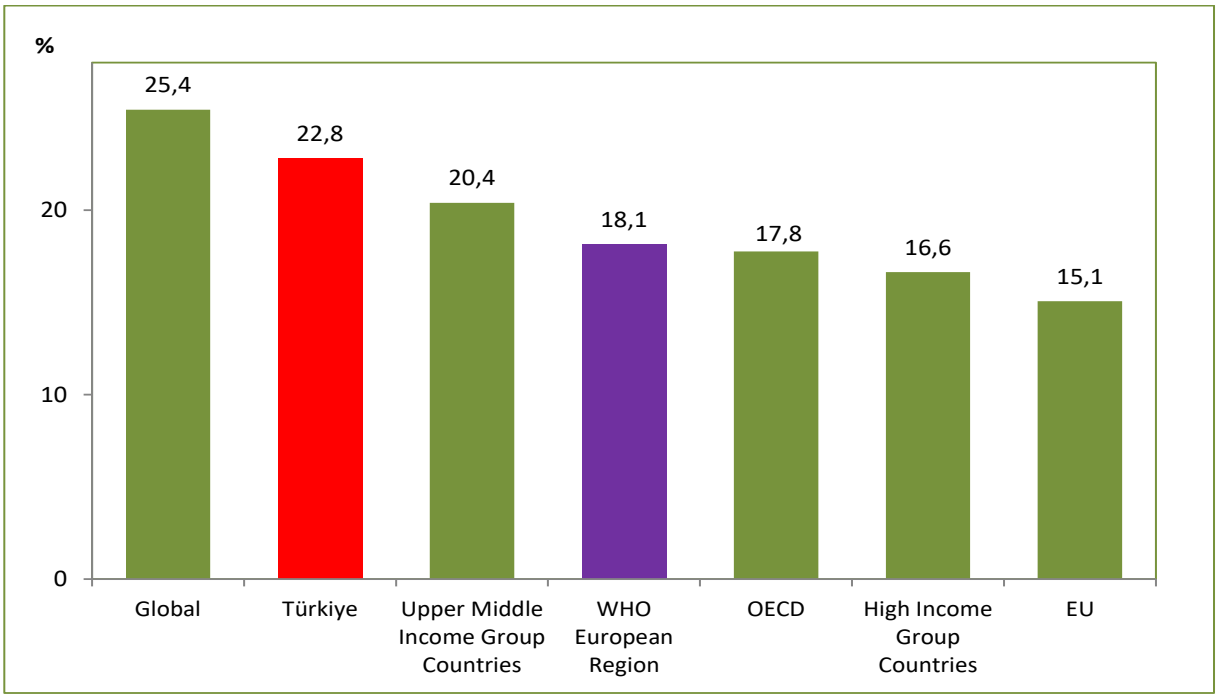


Source: TURKSTAT

Map 1.2. 0-14 Aged Population Ratio by Provinces, (%), 2020

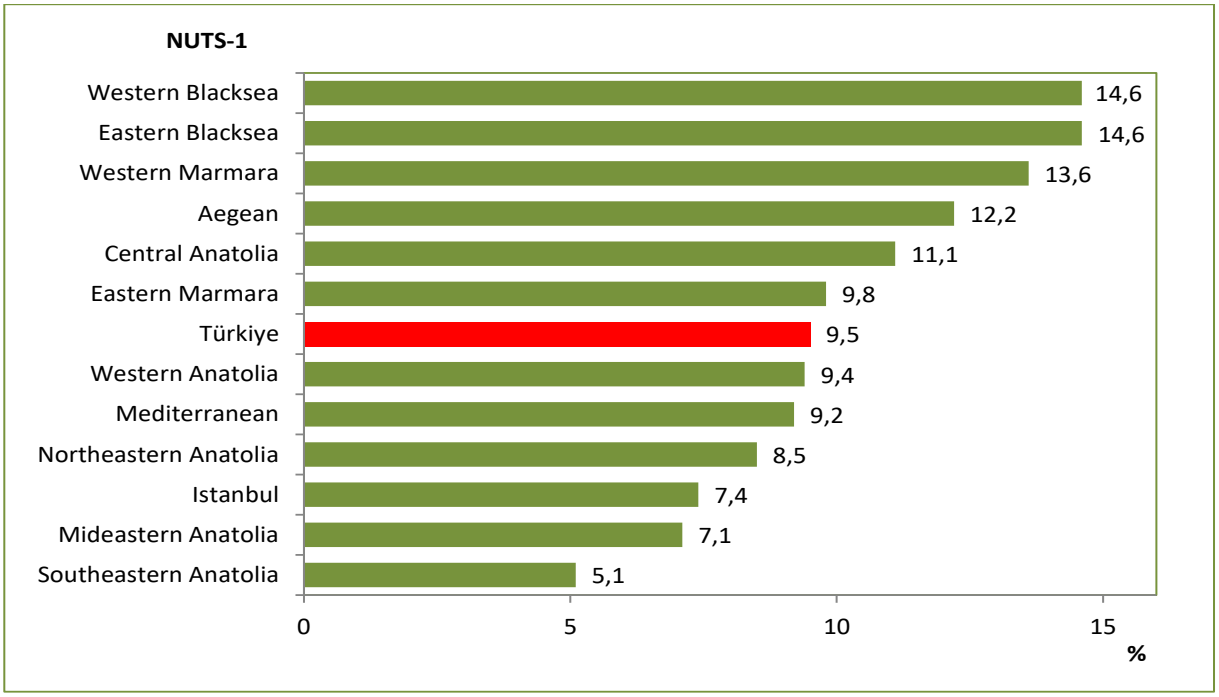
Source: TURKSTAT

Figure 1.7. International Comparison of 0-14 Aged Population Ratio, (%), 2020



Source: TURKSTAT, UNPD

Figure 1.8. 65 and Over Aged Population Ratio by NUTS-1, (%), 2020

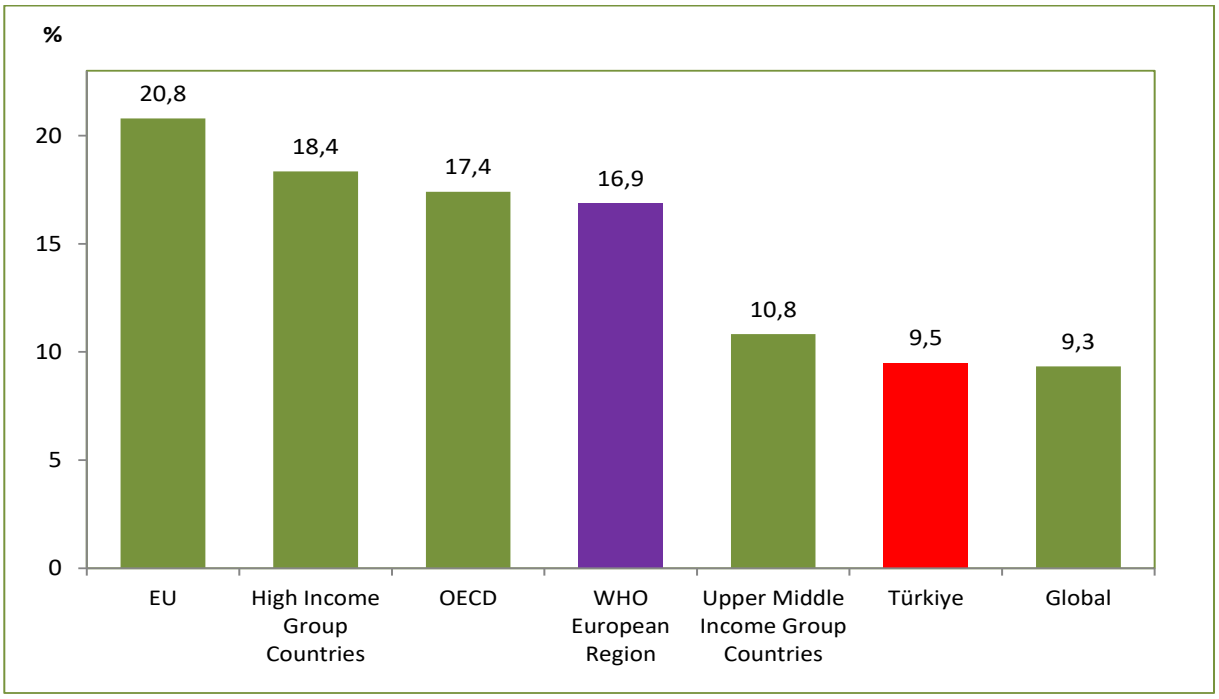


Source: TURKSTAT

Map 1.3. 65 and Over Aged Population Ratio by Provinces, (%), 2020

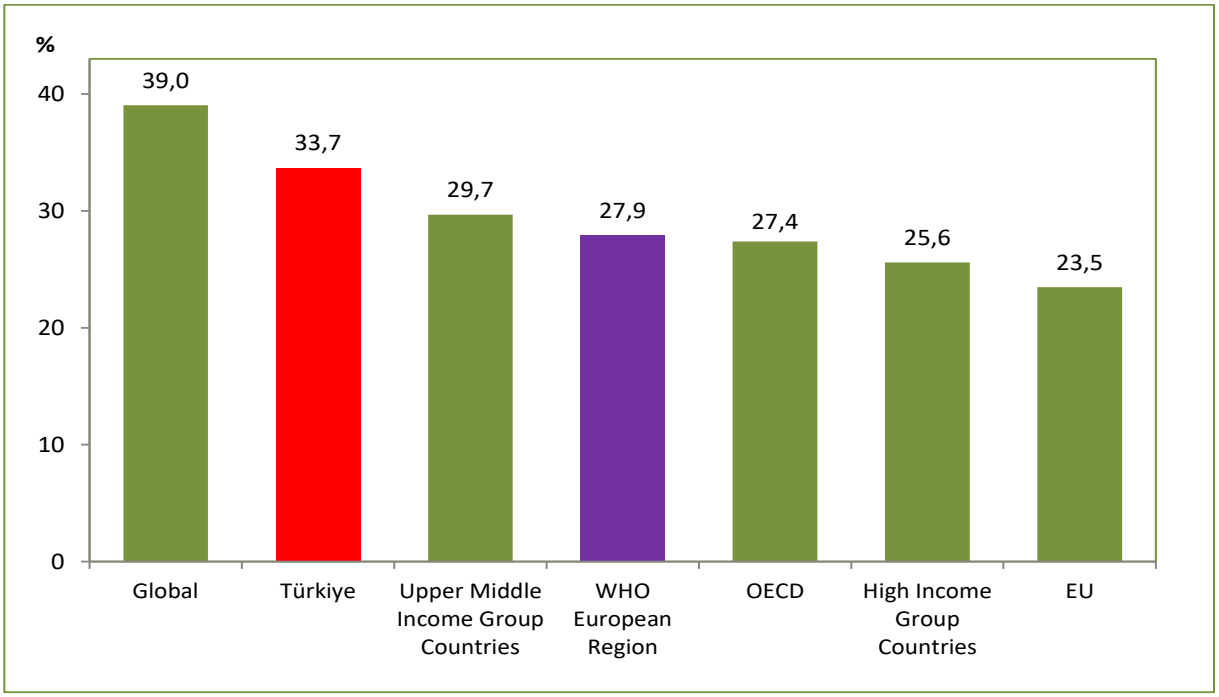
Source: TURKSTAT

Figure 1.9. International Comparison of 65 and Over Aged Population Ratio, (%), 2020



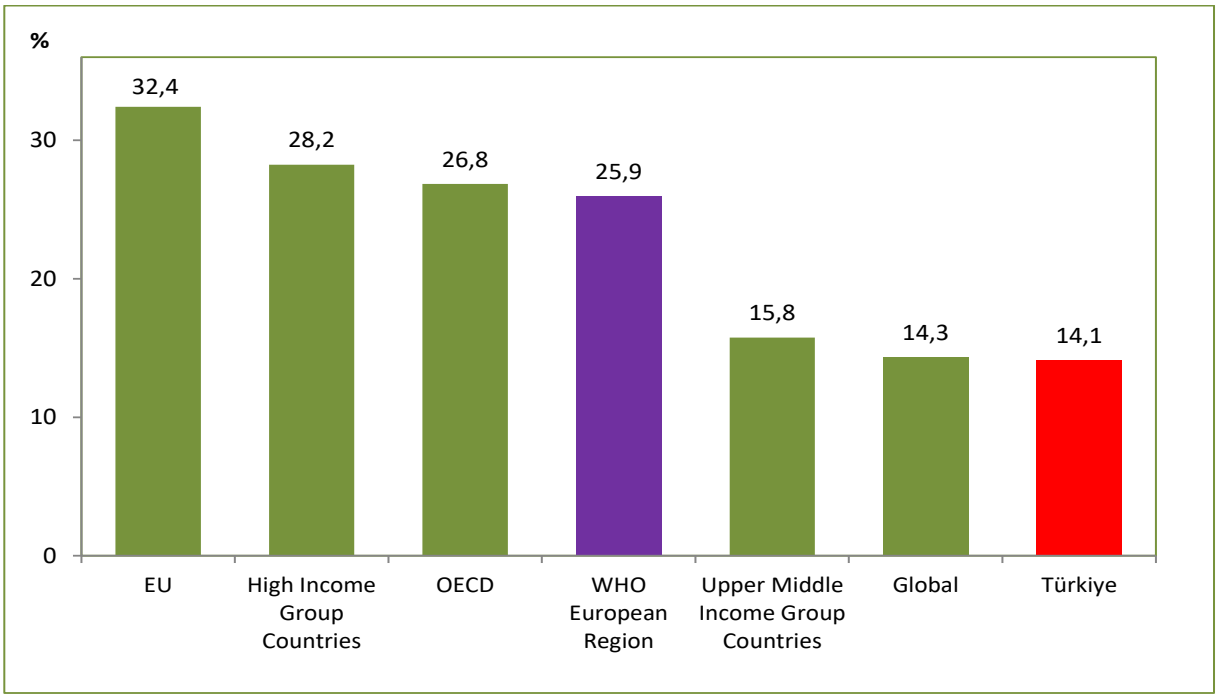
Source: TURKSTAT, UNPD

Figure 1.10. International Comparison of Child Dependency Ratio, (%), 2020



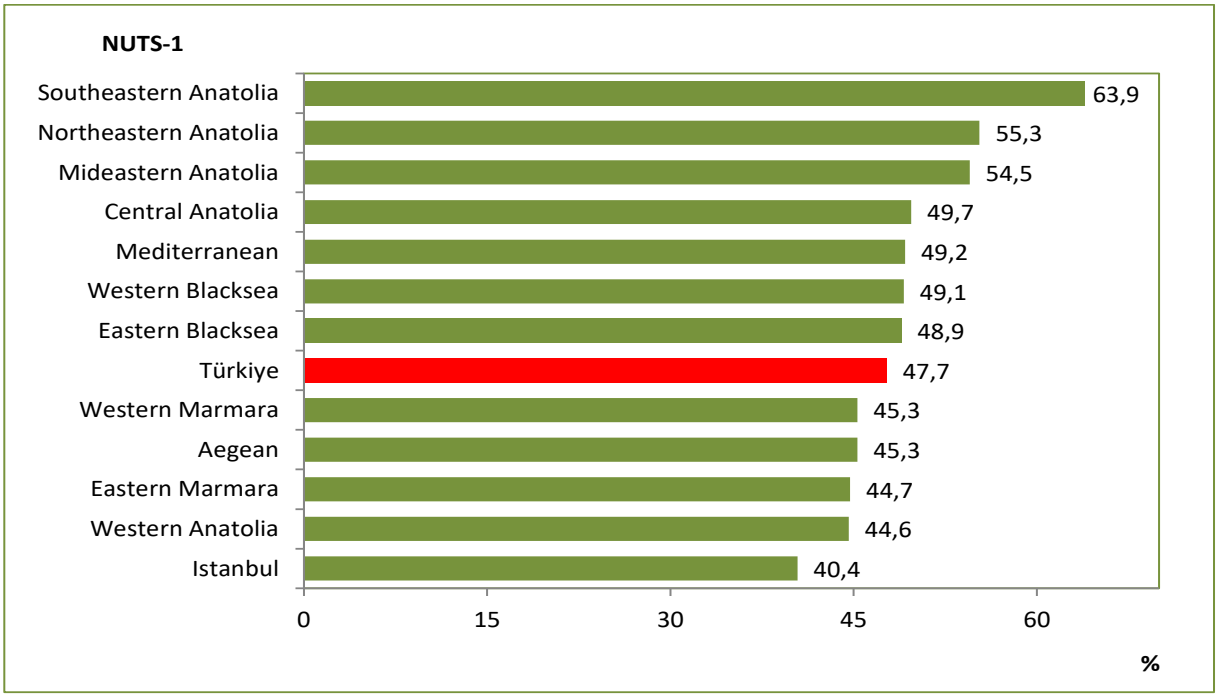
Source: TURKSTAT, UNPD

Figure 1.11. International Comparison of Elderly Dependency Ratio, (%), 2020



Source: TURKSTAT, UNPD

Figure 1.12. Total Age Dependency Ratio by NUTS-1, (%), 2020

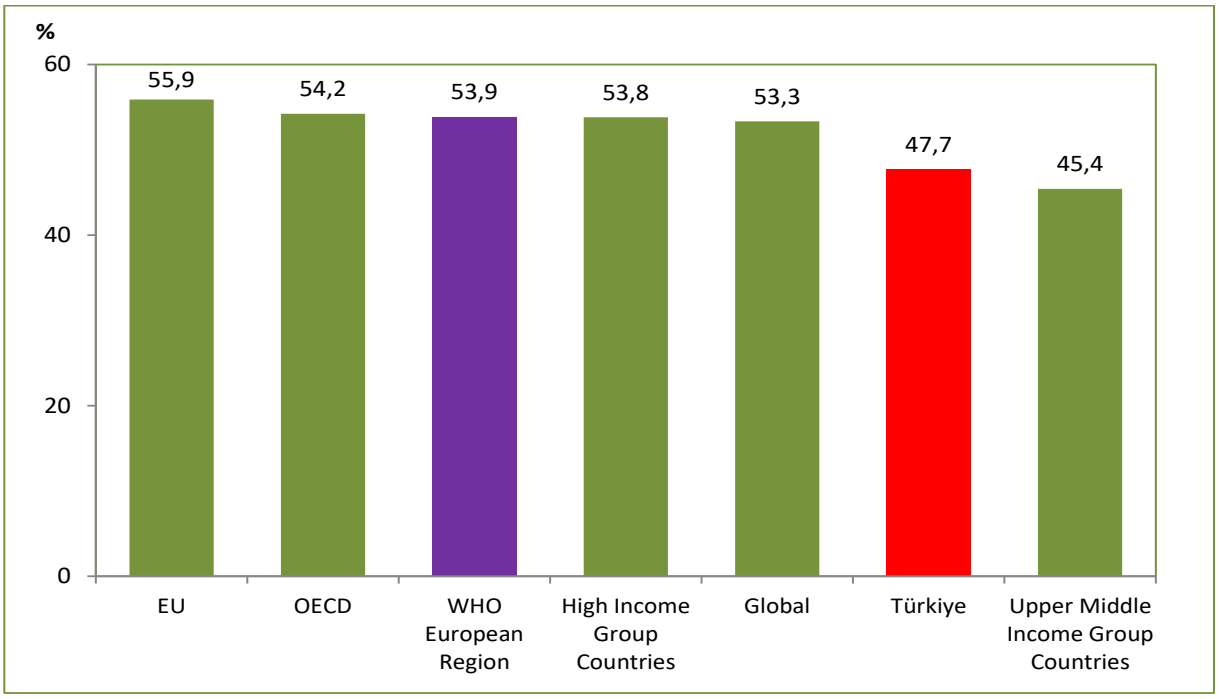


Source: TURKSTAT

Map 1.4. Total Age Dependency Ratio by Provinces, (%), 2020

Source: TURKSTAT

Figure 1.13. International Comparison of Total Age Dependency Ratio, (%), 2020



Source: TURKSTAT, UNPD

Table 1.3. Some General Demographic Indicators by Provinces, 2020

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	2.258.718	4,5	95,5	24,5	8,8	36,7	13,2	49,9
Adıyaman	632.459	34,0	66,0	28,6	8,1	45,2	12,8	58,0
Afyonkarahisar	736.912	51,5	48,5	21,7	11,6	32,5	17,3	49,9
Ağrı	535.435	46,9	53,1	34,5	5,0	56,9	8,3	65,2
Amasya	335.494	36,4	63,6	18,3	15,3	27,5	23,1	50,6
Ankara	5.663.322	0,8	99,2	20,6	9,1	29,3	12,9	42,3
Antalya	2.548.308	0,8	99,2	21,2	9,0	30,4	12,9	43,3
Artvin	169.501	71,3	28,7	16,4	17,1	24,7	25,7	50,4
Aydın	1.119.084	4,8	95,2	18,8	13,8	27,9	20,5	48,4
Balıkesir	1.240.285	6,0	94,0	16,6	15,8	24,5	23,3	47,8
Bilecik	218.717	37,9	62,1	19,0	12,1	27,5	17,5	45,0
Bingöl	281.768	41,0	59,0	26,5	7,3	40,0	11,0	51,0
Bitlis	350.994	48,5	51,5	32,1	5,6	51,6	9,0	60,5
Bolu	314.802	35,7	64,3	17,7	14,1	26,0	20,6	46,6
Burdur	267.092	49,6	50,4	16,9	15,8	25,0	23,5	48,5
Bursa	3.101.833	1,5	98,5	21,3	9,6	30,9	14,0	44,8
Çanakkale	541.548	47,4	52,6	16,0	15,7	23,5	23,0	46,5
Çankırı	192.428	54,5	45,5	17,8	16,9	27,3	26,0	53,3
Çorum	530.126	38,2	61,8	19,1	15,6	29,2	24,0	53,1
Denizli	1.040.915	12,1	87,9	19,7	11,5	28,6	16,7	45,4
Diyarbakır	1.783.431	2,5	97,5	32,5	5,0	52,0	8,0	60,0
Edirne	407.763	33,2	66,8	15,0	15,5	21,6	22,3	43,9
Elazığ	587.960	30,8	69,2	21,9	10,3	32,3	15,3	47,6
Erzincan	234.431	37,8	62,2	19,4	12,8	28,6	18,9	47,6
Erzurum	758.279	12,7	87,3	25,3	9,1	38,6	13,9	52,5
Eskişehir	888.828	9,2	90,8	17,8	12,0	25,4	17,1	42,5
Gaziantep	2.101.157	0,5	99,5	31,7	5,6	50,7	9,0	59,6
Giresun	448.721	56,9	43,1	16,3	16,9	24,3	25,3	49,7
Gümüşhane	141.702	73,4	26,6	17,9	13,9	26,3	20,4	46,7
Hakkari	280.514	53,2	46,8	28,7	3,6	42,4	5,3	47,7
Hatay	1.659.320	0,8	99,2	27,3	7,7	42,0	11,8	53,8
Isparta	440.304	40,4	59,6	18,5	13,4	27,1	19,7	46,8
Mersin	1.868.757	1,0	99,0	22,9	9,7	33,9	14,4	48,4
İstanbul	15.462.452	0,1	99,9	21,4	7,4	30,1	10,3	40,4
İzmir	4.394.694	0,5	99,5	18,4	11,8	26,4	17,0	43,4
Kars	284.923	60,9	39,1	26,5	8,4	40,7	13,0	53,7
Kastamonu	376.377	59,5	40,5	16,0	18,6	24,5	28,5	53,1
Kayseri	1.421.455	4,7	95,3	23,7	9,2	35,4	13,7	49,1
Kırklareli	361.737	36,0	64,0	15,5	14,6	22,2	20,9	43,1
Kırşehir	243.042	31,1	68,9	19,7	12,4	29,1	18,3	47,3
Kocaeli	1.997.258	0,0	100,0	23,1	7,6	33,3	11,0	44,3

Source: TURKSTAT

Table 1.3. Some General Demographic Indicators by Provinces, 2020 - 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	2.250.020	5,5	94,5	23,6	9,9	35,5	14,8	50,4
Kütahya	576.688	34,6	65,4	17,5	13,6	25,3	19,8	45,1
Malatya	806.156	9,7	90,3	22,6	10,6	33,9	15,9	49,9
Manisa	1.450.616	4,5	95,5	20,1	11,8	29,6	17,4	46,9
Kahramanmaraş	1.168.163	2,0	98,0	27,3	8,4	42,6	13,0	55,6
Mardin	854.716	3,4	96,6	33,2	5,6	54,3	9,1	63,4
Muğla	1.000.773	1,1	98,9	17,9	12,9	25,8	18,6	44,4
Muş	411.117	60,1	39,9	33,8	5,3	55,6	8,8	64,4
Nevşehir	304.962	53,8	46,2	20,7	12,1	30,8	18,0	48,8
Niğde	362.071	44,1	55,9	23,1	10,5	34,9	15,7	50,6
Ordu	761.400	16,0	84,0	18,7	15,1	28,2	22,8	50,9
Rize	344.359	50,1	49,9	18,2	13,2	26,5	19,3	45,8
Sakarya	1.042.649	3,3	96,7	21,3	10,1	31,0	14,8	45,8
Samsun	1.356.079	6,0	94,0	19,8	12,3	29,2	18,0	47,2
Siirt	331.070	41,5	58,5	33,7	5,2	55,3	8,5	63,8
Sinop	216.460	61,9	38,1	16,6	19,8	26,0	31,0	57,1
Sivas	635.889	40,3	59,7	20,4	13,2	30,7	19,9	50,6
Tekirdağ	1.081.065	0,0	100,0	21,2	9,1	30,3	13,0	43,3
Tokat	597.861	39,5	60,5	19,2	14,5	28,9	21,9	50,8
Trabzon	811.901	10,4	89,6	19,5	13,0	28,8	19,2	48,1
Tunceli	83.443	59,4	40,6	15,0	15,3	21,5	22,0	43,4
Şanlıurfa	2.115.256	0,0	100,0	39,0	4,0	68,4	7,0	75,5
Uşak	369.433	38,0	62,0	18,7	12,7	27,2	18,6	45,8
Van	1.149.342	1,3	98,7	33,3	4,2	53,3	6,7	60,0
Yozgat	419.095	53,5	46,5	20,3	13,9	30,9	21,2	52,0
Zonguldak	591.204	39,2	60,8	17,3	13,5	24,9	19,5	44,4
Aksaray	423.011	38,7	61,3	24,5	9,5	37,2	14,5	51,7
Bayburt	81.910	46,8	53,2	20,2	11,8	29,7	17,4	47,1
Karaman	254.919	34,0	66,0	21,8	11,2	32,6	16,8	49,4
Kırıkkale	278.703	21,7	78,3	18,8	12,7	27,5	18,5	46,0
Batman	620.278	23,7	76,3	33,1	4,7	53,3	7,6	60,8
Şırnak	537.762	39,8	60,2	36,2	3,4	59,9	5,7	65,6
Bartın	198.979	60,9	39,1	16,4	15,3	24,1	22,4	46,4
Ardahan	96.161	76,9	23,1	20,7	13,6	31,6	20,7	52,3
Iğdır	201.314	51,9	48,1	29,3	7,2	46,2	11,3	57,6
Yalova	276.050	39,7	60,3	19,9	12,3	29,3	18,1	47,4
Karabük	243.614	29,8	70,2	16,3	14,1	23,5	20,2	43,7
Kilis	142.792	26,3	73,7	28,5	8,3	45,2	13,2	58,4
Osmaniye	548.556	27,7	72,3	25,9	8,9	39,8	13,7	53,5
Düzce	395.679	46,6	53,4	20,6	10,4	29,9	15,2	45,0
Türkiye	83.614.362	11,2	88,8	22,8	9,5	33,7	14,1	47,7

Source: TURKSTAT

Explanations for Chapter 1

☑ Population data for 1990 and 2000 were taken from the "General Census" results, and the 2017-2020 population data from the "Address Based Population Registration System (ABPRS)" Press Release (No. 37210 of 4 February 2021).
https://data.tuik.gov.tr/Bulten/Index?p=37210

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

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

☑ Youth Dependency Ratio changed to the "Child Dependency Ratio" in 2019.

☑ Since the death statistics for 2020 has not been published by TURKSTAT yet, the indicators related to death could not be calculated in the chapter.

☑ 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.

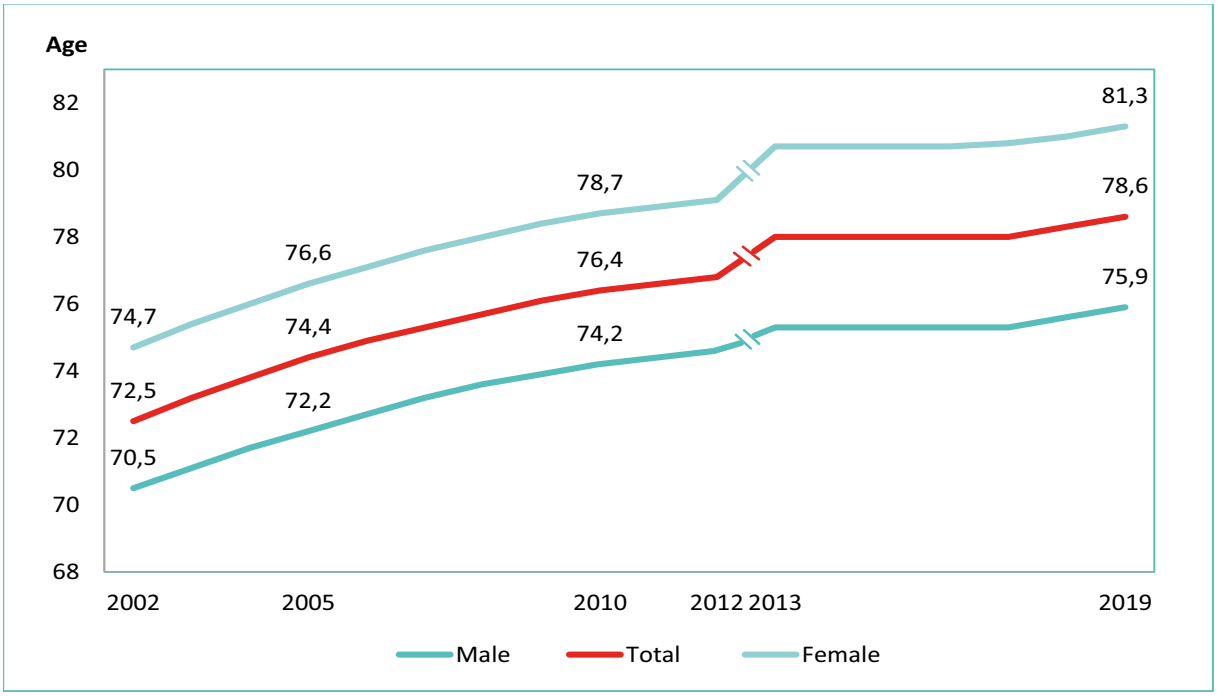
The definitions of the indicators in Chapter 1 are as follows:

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

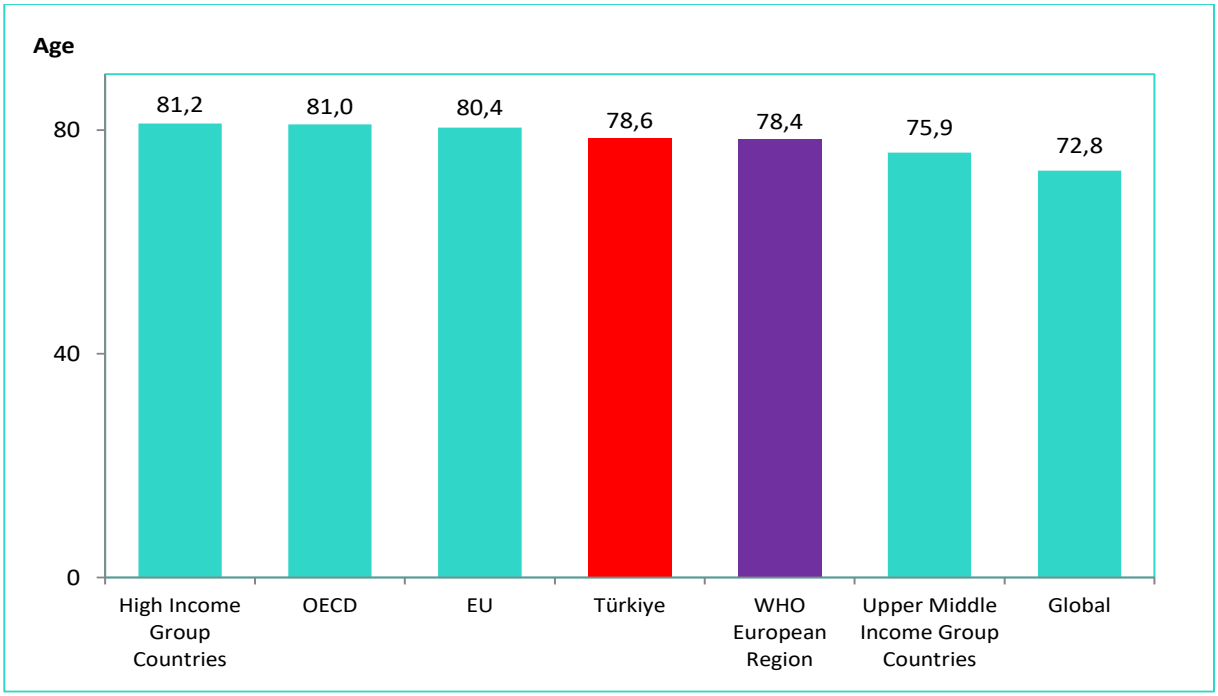
Mortality

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



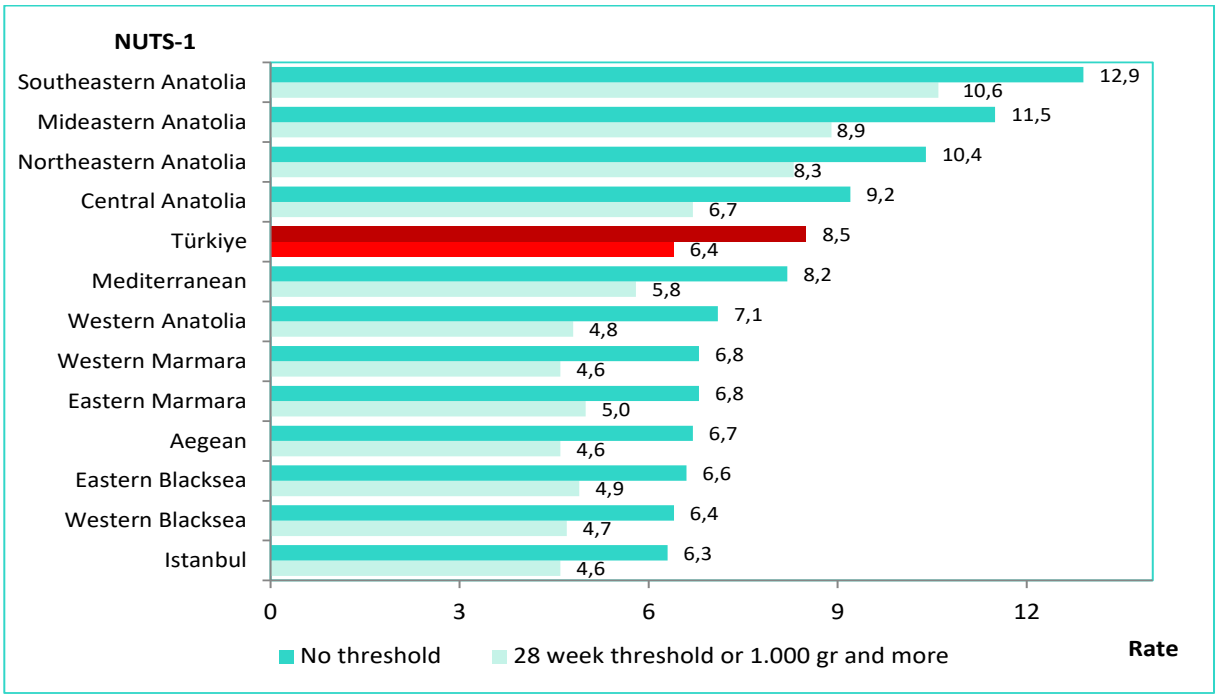
Source: TURKSTAT Population Projections for 2002-2012 years, TURKSTAT Life Tables for 2013-2019 years

Figure 2.2. International Comparison of Life Expectancy at Birth, 2020



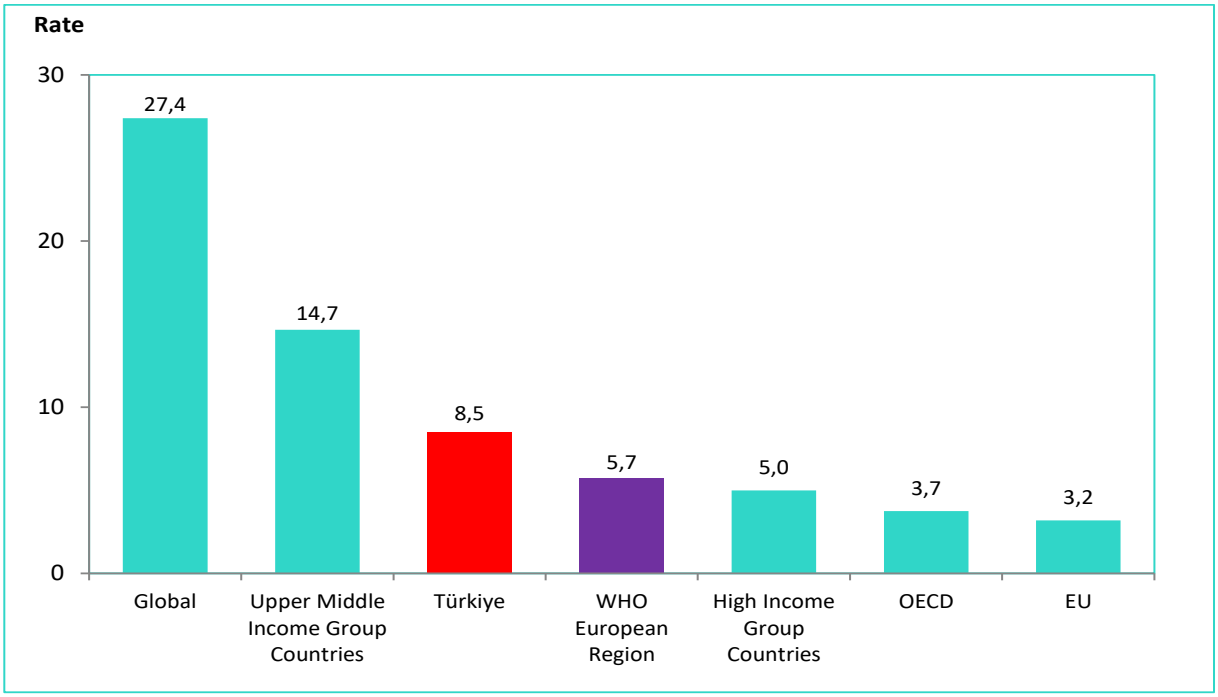
Source: TURKSTAT Life Tables 2017-2019 Press Release (No. 33711 of 17 September 2020), UNPD
Note: Türkiye's data belongs to the year 2019. The values of the groups in the figure were calculated by the Department of Health Statistics based on the expected life expectancy at the birth of the countries.

Figure 2.3. Infant Mortality Rate by NUTS-1, (per 1.000 Live Births), 2020



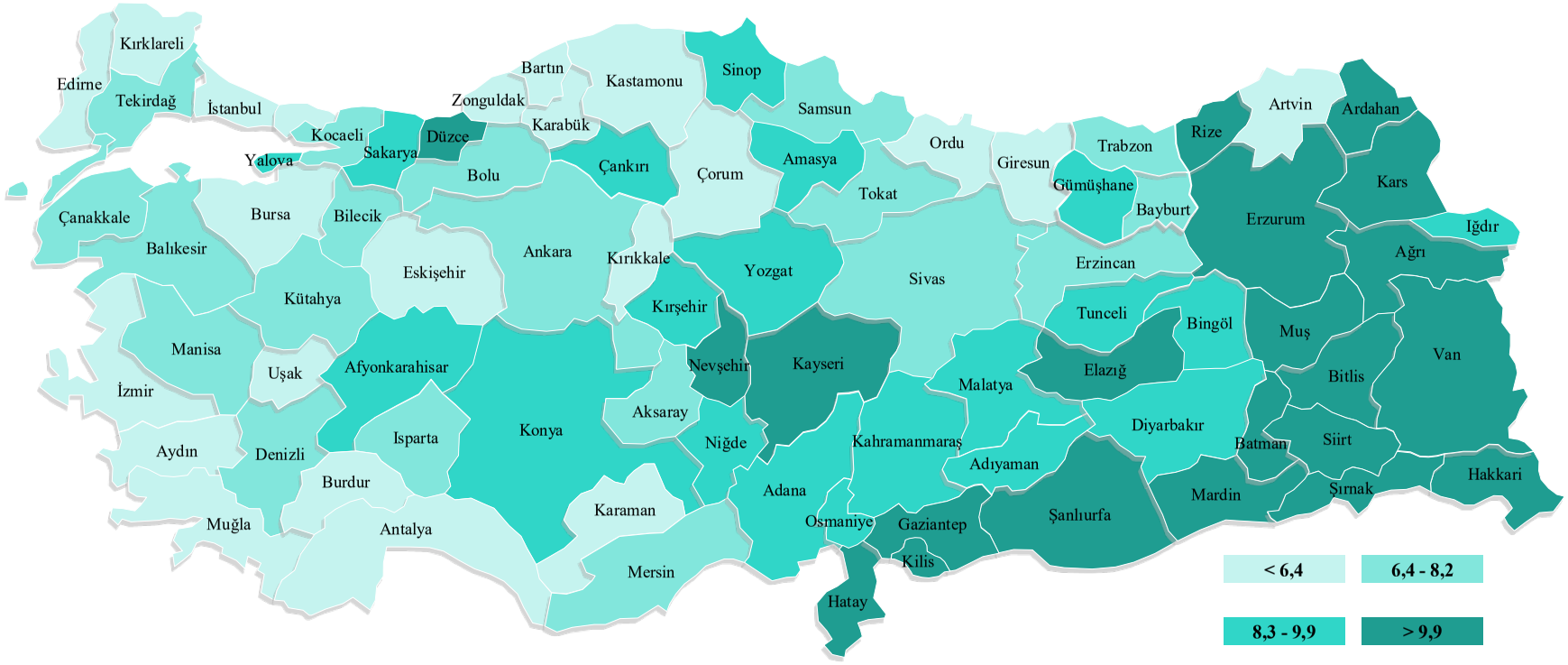
Source: General Directorate of Public Health

Figure 2.4. International Comparison of Infant Mortality Rate, (per 1.000 Live Births), 2020



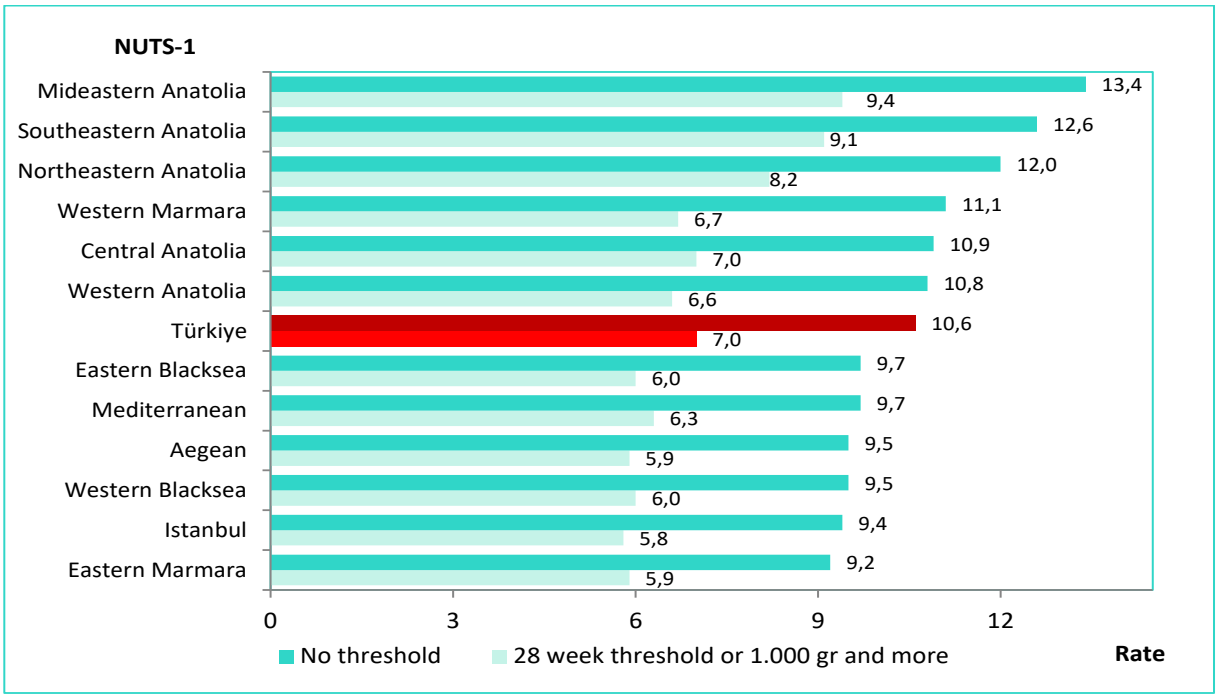
Source: General Directorate of Public Health, UN IGME 2021

Map 2.1. Infant Mortality Rate by Provinces, (per 1.000 Live Births), No Threshold, 2020



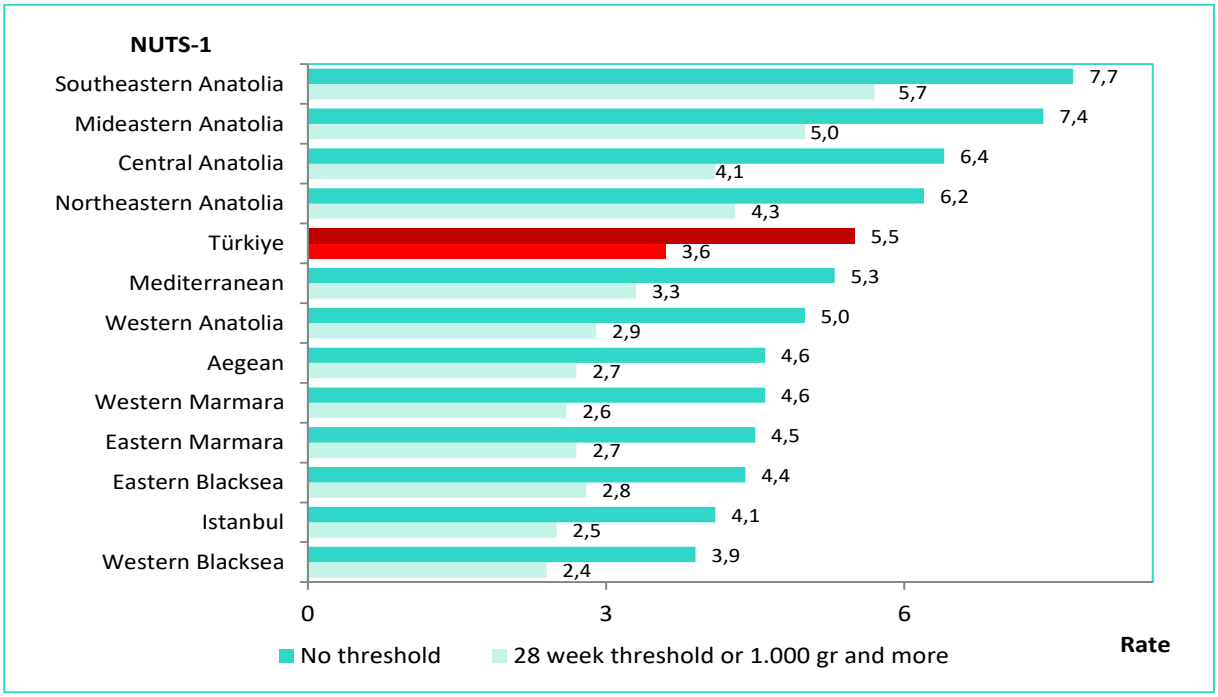
Source: General Directorate of Public Health

Figure 2.5. Perinatal Mortality Rate by NUTS-1, (per 1.000 Births), 2020



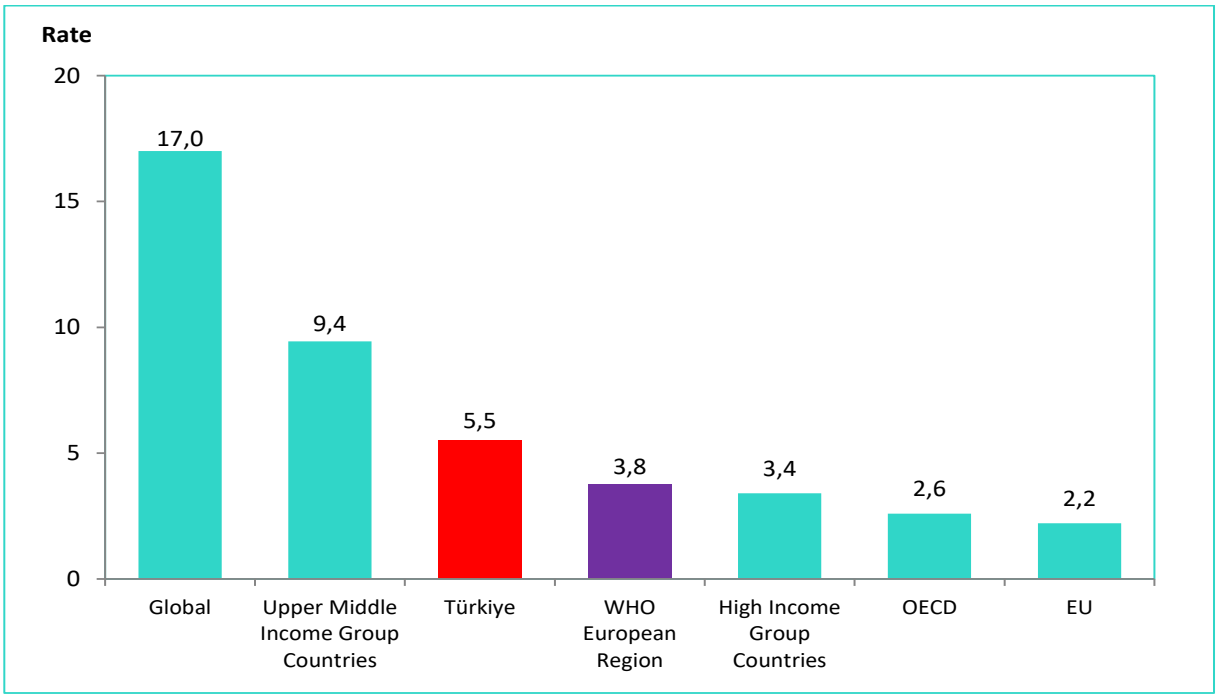
Source: General Directorate of Public Health

Figure 2.6. Neonatal Mortality Rate by NUTS-1, (per 1.000 Live Births), 2020



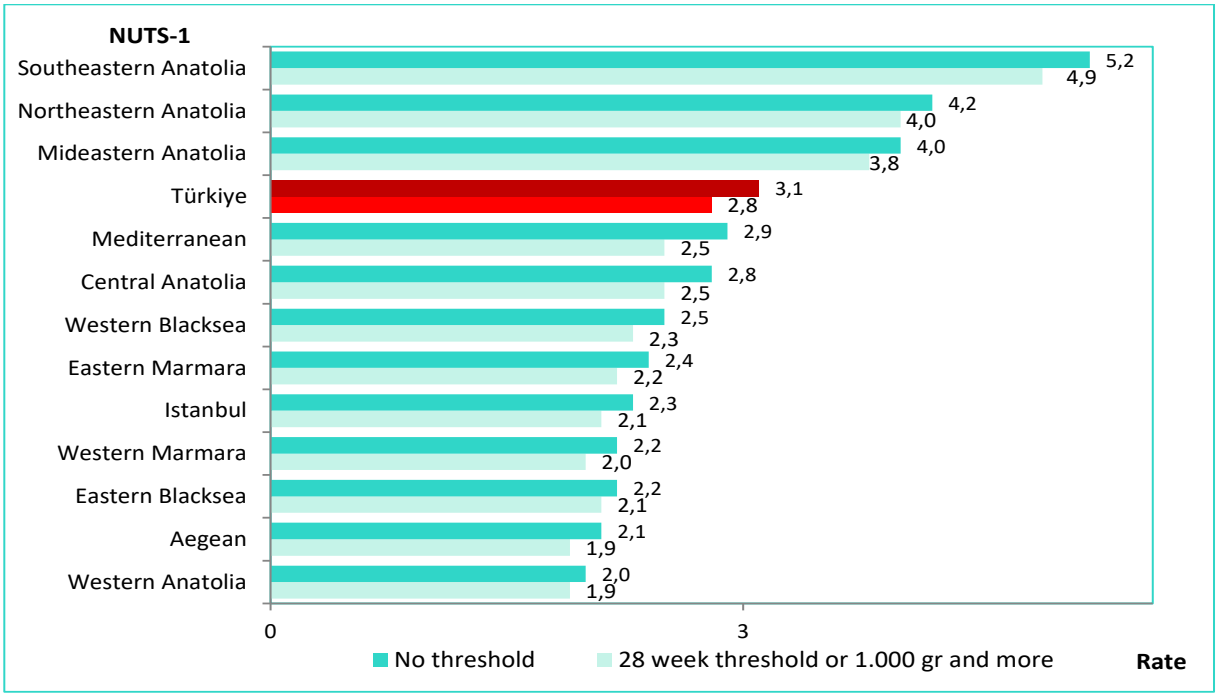
Source: General Directorate of Public Health

Figure 2.7. International Comparison of Neonatal Mortality Rate, (per 1.000 Live Births), 2020



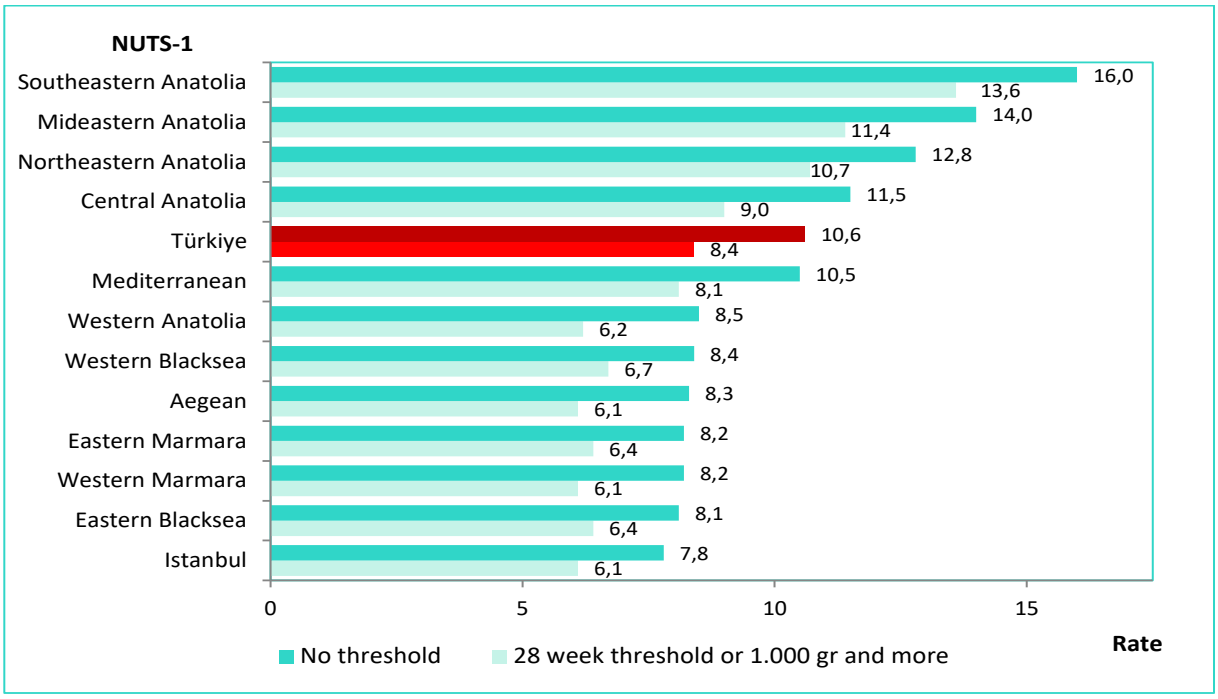
Source: General Directorate of Public Health, UN IGME 2021

Figure 2.8. Postneonatal Mortality Rate by NUTS-1, (per 1.000 Live Births), 2020



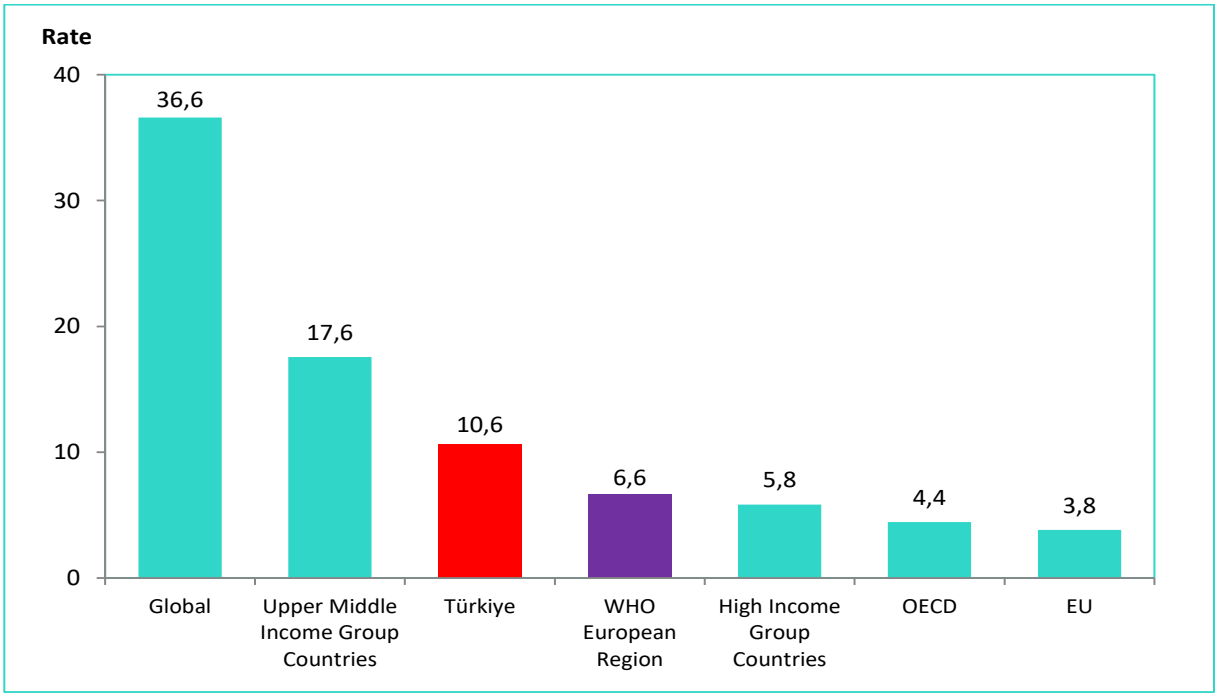
Source: General Directorate of Public Health

Figure 2.9. Under-5 Mortality Rate by NUTS-1, (per 1.000 Live Births), 2020



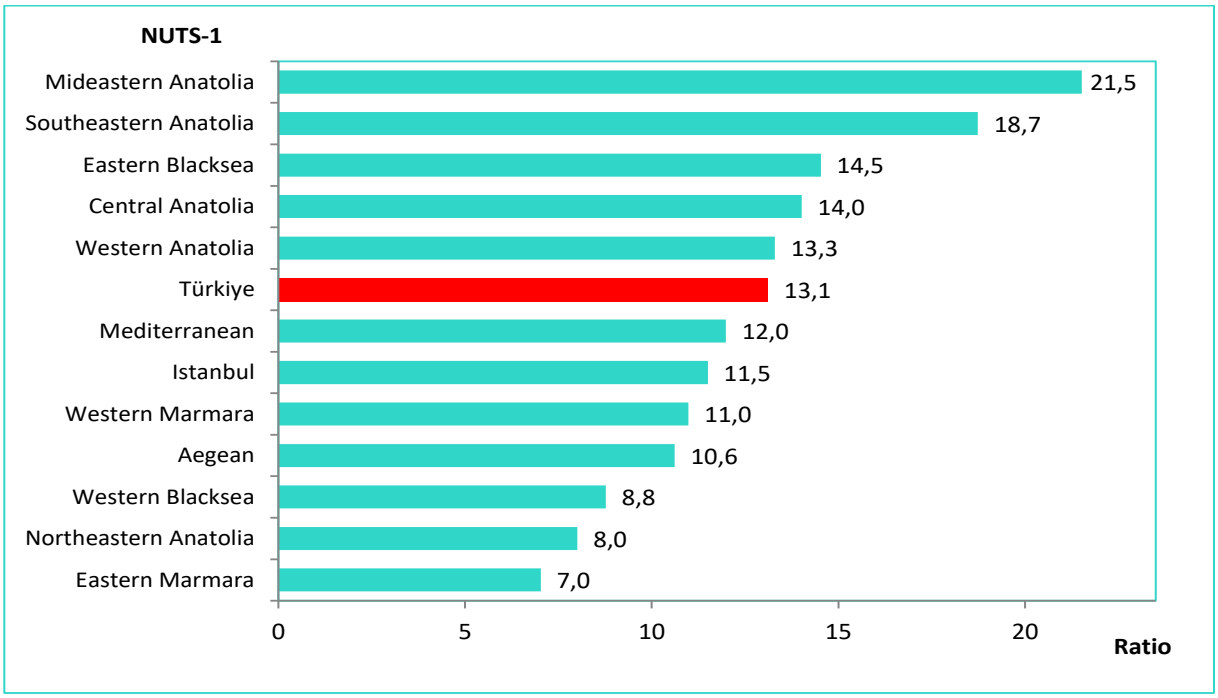
Source: General Directorate of Public Health

Figure 2.10. International Comparison of Under-5 Mortality Rate, (per 1.000 Live Births), 2020



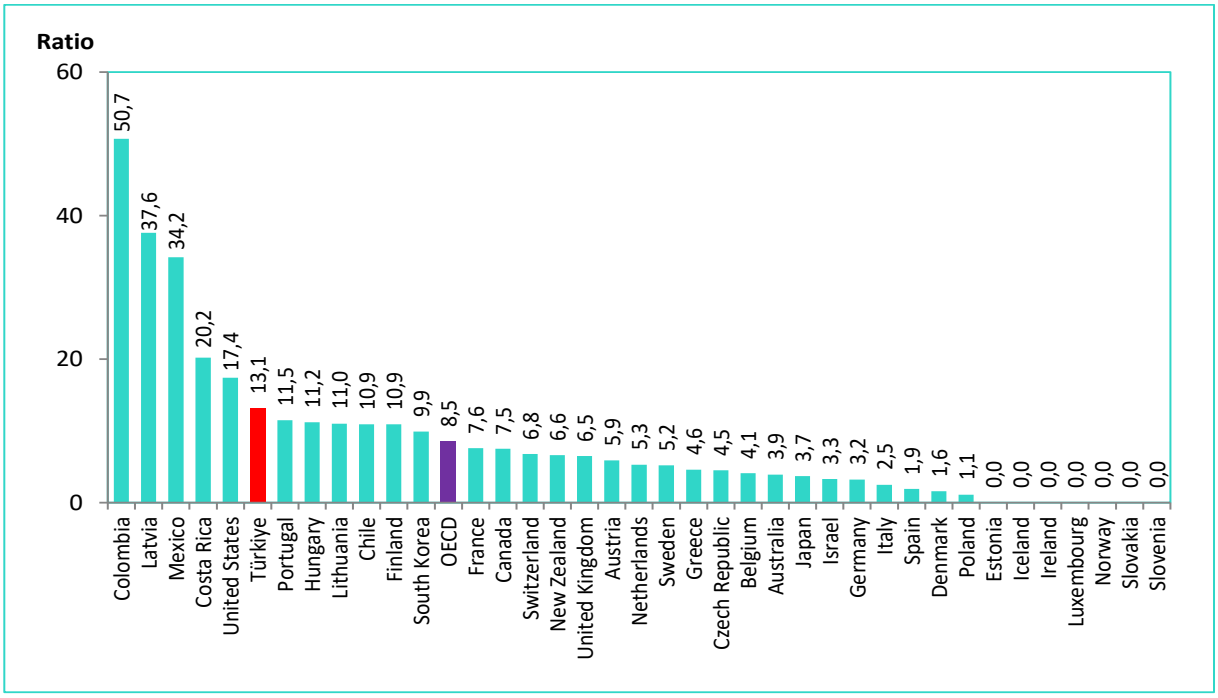
Source: General Directorate of Public Health, UN IGME 2021

Figure 2.11. Maternal Mortality Ratio by NUTS-1, (per 100.000 Live Births), 2020



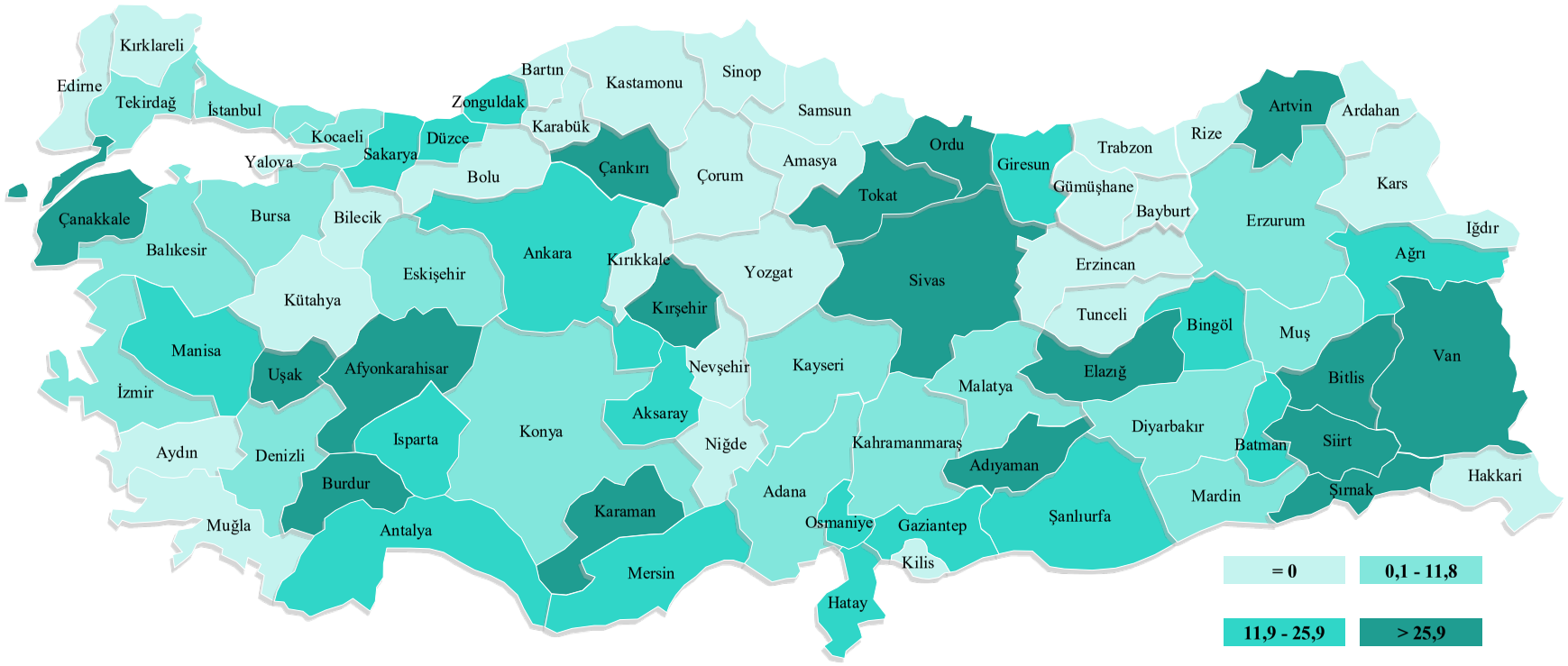
Source: General Directorate of Public Health
Note: Maternal Mortality Ratio (per 100.000 live births) including maternal deaths due to COVID-19 is 19,9.

Figure 2.12. International Comparison of Maternal Mortality Ratio, (per 100.000 Live Births), 2019



Source: General Directorate of Public Health, OECD Health Data 2021
Note: Countries' data belong to the year 2019 or nearest.

Map 2.2. Maternal Mortality Ratio by Provinces, (per 100.000 Live Births), 2020



Source: General Directorate of Public Health

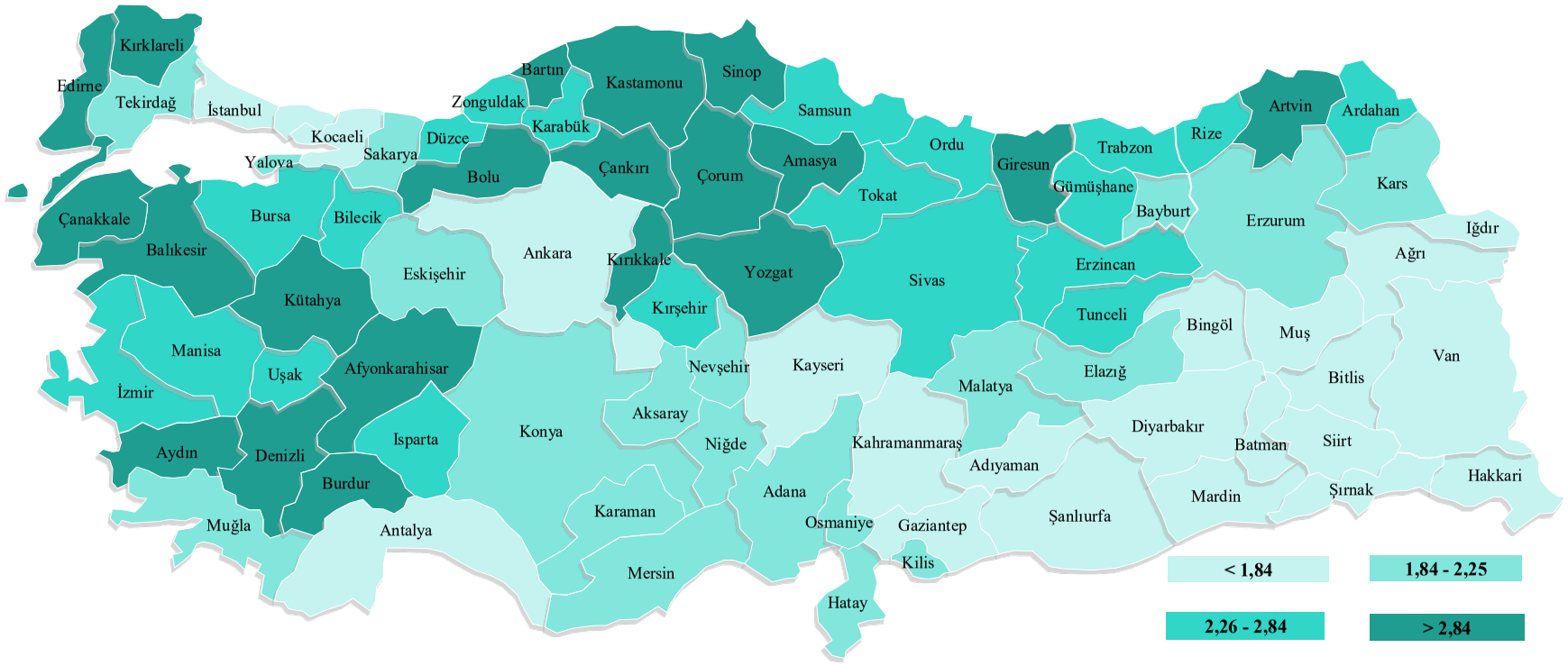
Table 2.1. Distribution of Causes of Death by the ICD-10 Main Diagnosis Codes and Sex, (%), 2018, 2019

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

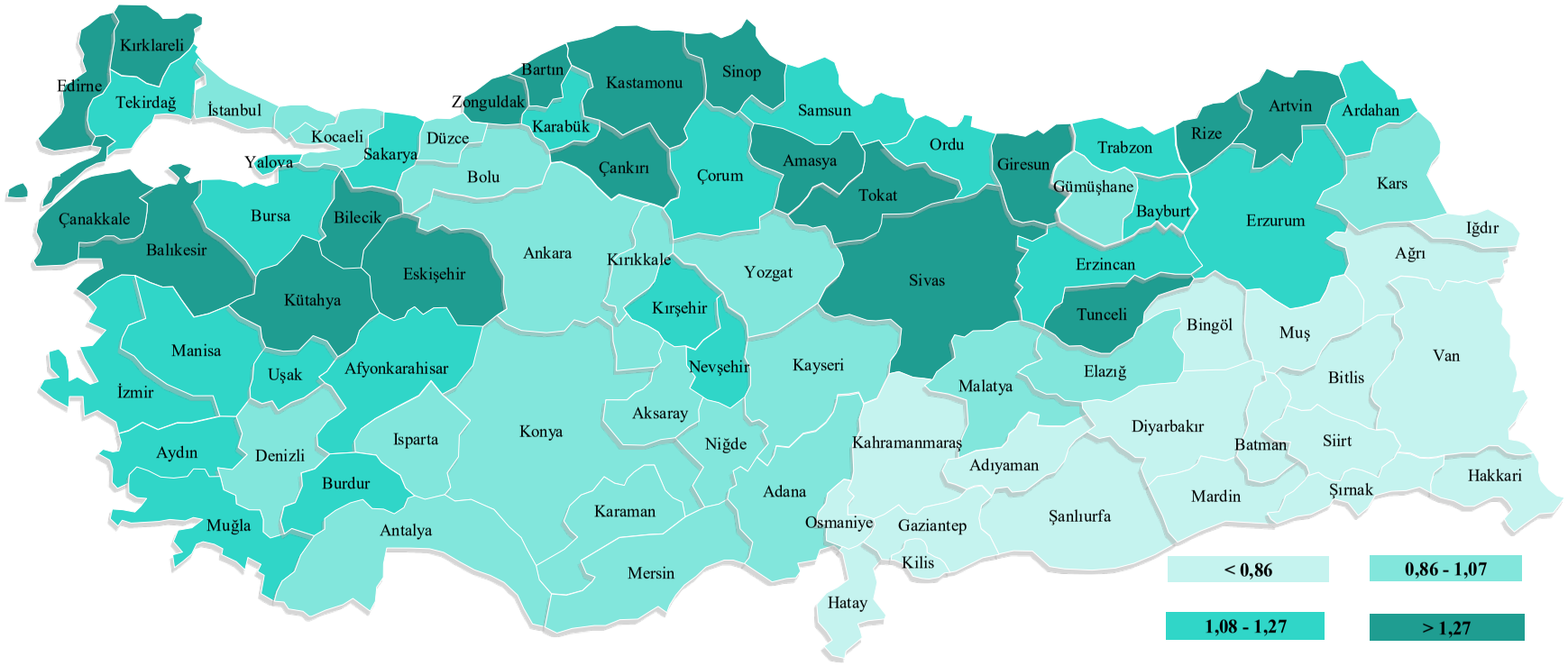
Note: The distribution of causes of death was calculated over the total number of relevant column.

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



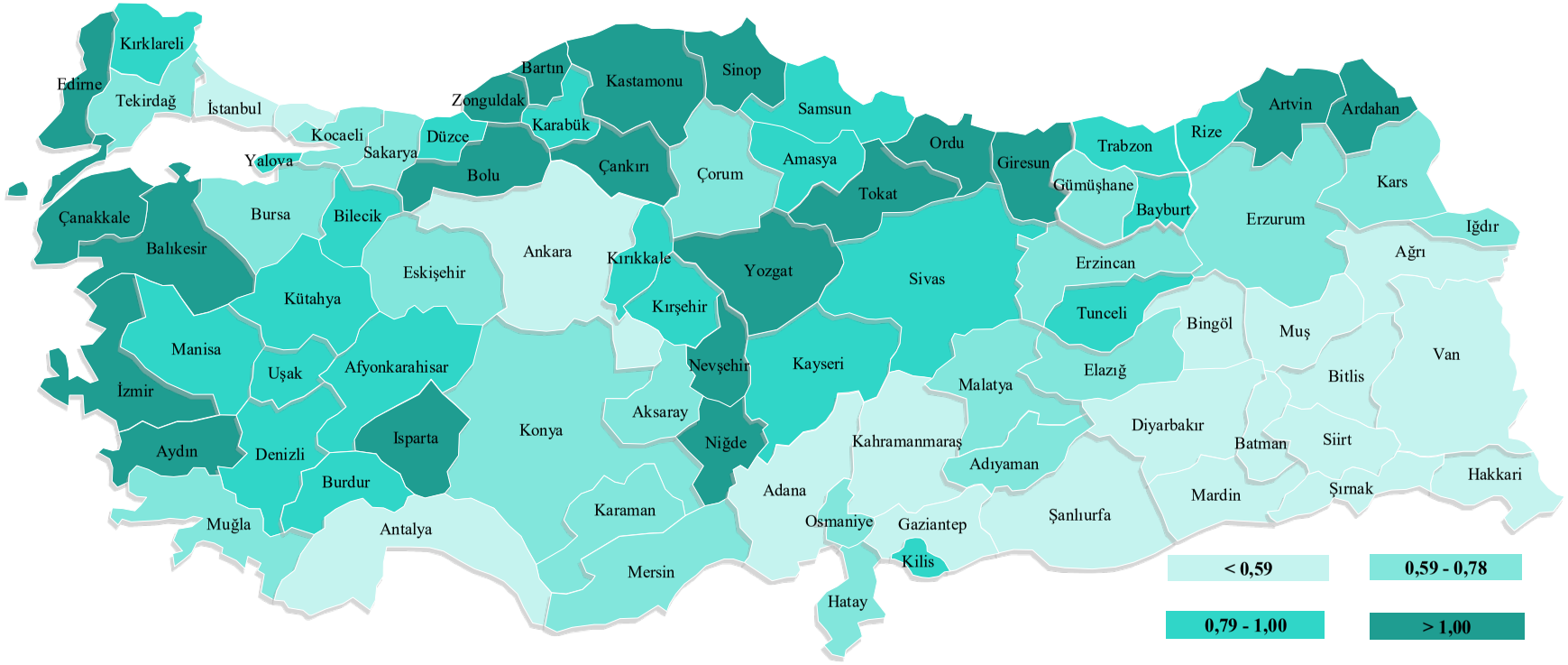
Source: TURKSTAT, Death and Causes of Death Statistics 2019

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



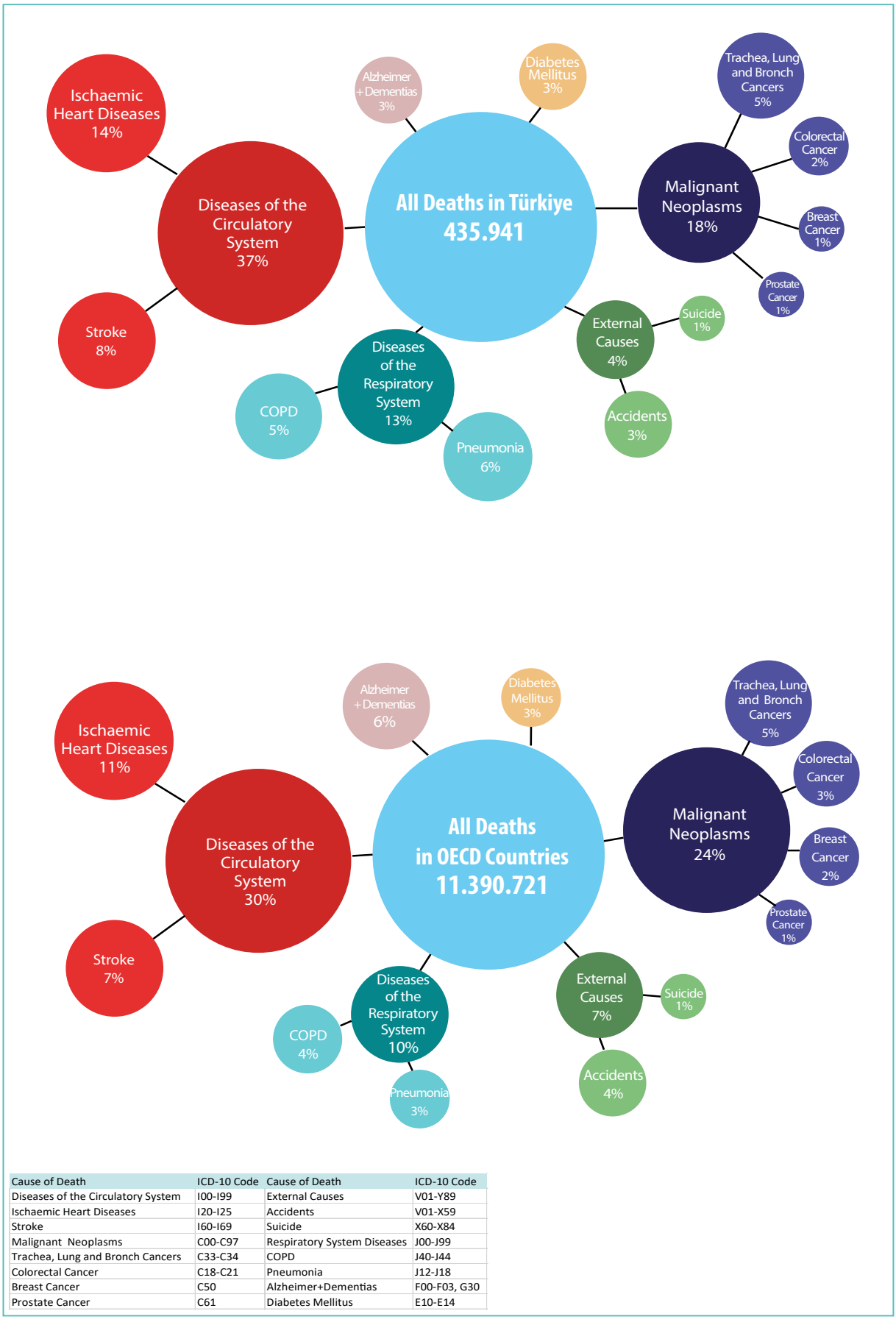
Source: TURKSTAT, Death and Causes of Death Statistics 2019

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, (%), 2019

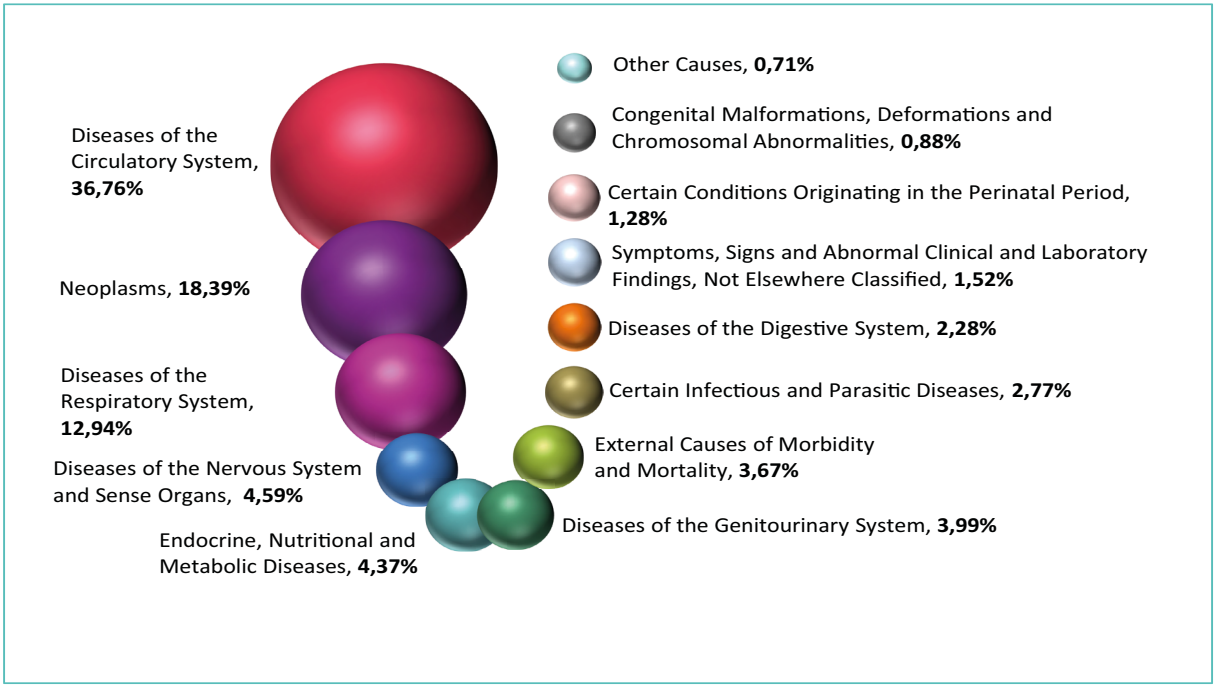


Cause of Death	ICD-10 Code	Cause of Death	ICD-10 Code
Diseases of the Circulatory System	I00-I99	External Causes	V01-Y89
Ischaemic Heart Diseases	I20-I25	Accidents	V01-X59
Stroke	I60-I69	Suicide	X60-X84
Malignant Neoplasms	C00-C97	Respiratory System Diseases	J00-J99
Trachea, Lung and Bronch Cancers	C33-C34	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, OECD Health Data 2021

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

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



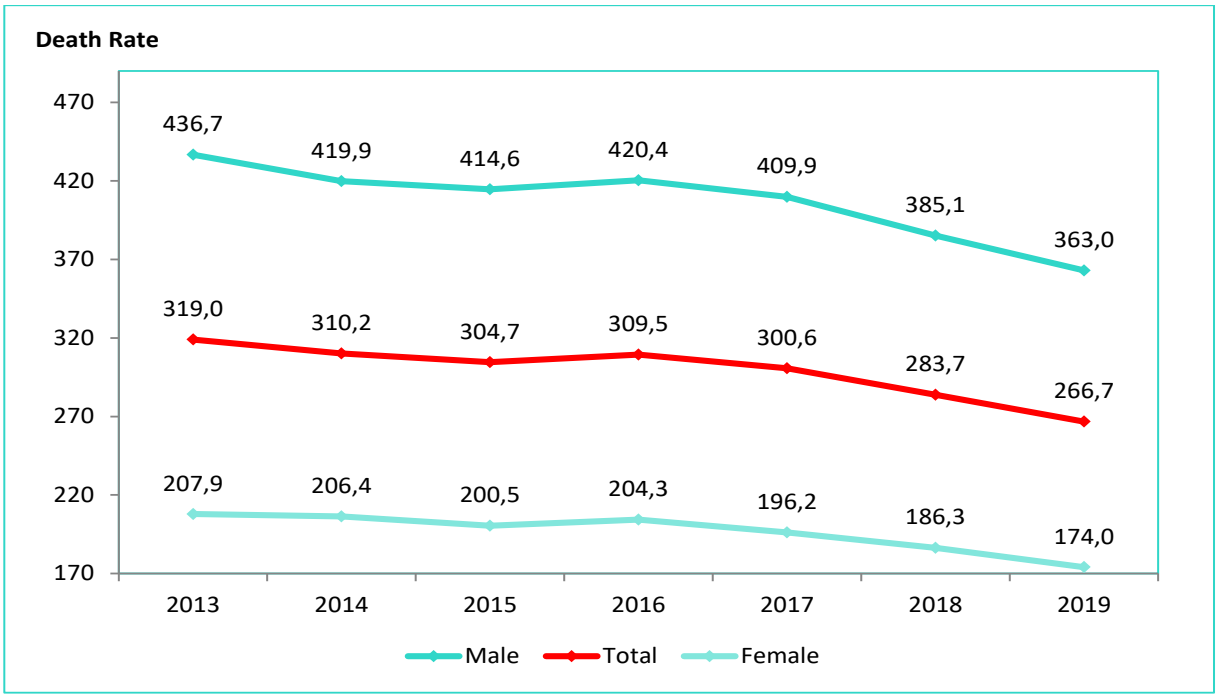
Source: TURKSTAT, Death and Causes of Death Statistics 2019

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)

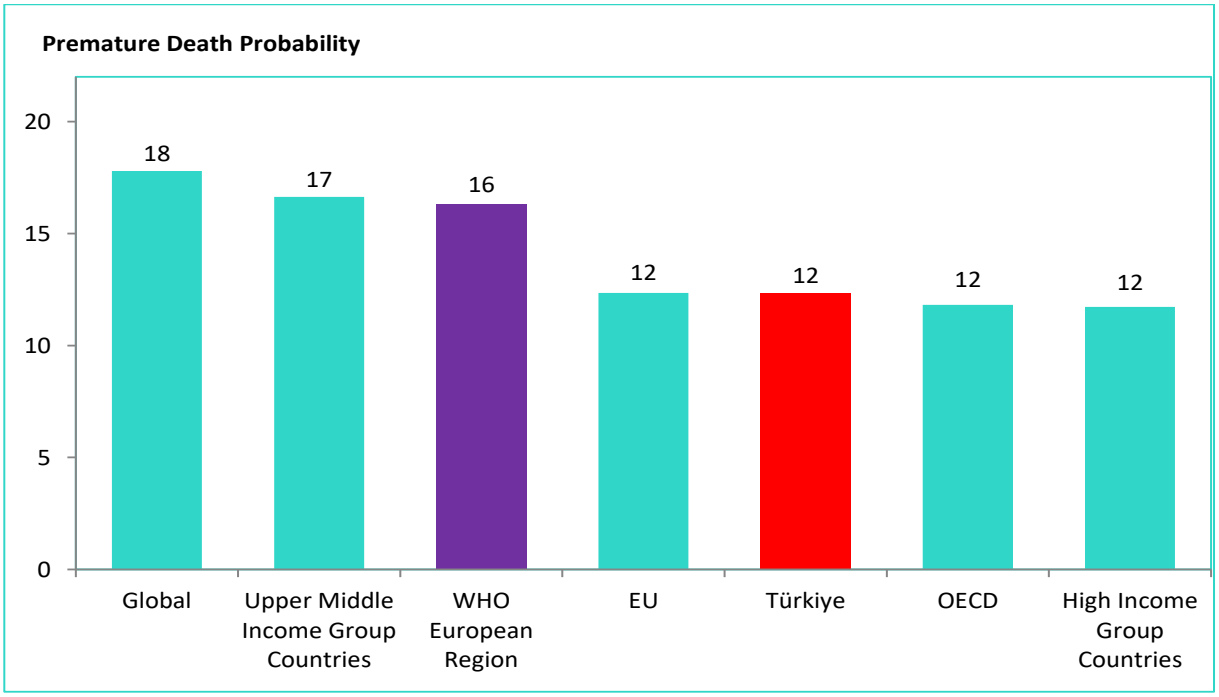


Source: TURKSTAT, Death and Causes of Death Statistics

*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 Probability of Premature Death from Four Major Non-communicable Diseases, (%), 2019



Source: TURKSTAT, Death and Causes of Death Statistics 2019, WHO Global Health Observatory Database

Note: 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/

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

☑ Since the death statistics for 2020 has not been published by TURKSTAT yet, the indicators related to death could not be calculated in the chapter.

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

CHAPTER 3

Morbidity

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

		2002	2016	2017	2018	2019	2020
AIDS	**Local Case**	**37**	**96**	**107**	**108**	**102**	**36**
	Imported Case	6	11	19	22	29	10
	Total Case	43	107	126	130	131	46
Measles	**Local Case**	**7.810**	**0**	**48**	**412**	**1.958**	**316**
	Imported Case		9	36	304	947	301
	Total Case	7.810	9	84	716	2.905	617
Tuberculosis	**Local Case**	**18.043**	**11.305**	**10.748**	**10.334**	**9.820**	**7.423**
	Imported Case		881	1.073	1.242	1.427	1.407
	Total Case	18.043	12.186	11.821	11.576	11.247	8.830
Malaria	**Local Case**	**10.184**	**0**	**0**	**0**	**0**	**0**
	Imported Case	40	209	214	238	279	135
	Total Case	10.224	209	214	238	279	135

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 2021. The number of tuberculosis cases indicates the sum of new and relapse cases.

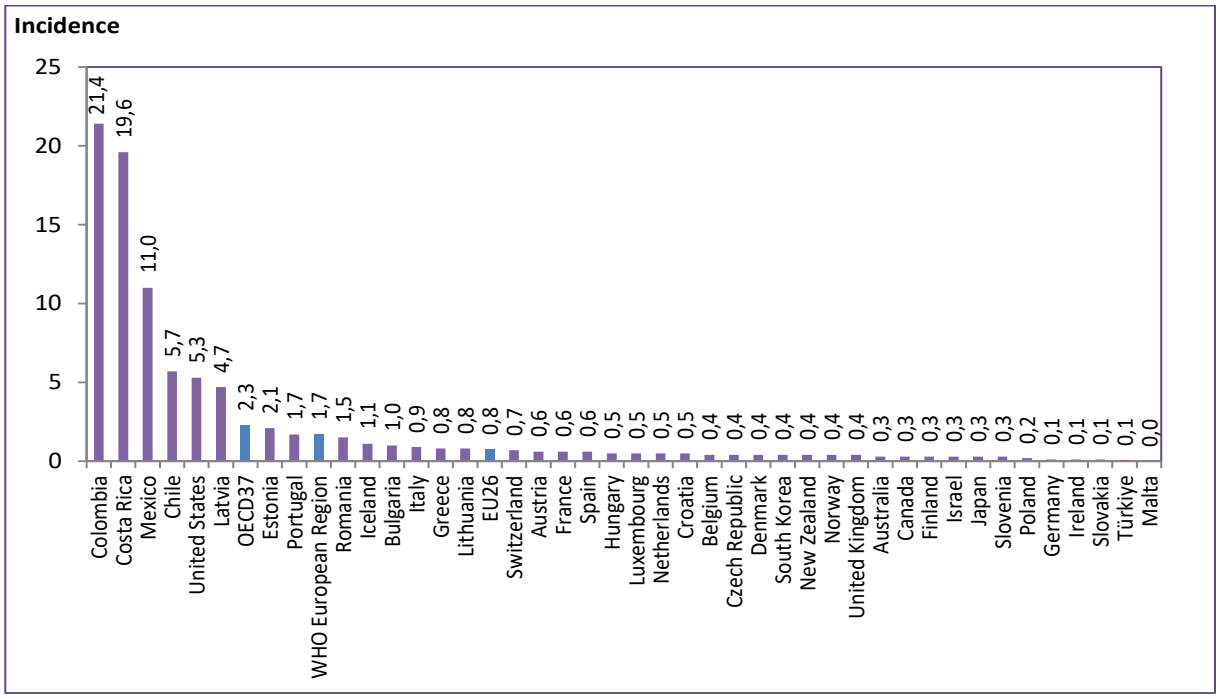
Table 3.2. Infectious Diseases Incidence by Years, (per 100.000 Population)

	2002	2016	2017	2018	2019	2020
AIDS	0,07	0,13	0,16	0,16	0,16	0,06
Measles	11,8	0,01	0,09	0,87	3,49	0,74
Tuberculosis	32,0	15,3	14,6	14,1	13,5	10,6
Malaria	15,4	0,26	0,26	0,29	0,34	0,16

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.

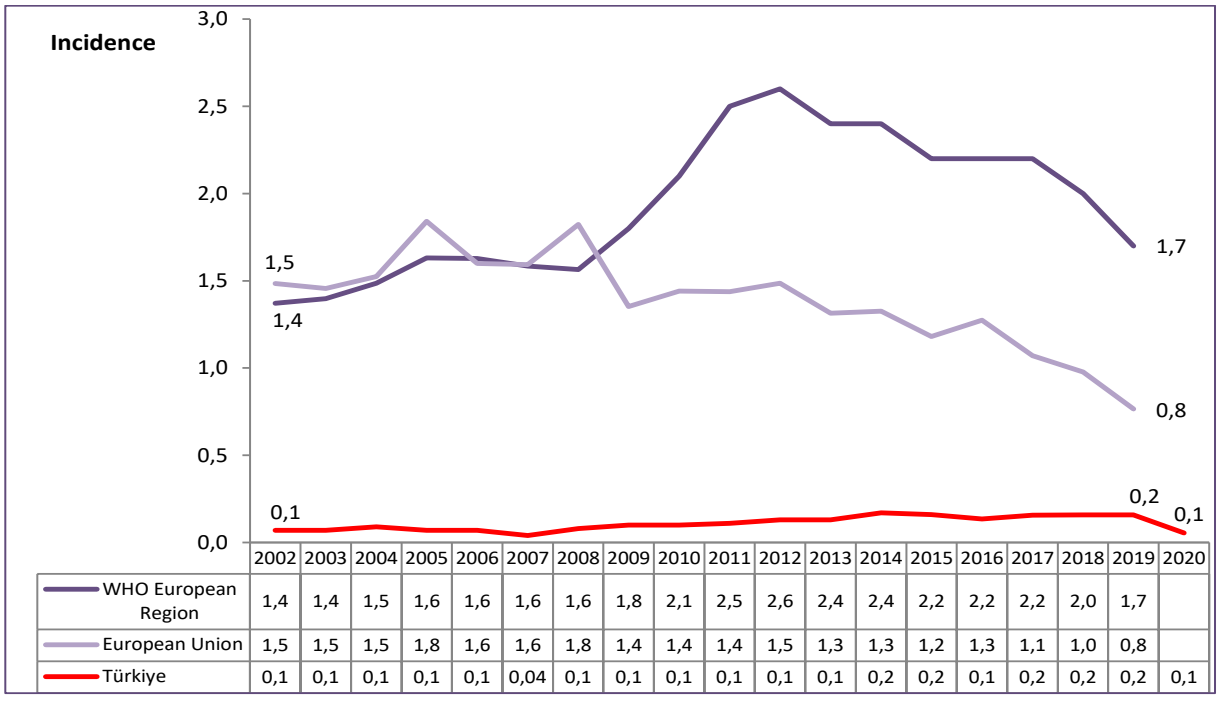
Figure 3.1. International Comparison of AIDS Incidence, (per 100.000 Population), 2019



Source: General Directorate of Public Health, ECDC HIV-AIDS Surveillance in Europe 2020, OECD Health Data 2021

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

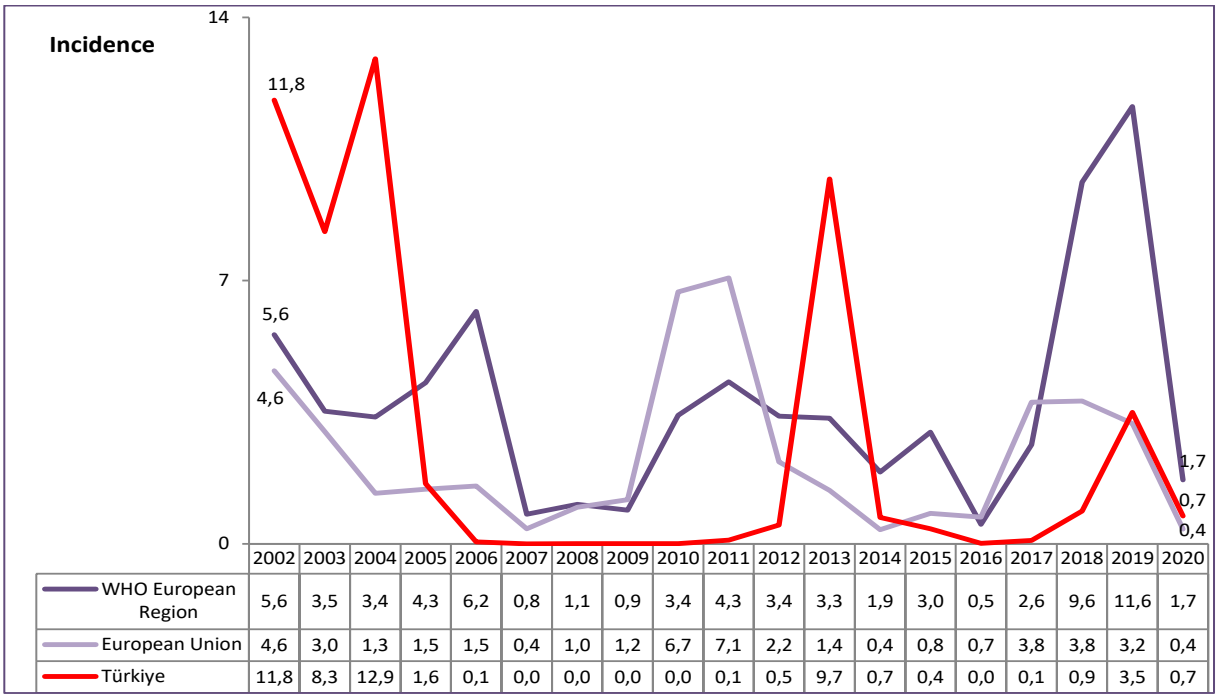
Figure 3.2. International Comparison of AIDS Incidence by Years, (per 100.000 Population)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
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	2,2	2,0	1,7	
European Union	1,5	1,5	1,5	1,8	1,6	1,6	1,8	1,4	1,4	1,4	1,5	1,3	1,3	1,2	1,3	1,1	1,0	0,8	
Türkiye	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	0,2	0,1

Source: General Directorate of Public Health, ECDC HIV-AIDS Surveillance Reports, OECD Health Data 2021

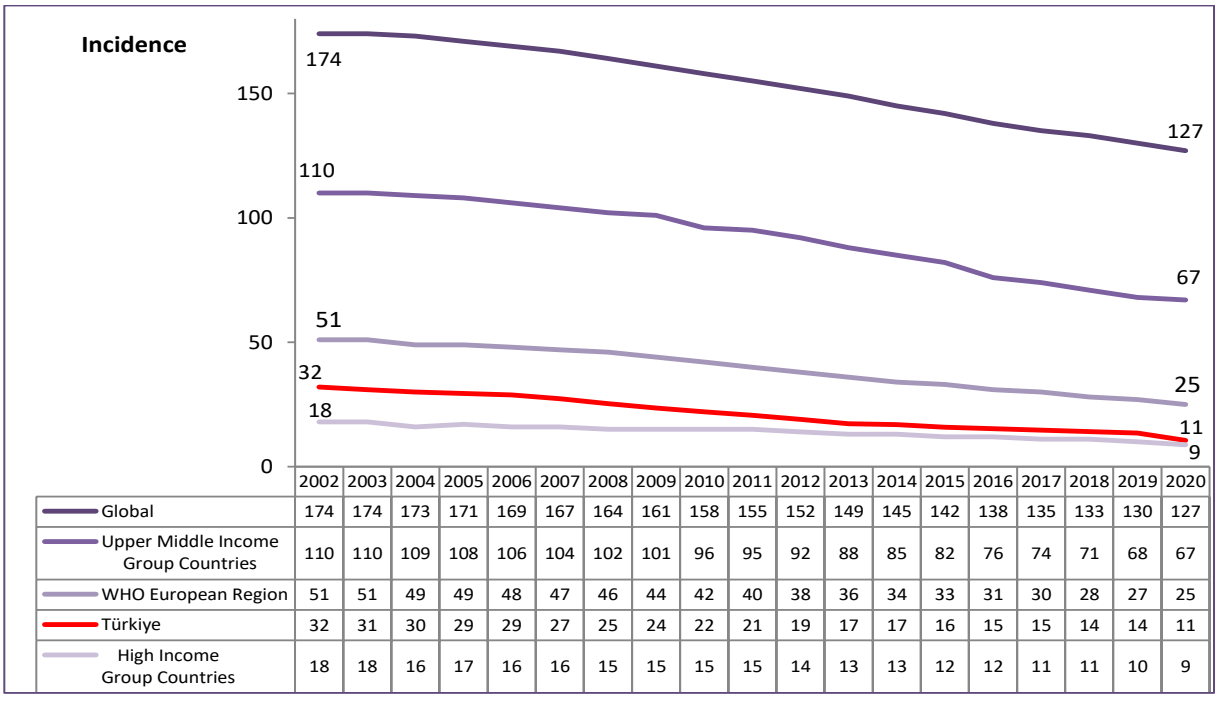
Figure 3.3. International Comparison of Measles Incidence by Years, (per 100.000 Population)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
WHO European Region	5,6	3,5	3,4	4,3	6,2	0,8	1,1	0,9	3,4	4,3	3,4	3,3	1,9	3,0	0,5	2,6	9,6	11,6	1,7
European Union	4,6	3,0	1,3	1,5	1,5	0,4	1,0	1,2	6,7	7,1	2,2	1,4	0,4	0,8	0,7	3,8	3,8	3,2	0,4
Türkiye	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	0,7

Source: General Directorate of Public Health, WHO/UNICEF Joint Reporting Form on Immunization (JRF)

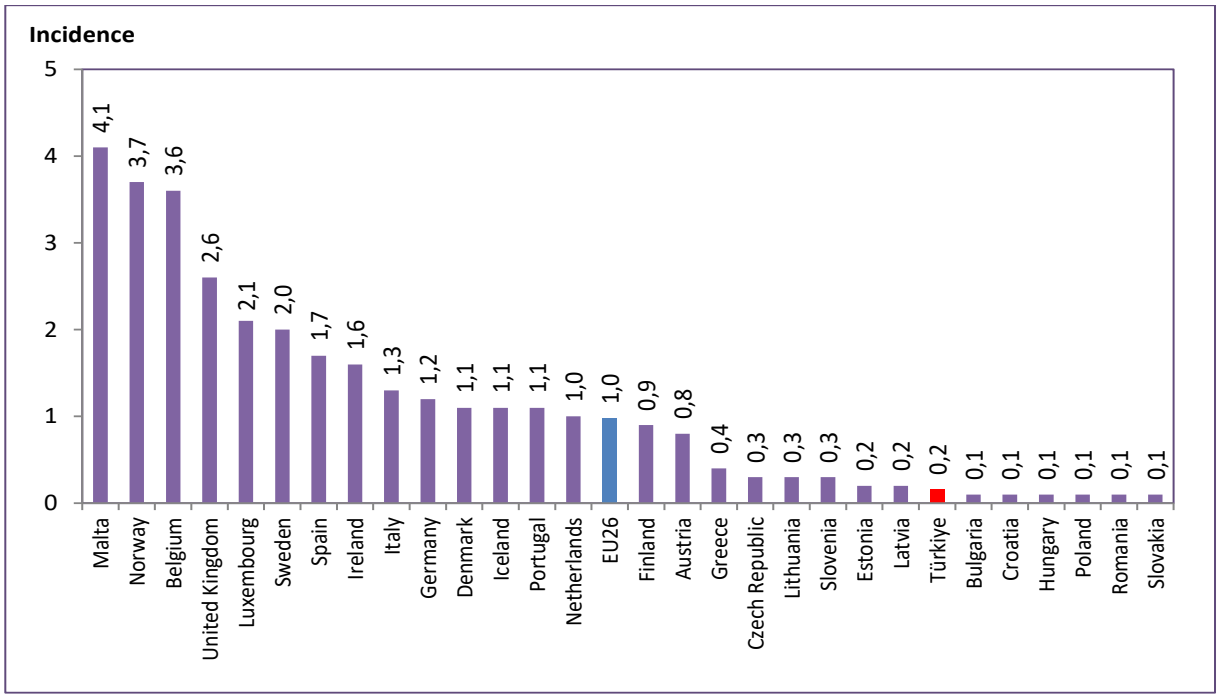
Figure 3.4. International Comparison of Tuberculosis Incidence by Years, (per 100.000 Population)



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Global	174	174	173	171	169	167	164	161	158	155	152	149	145	142	138	135	133	130	127
Upper Middle Income Group Countries	110	110	109	108	106	104	102	101	96	95	92	88	85	82	76	74	71	68	67
WHO European Region	51	51	49	49	48	47	46	44	42	40	38	36	34	33	31	30	28	27	25
Türkiye	32	31	30	29	29	27	25	24	22	21	19	17	17	16	15	15	14	14	11
High Income Group Countries	18	18	16	17	16	16	15	15	15	15	14	13	13	12	12	11	11	10	9

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

Figure 3.5. International Comparison of Malaria Incidence (Imported Cases), (per 100.000 Population), 2019



Source: General Directorate of Public Health, ECDC-Annual Epidemiological Report for 2019
Note: Türkiye's number of local cases for the year 2020 is "0" (zero). Countries' data belong to the year 2019 or nearest.

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

	2002	2013	2014	2015	2016	2017
Male	154,2	267,9	246,8	247,6	259,9	259,2
Female	113,0	186,5	173,6	177,5	183,2	187,0
Total	133,5	227,2	210,2	212,6	221,6	223,1

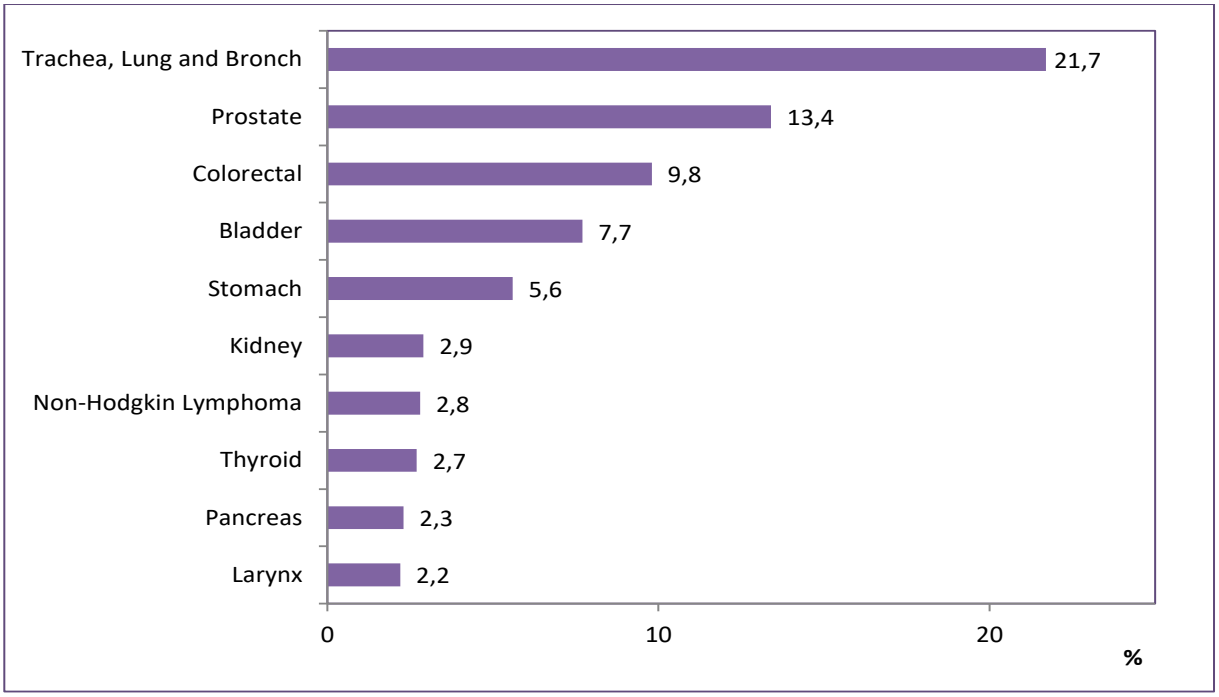
Source: General Directorate of Public Health

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

	2002	2013	2014	2015	2016	2017
Trachea, Lung and Bronch	42,2	59,3	52,5	52,5	57,7	56,7
Prostate	11,5	36,4	32,9	33,1	35,0	35,7
Colorectal	11,8	24,4	22,8	23,1	25,3	25,1
Bladder	12,4	21,1	19,3	20,2	21,1	20,1
Stomach	11,6	15,9	14,3	14,2	14,2	14,3
Kidney	3	7,0	6,4	6,8	7,4	7,2
Non-Hodgkin Lymphoma	1,4	6,9	7,2	6,9	7,2	7,1
Thyroid	0,5	5,6	5,5	6,0	6,2	6,4
Pancreas	3,1	6,3	5,1	5,6	5,7	5,9
Larynx	6,9	7,0	6,2	6,6	6,2	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, (%), 2017



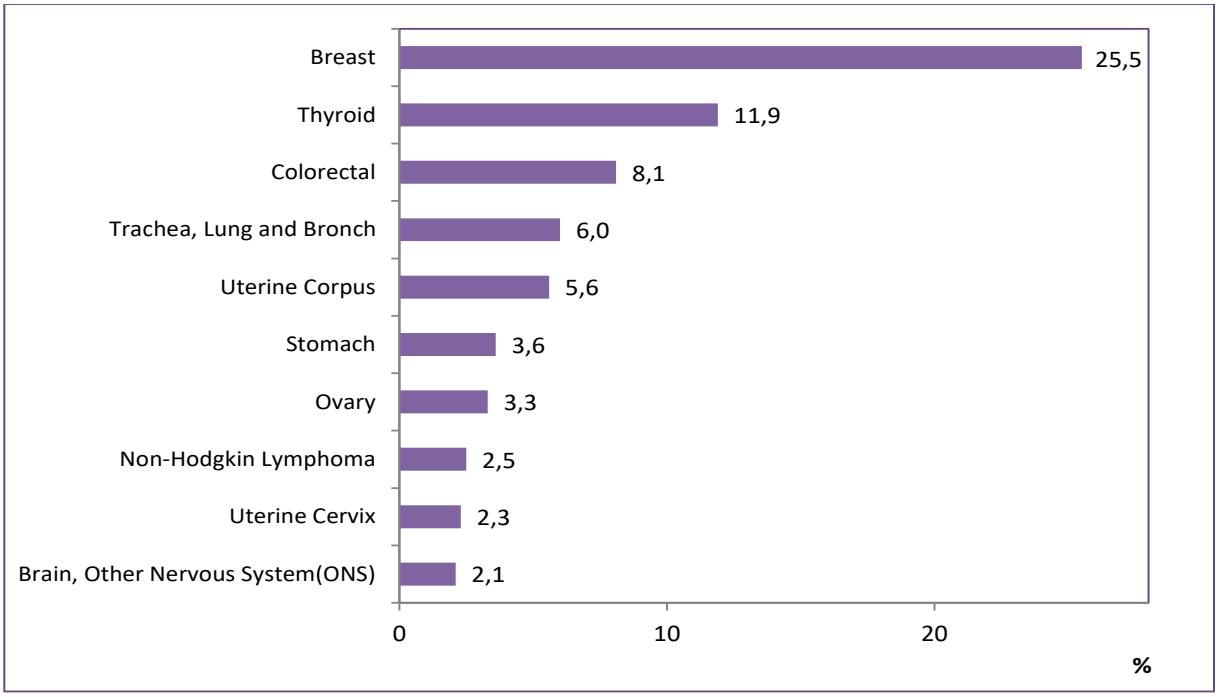
Source: General Directorate of Public Health

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

	2002	2013	2014	2015	2016	2017
Breast	31,9	45,9	43,0	43,8	45,6	47,7
Thyroid	3,5	21,3	20,7	21,7	22,9	22,6
Colorectal	9,3	15,3	13,8	14,4	14,2	14,7
Trachea, Lung and Bronch	5,2	10,0	8,7	9,0	9,8	11,1
Uterine Corpus	4,3	9,9	9,8	10,0	10,5	10,7
Stomach	6,0	7,1	6,5	6,3	6,6	6,4
Ovary	5,9	7,0	6,1	6,4	6,4	6,3
Non-Hodgkin Lymphoma	1,2	5,3	5,0	4,9	5,1	4,8
Uterine Cervix	3,9	4,6	4,0	4,5	4,3	4,3
Brain, Other Nervous System(ONS)	3,8	4,7	4,1	4,1	4,0	4,2

Source: General Directorate of Public Health

Figure 3.7. Distribution of the Most Common 10 Cancer Types Among Females in the Total Cancer, (%), 2017



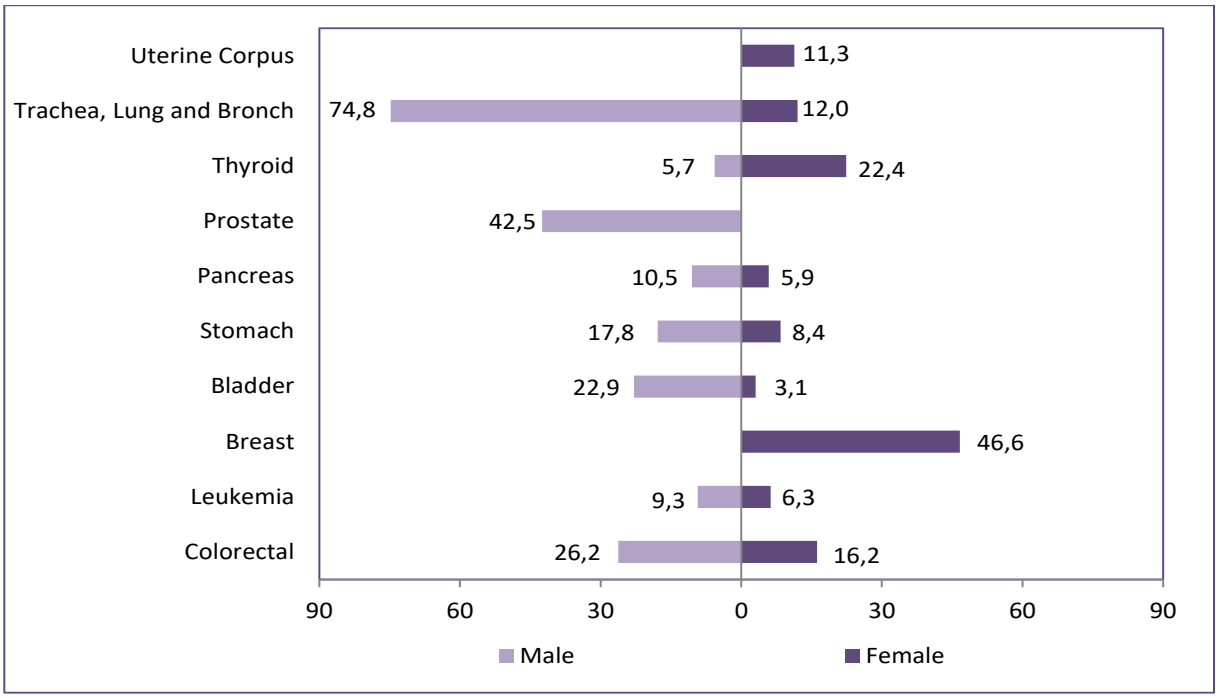
Source: General Directorate of Public Health

Table 3.6. Cancer Incidence by Sex, (per 100.000 Population, World Standard Population), 2017

ICD-10		Male	Female
C00-96	All Cancers	259,2	187,0
C00-14	**Mouth, Pharynx**	**4,9**	**2,0**
C00	Lip	0,9	0,2
C01-C02	Tongue	0,7	0,5
C03-C06	Mouth	0,9	0,4
C07-C08	Salivary Glands	0,5	0,4
C09	Tonsil	0,3	0,0
C10	Other Oropharynx	0,1	0,0
C11	Nasopharynx	1,2	0,4
C12-C13	Hypopharynx	0,3	0,1
C14	Pharynx, unspecified	0,0	0,0
C15-26	**Digestion Organs**	**53,9**	**29,7**
C15	Esophagus	1,8	1,0
C16	Stomach	14,3	6,4
C17	Small Intestine	0,7	0,5
C18	Colon	15,3	9,6
C19-C20	Rectum	9,8	5,1
C21	Anus	0,4	0,2
C22	Liver	4,1	1,7
C23-C24	Gall bladder etc.	1,6	1,3
C25	Pancreas	5,9	3,9
C26	Other Digestion Organs	0,1	0,1
C30-34,C37-C38	**Respiratory Organs**	**63,3**	**12,1**
C30-C31	Nose, sinuses etc.	0,3	0,2
C32	Larynx	5,7	0,4
C33-C34	Trachea, Lung and Bronch	56,7	11,1
C37-C38	Other Thoracic Organs	0,6	0,4
C40-C41	**Bone**	**1,1**	**0,8**
C43	**Melanoma**	**1,7**	**1,2**
C44	**Other Skin**	**25,5**	**16,7**
C45	**Mesothelioma**	**0,8**	**0,4**
C46	**Kaposi's sarcoma**	**0,9**	**0,3**
C47;C49	**Connective, Soft tissue**	**1,8**	**1,5**
C50	**Breast**	**0,5**	**47,7**
C51-58	**Female Genital Organs**	**-**	**23,2**
C51	Vulva	-	0,5
C52	Vagina	-	0,2
C53	Cervix uteri	-	4,3
C54	Corpus uteri	-	10,7
C55	Uterus unspecified	-	0,7
C56	Ovary	-	6,3
C57	Other Female Genital	-	0,5
C58	Placenta	-	0,0
C60-63	**Male Genital Organs**	**39,9**	**-**
C60	Penis	0,1	-
C61	Prostate	35,7	-
C62	Testicle	4,0	-
C63	Other male genital	0,1	-
C64-68	**Urinary Organs**	**27,9**	**6,9**
C64	Kidney	7,2	3,8
C65	Renal Pelvis	0,2	0,1
C66	Ureter	0,2	0,1
C67	Bladder	20,1	2,8
C68	Other Urinary Organs	0,2	0,1
C69	**Eye**	**0,4**	**0,2**
C70-C72	**Brain, nervous system**	**5,7**	**4,2**
C73	**Thyroid**	**6,4**	**22,6**
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**	**18,9**	**13,2**
C81	Hodgkin's disease	2,1	1,5
C82-C85;C96	Non-Hodgkin lymphoma	7,1	4,8
C88	Immunoproliferative diseases	0,1	0,0
C90	Multiple Myeloma	2,8	2,0
C91	Lymphoid Leukemia	3,6	2,5
C92-C94	Myeloid Leukemia	2,8	2,2
C95	Leukemia, unspecified	0,4	0,2
C39,C48,C76,C77,C80	**Other&Unspecified**	**5,2**	**3,8**

Source: General Directorate of Public Health

Figure 3.8. Incidence of the Most Common 10 Types of Cancer by Sex, (per 100.000 Population, World Standard Population), 2020



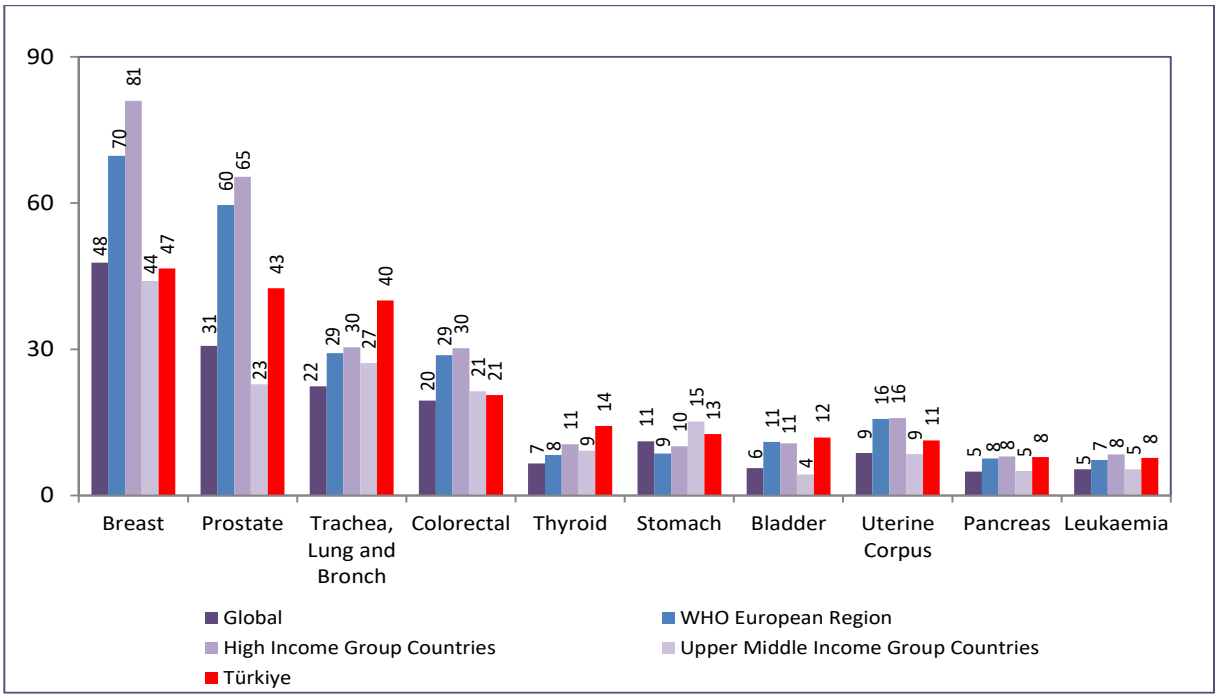
Source: IARC, GLOBOCAN 2020
Note: Cancer incidence is WHO's estimation for the year 2020.

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

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

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

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



Source: IARC, GLOBOCAN 2020

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

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2019

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2019

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2019

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

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

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

Table 3.15. Distribution of 15 and Over Aged Patients with Hypertension, Diabetes Mellitus and High Cholesterol Diagnosis by Sex, (%), 2017

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

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

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2019

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2019

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

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

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

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

Table 3.20. Distribution of 15 and Over Aged Individuals Wearing a Hearing Aid by Sex, (%), 2016, 2019

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

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

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

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

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

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

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

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

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

Explanations for Chapter 3

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

☑ The date of case notification is based on confirmation time in HIV/AIDS surveillance system. The case number is calculated by using the notified cases with having positive confirmation test result. Annual case number would be change due to the value of current year including notifications for confirmed cases of previous year. Case number and incidence values are calculated by using the notified cases with having positive confirmation test result as of 31 January 2021.

☑ 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 Türkiye database. For errors in the data base of the Provincial, inspection reports are forwarded to the provincial cancer registry centers, "Türkiye Cancer Repository" is created.

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

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

TURKSTAT, Türkiye Health Interview Survey 2019

Research is based on self-reported.

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

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

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

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

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

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

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

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

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

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

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

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

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

CHAPTER 4

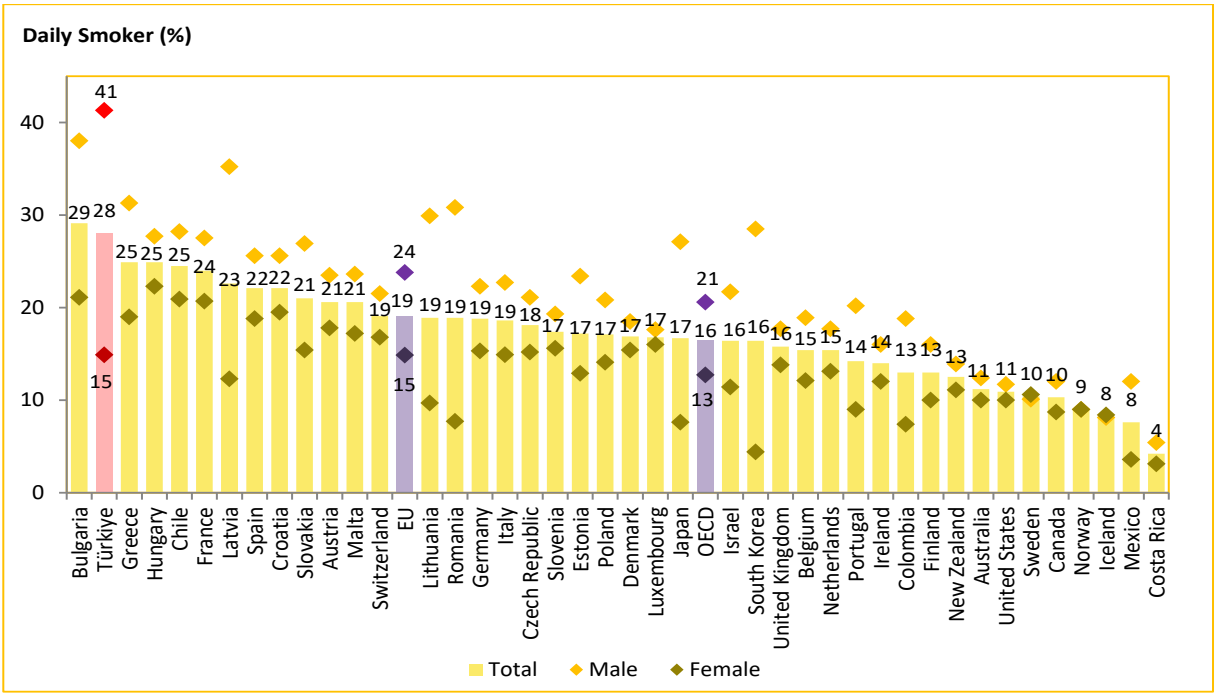
Risk Factors

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, Türkiye Health Interview Survey 2014, 2016, 2019

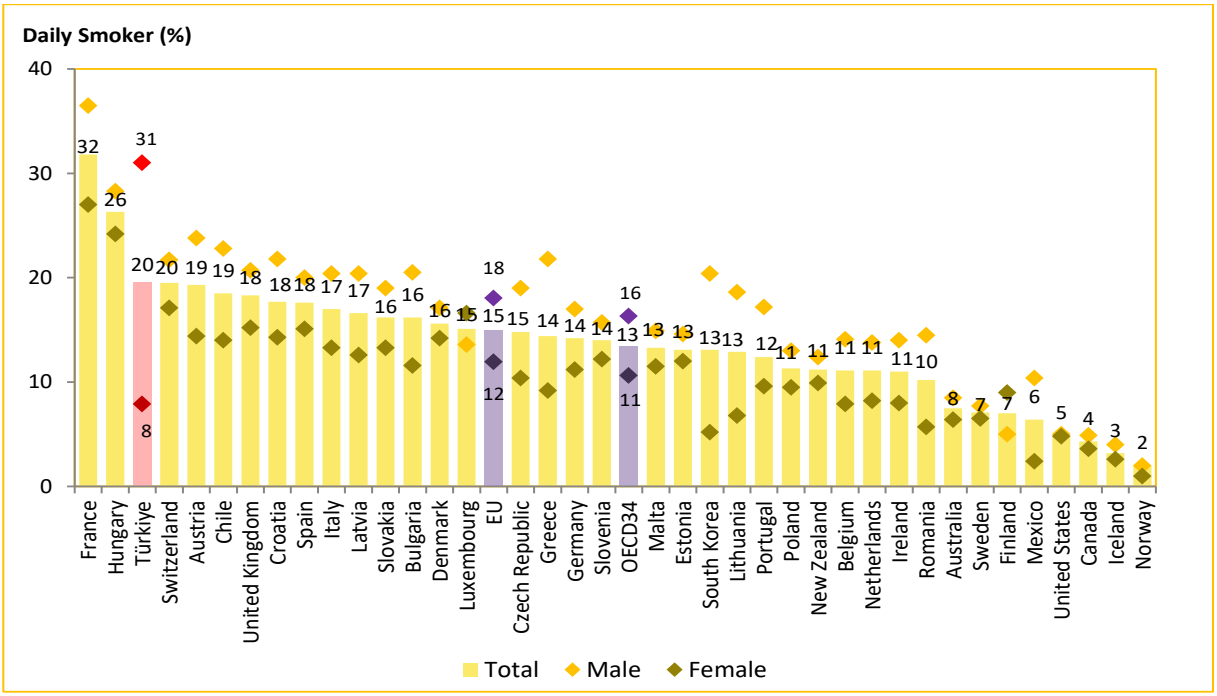
Figure 4.1. International Comparison of Distribution of 15 and Over Aged Individuals Using Tobacco Product by Sex, (%), 2019



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2021, EUROSTAT Database

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

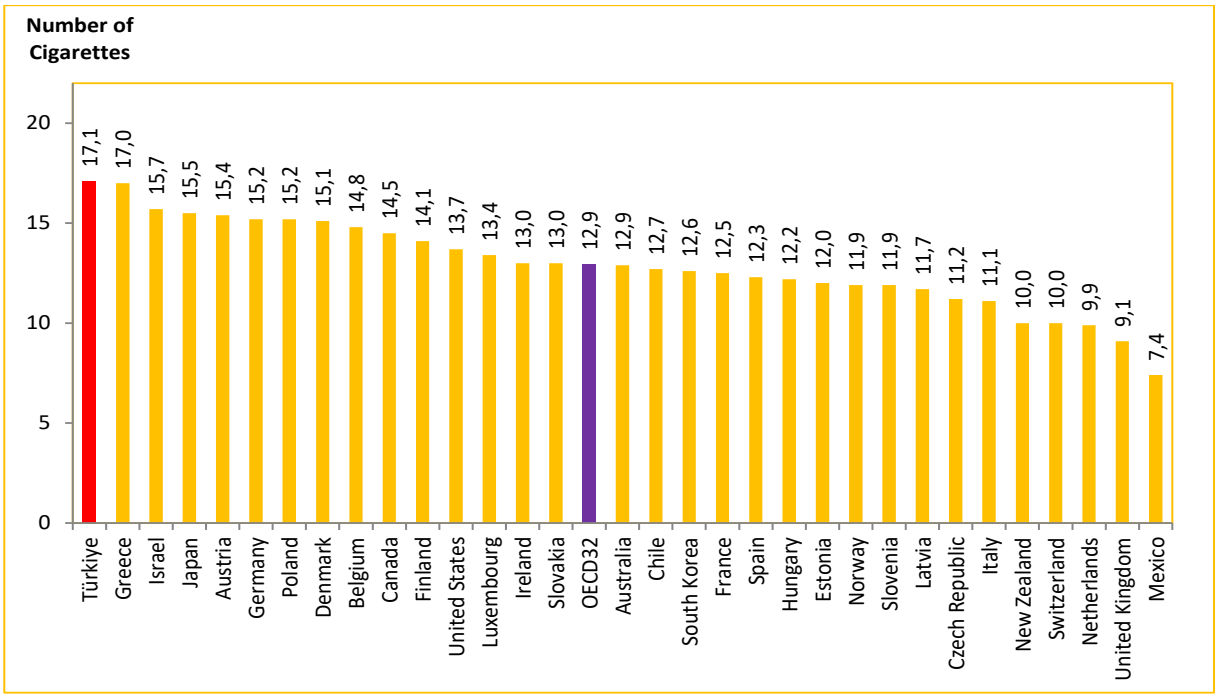
Figure 4.2. International Comparison of Distribution of 15-24 Aged Individuals Using Tobacco Product by Sex, (%), 2019



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2021, EUROSTAT Database

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

Figure 4.3. International Comparison of the Average Number of Daily Cigarette per 15 and Over Aged Individuals Using Cigarette, 2019



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2021
Note: Türkiye's data belongs to the year 2019. Countries' data belong to the year 2019 or nearest.

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

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

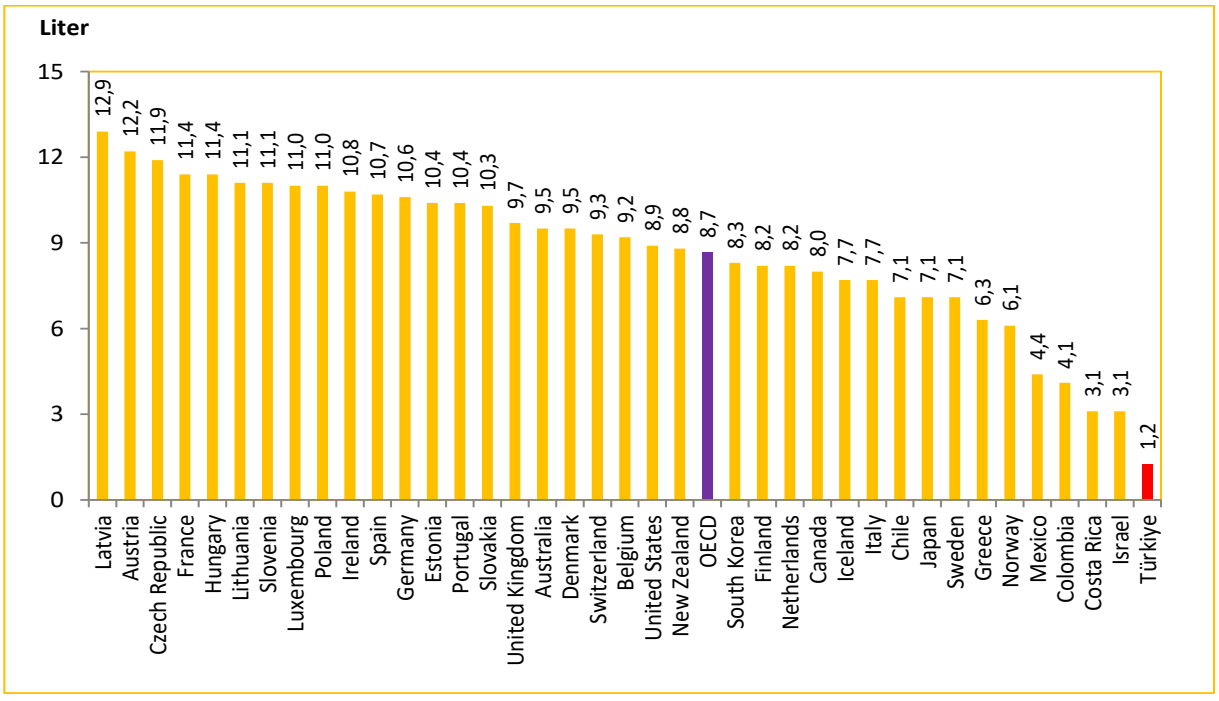
Source: TURKSTAT, Türkiye Health Interview Survey 2014, 2016, 2019

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

Alcohol Consumption	Age Group	2014			2016			2019		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Consumes	15-24	20,9	5,8	13,3	13,1	5,4	9,3	16,4	6,2	11,4
	25-34	31,0	10,0	20,5	24,1	8,7	16,5	30,9	10,5	20,7
	35-44	27,4	6,7	17,1	25,2	6,4	15,9	30,8	8,7	19,8
	45-54	25,6	4,7	15,2	19,2	3,7	11,5	22,2	6,0	14,2
	55-64	22,6	2,9	12,6	19,7	3,8	11,6	21,3	3,9	12,5
	65-74	11,2	1,3	5,8	11,5	1,0	5,9	15,0	2,3	8,2
	75+	4,4	0,5	2,0	5,5	0,6	2,5	4,1	0,5	2,0
	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, Türkiye Health Interview Survey 2014, 2016, 2019

Figure 4.4. Consumption of Absolute Alcohol per 15 and Over Aged Individuals, Liter, 2019



Source: Republic of Türkiye Ministry of Agriculture and Forestry, OECD Health Data 2021

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

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

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

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

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

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

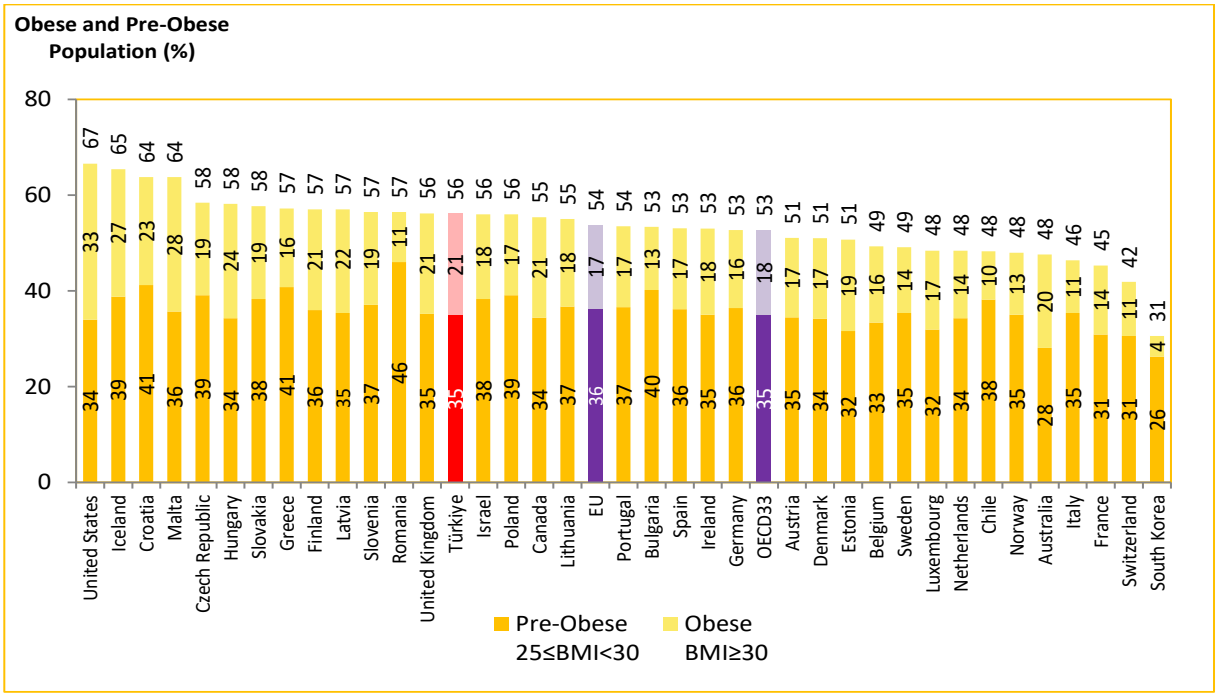
Source: TURKSTAT, Türkiye Health Interview Survey 2019

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

Year	Sex	Underweight	Normal	Pre-Obese	Obese
2014	Male	2,8	43,7	38,2	15,3
	Female	5,5	40,7	29,3	24,5
	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**

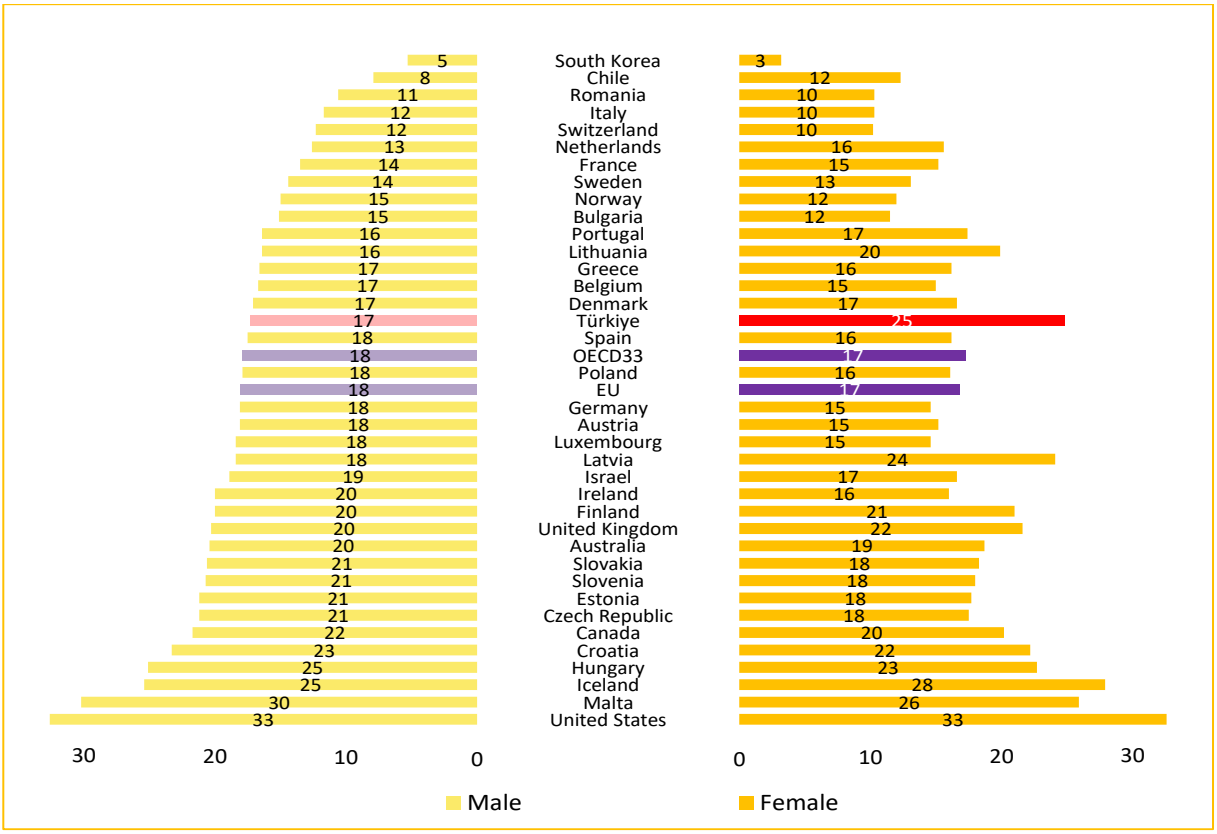
Source: TURKSTAT, Türkiye Health Interview Survey 2014, 2016, 2019
Note: The phrase "overweight" has been changed with "pre-obese".

Figure 4.5. International Comparison of Obesity and Pre-Obesity Among 15 and Over Aged Individuals (Self-Reported), (%), 2019



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belongs to the year 2019. Countries' data belong to the year 2019 or nearest.

Figure 4.6. International Comparison of Obesity (BMI≥30) Among 15 and Over Aged Individuals by Sex (Self-Reported), (%), 2019



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2021, EUROSTAT Database

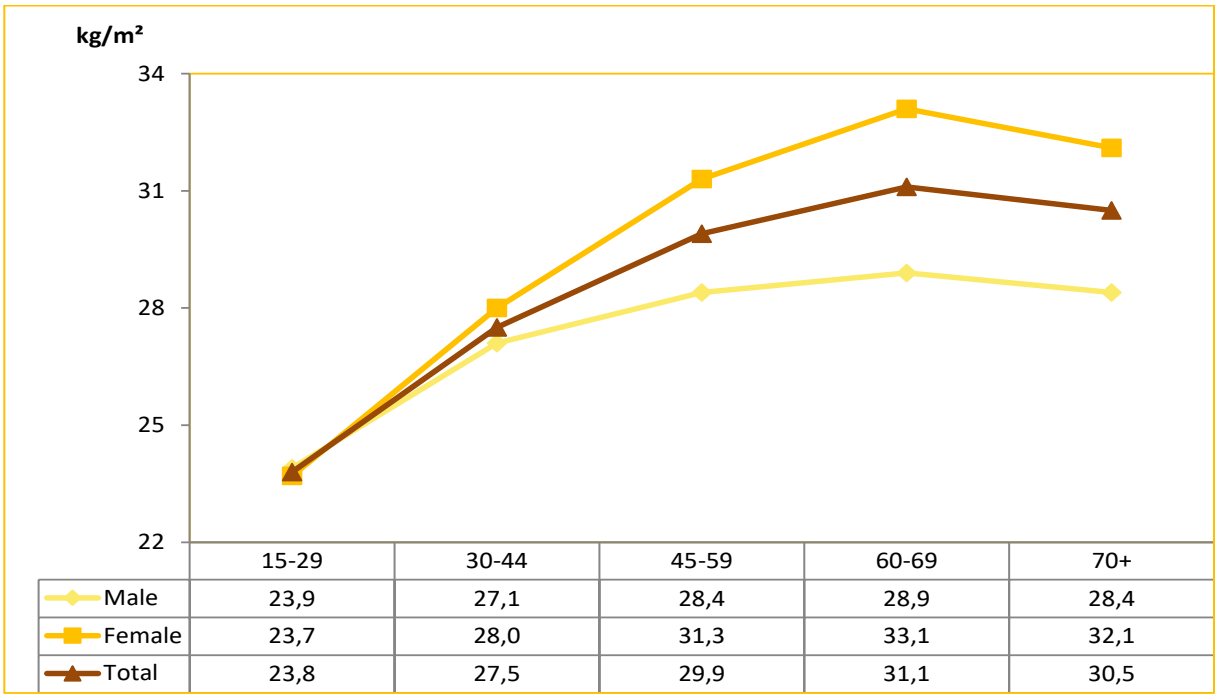
Note: Türkiye's data belongs to the year 2019. Countries' data belong to the year 2019 or nearest.

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, Türkiye Nutrition and Health Survey 2017

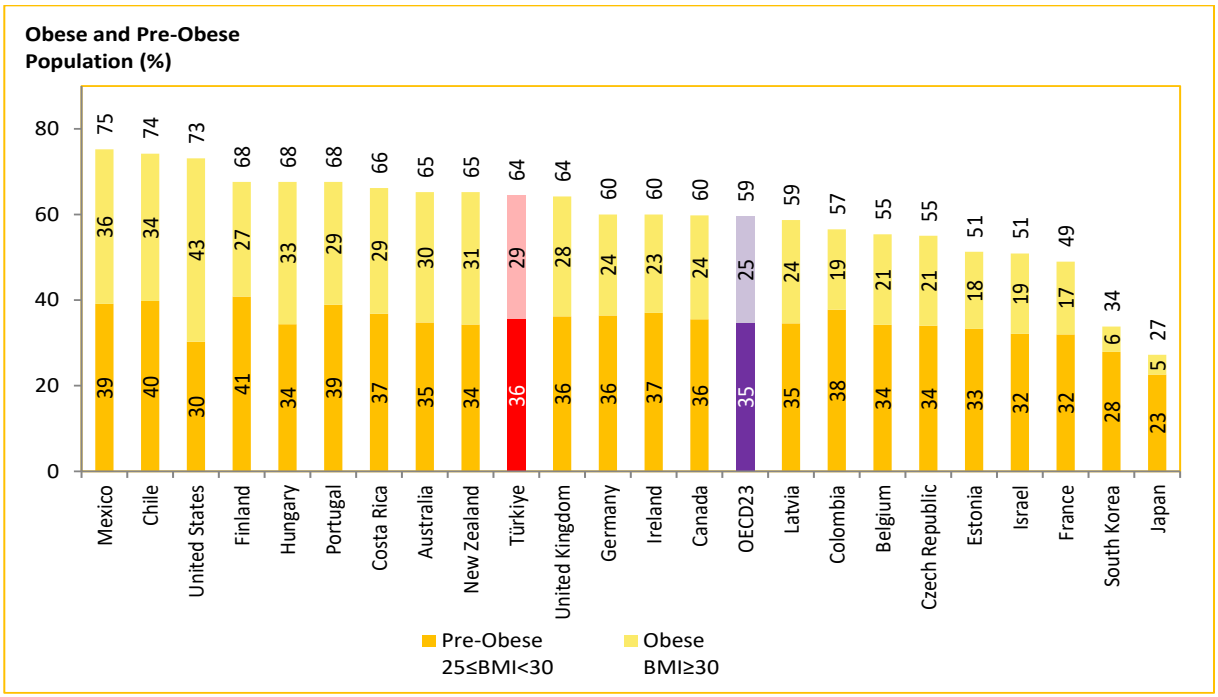
Figure 4.7. Distribution of Body Mass Index by Sex and Age Groups, (Measured), kg/m², 2017



	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 Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017

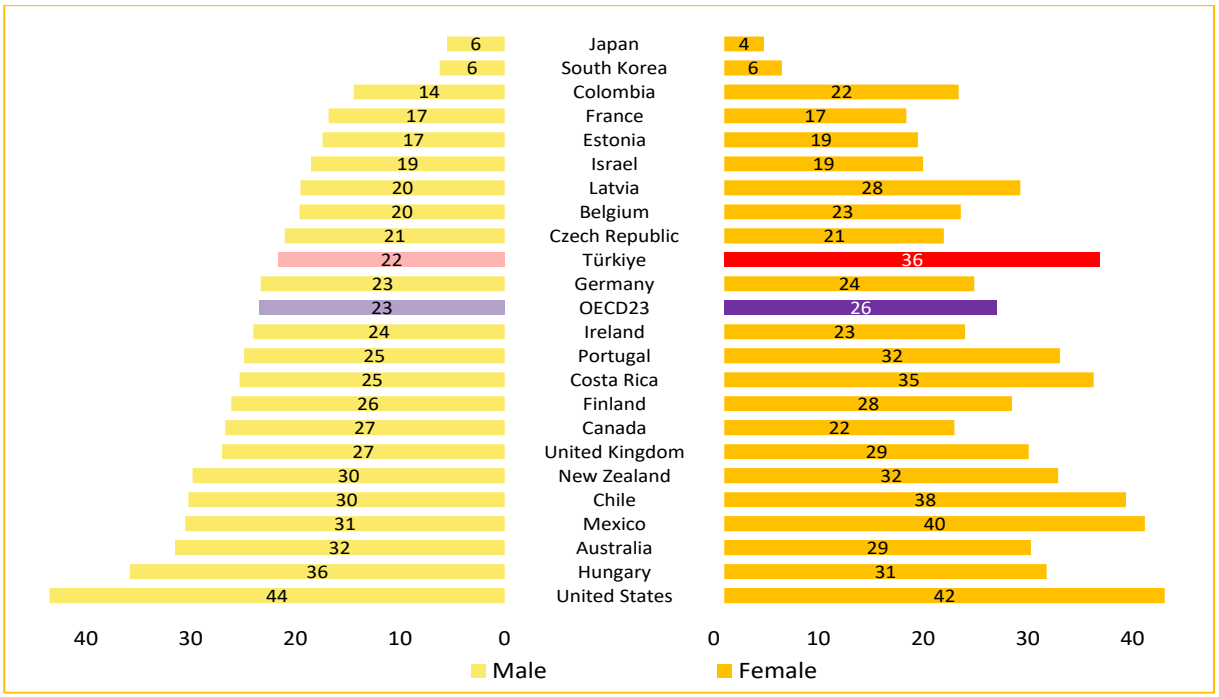
Figure 4.8. International Comparison of Obesity and Pre-Obesity Among 15 and Over Aged Individuals (Measured), (%), 2019



Source: Ministry of Health National Household Health Survey in Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017, OECD Health Data 2021

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

Figure 4.9. International Comparison of Obesity (BMI≥30) Among 15 and Over Aged Individuals by Sex (Measured), (%), 2019



Source: Ministry of Health National Household Health Survey in Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017, OECD Health Data 2021

Note: Türkiye's data belongs to the year 2017. Countries' data belong to the year 2019 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, Türkiye Nutrition and Health Survey 2017

Table 4.10. Distribution of Feeding Time with Only Breast Milk, Average of Feeding Time with Breast Milk and BMI Z-Scores Obesity Ratio for 2nd Grade Students in Primary School by NUTS-1, (%), 2016

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

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

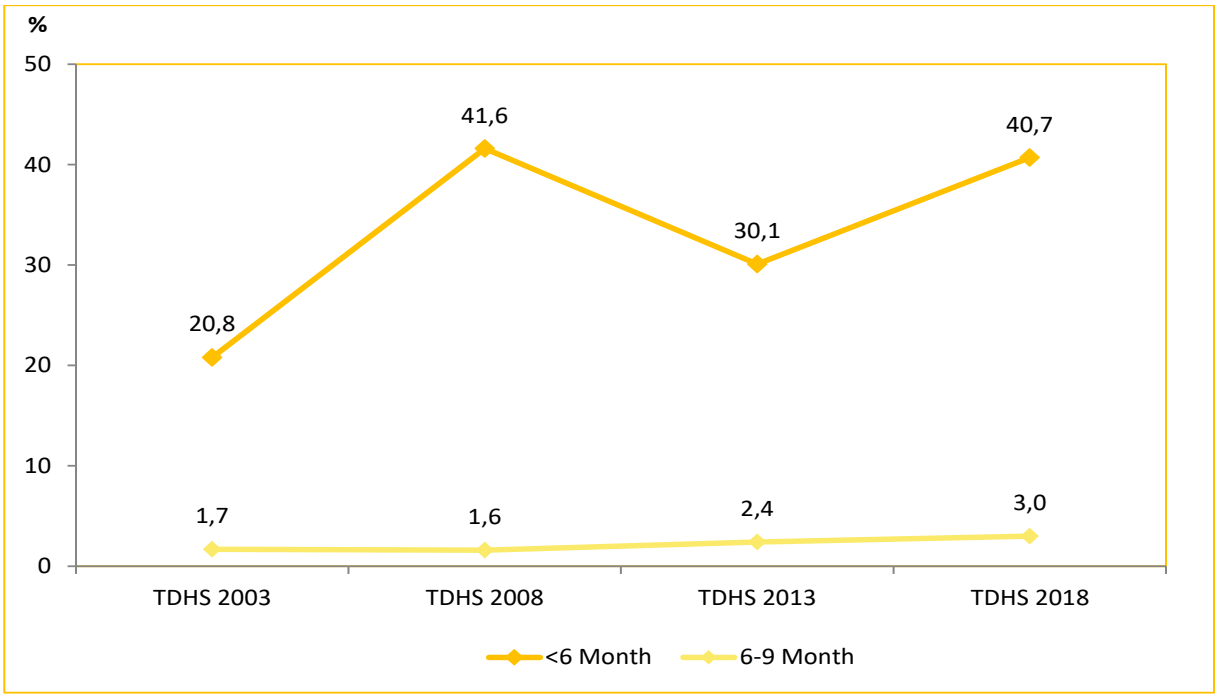
Table 4.11. Distribution of Breastfeeding Status of Children Under Two Years by Age (in Months), (%), 2018

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

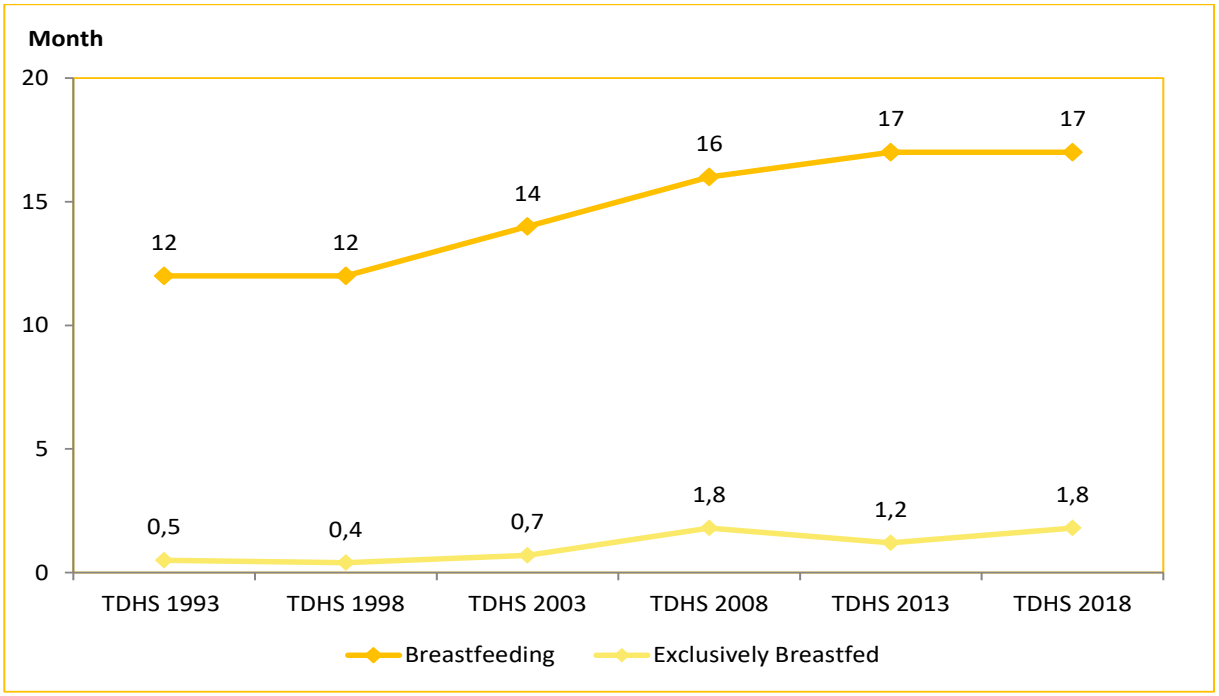
** Non-milk liquids include juice, juice drinks, clear broth or other liquids.*

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, Türkiye Nutrition and Health Survey 2017

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

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

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

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

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

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

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

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

Fruit Consumption	Age Group	2014			2016			2019		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Once a Day or More	15-24	40,4	43,3	41,8	47,9	48,5	48,2	37,9	42,7	40,3
	25-34	42,1	46,9	44,5	43,4	51,1	47,2	35,3	45,1	40,2
	35-44	44,7	47,6	46,2	46,3	50,7	48,5	42,4	45,8	44,1
	45-54	48,9	54,0	51,4	54,2	57,1	55,7	47,3	50,1	48,7
	55-64	55,6	56,9	56,3	59,4	60,0	59,7	52,2	56,5	54,4
	65-74	54,1	51,0	52,5	60,5	59,1	59,7	54,9	52,4	53,5
	75+	48,9	51,5	50,5	58,0	50,9	53,7	52,7	50,2	51,2
	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**

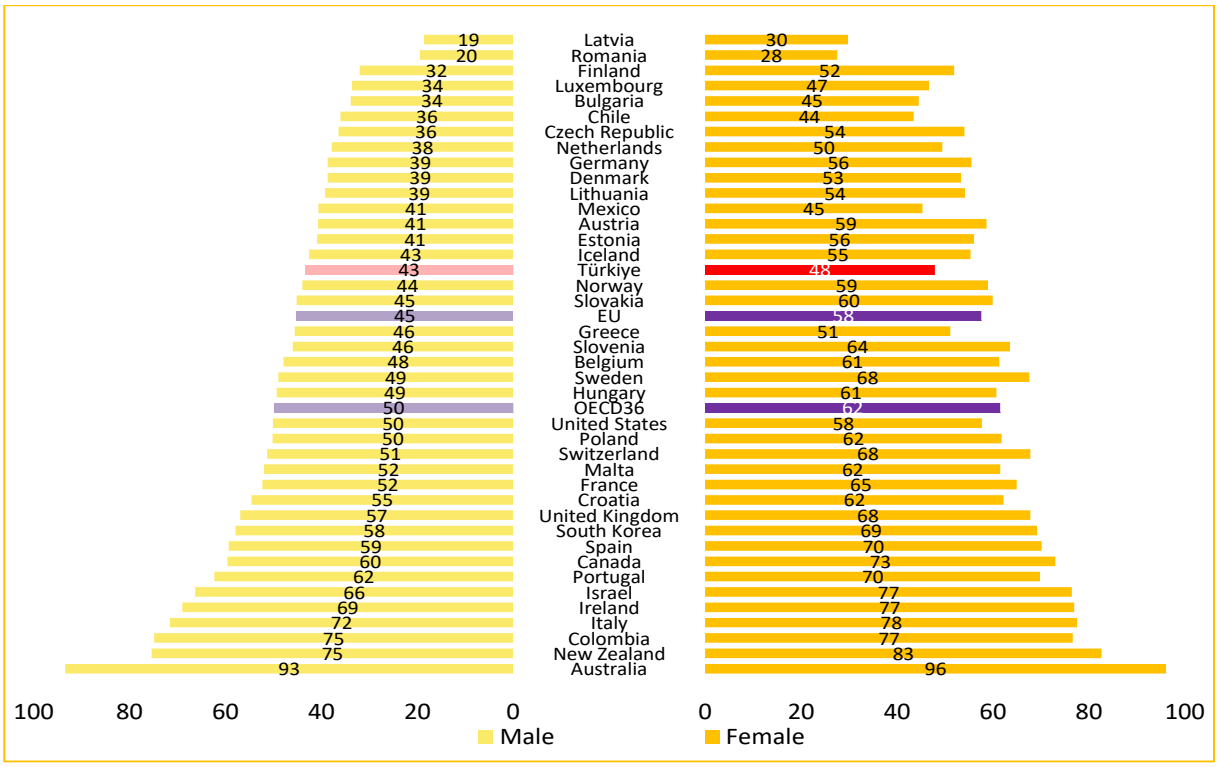
Source: TURKSTAT, Türkiye Health Interview Survey 2014, 2016, 2019

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

Vegetable or Salad Consumption	Age Group	2014			2016			2019		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Once a Day or More	15-24	52,0	59,2	55,6	53,9	58,3	56,1	44,7	53,7	49,1
	25-34	56,1	61,3	58,7	53,2	62,1	57,6	45,1	57,0	51,1
	35-44	58,3	63,8	61,0	59,9	63,7	61,8	53,8	59,2	56,5
	45-54	59,2	66,1	62,6	64,5	67,3	65,9	58,5	61,6	60,0
	55-64	66,4	68,7	67,5	65,4	66,2	65,8	58,1	64,7	61,4
	65-74	63,2	60,4	61,7	66,5	64,4	65,4	58,8	55,7	57,1
	75+	55,1	61,2	58,7	58,8	55,1	56,6	55,9	57,4	56,8
	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, Türkiye Health Interview Survey 2014, 2016, 2019

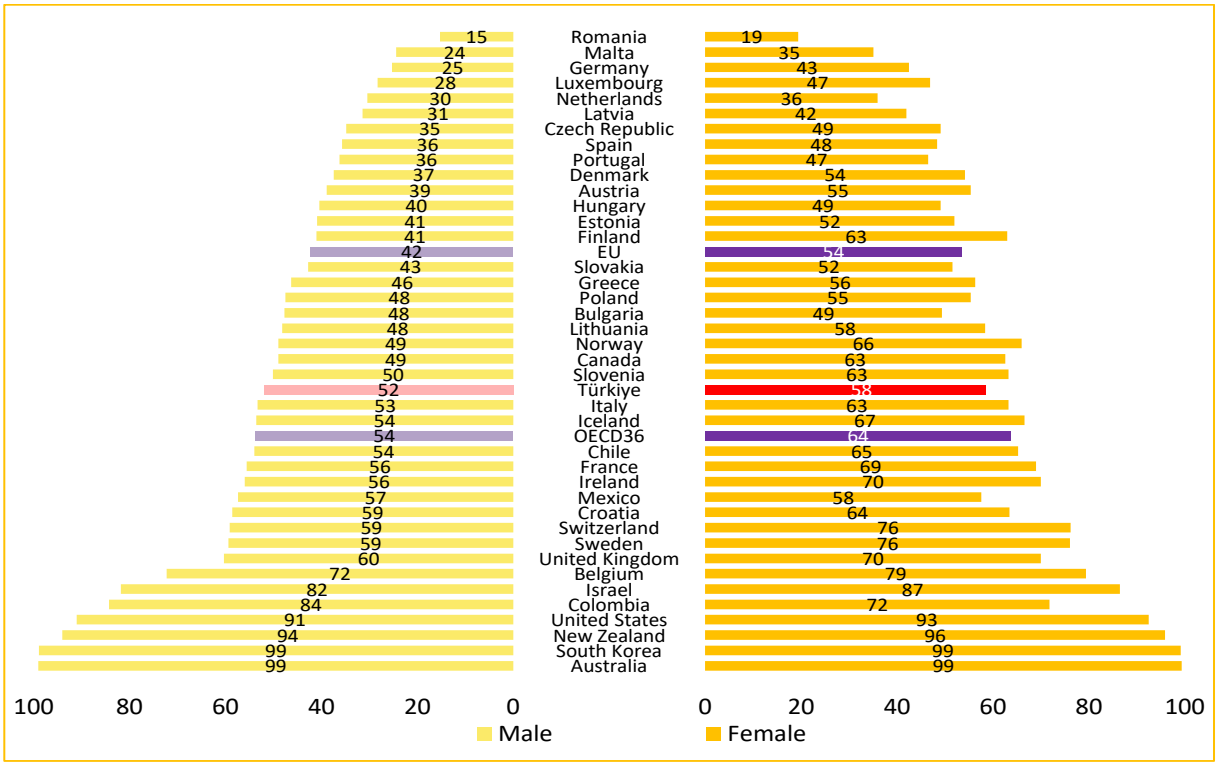
Figure 4.12. International Comparison of Distribution of 15 and Over Aged Individuals' Fruit Consumption Once a Day or More by Sex, (%), 2019



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2021, EUROSTAT Database

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



Source: TURKSTAT Türkiye Health Interview Survey 2019, OECD Health Data 2021, EUROSTAT Database

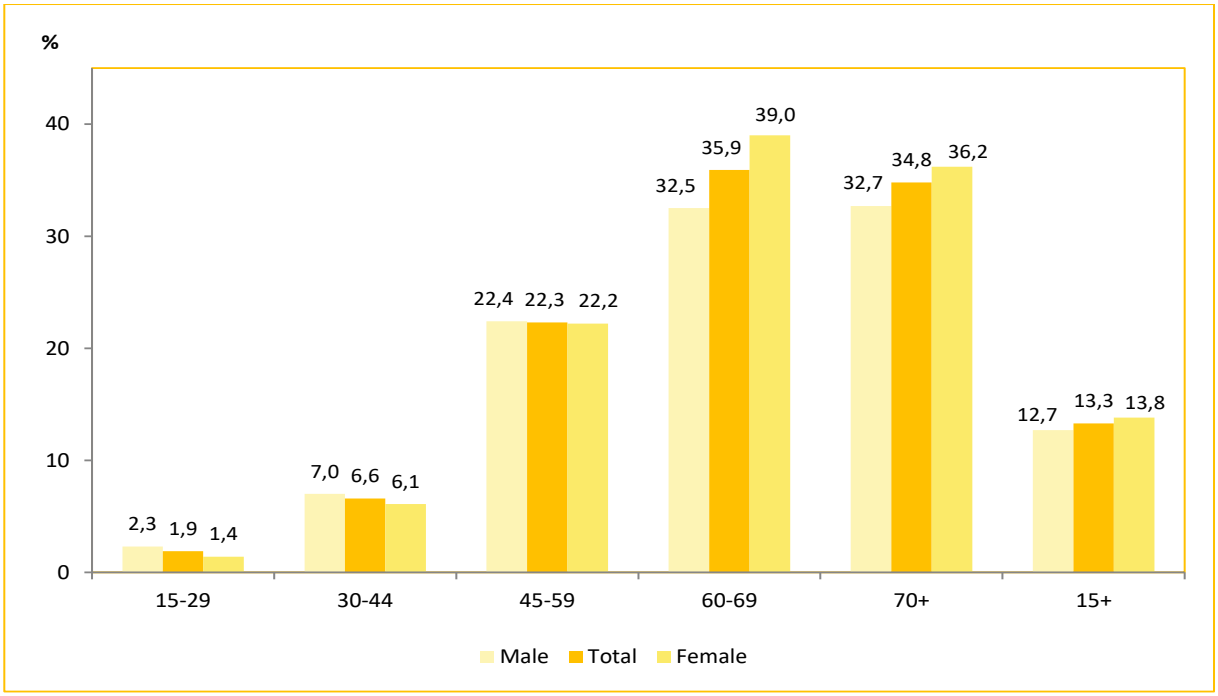
Note: Türkiye's data belongs to the year 2019. Countries' data belong to the year 2019 or nearest.

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

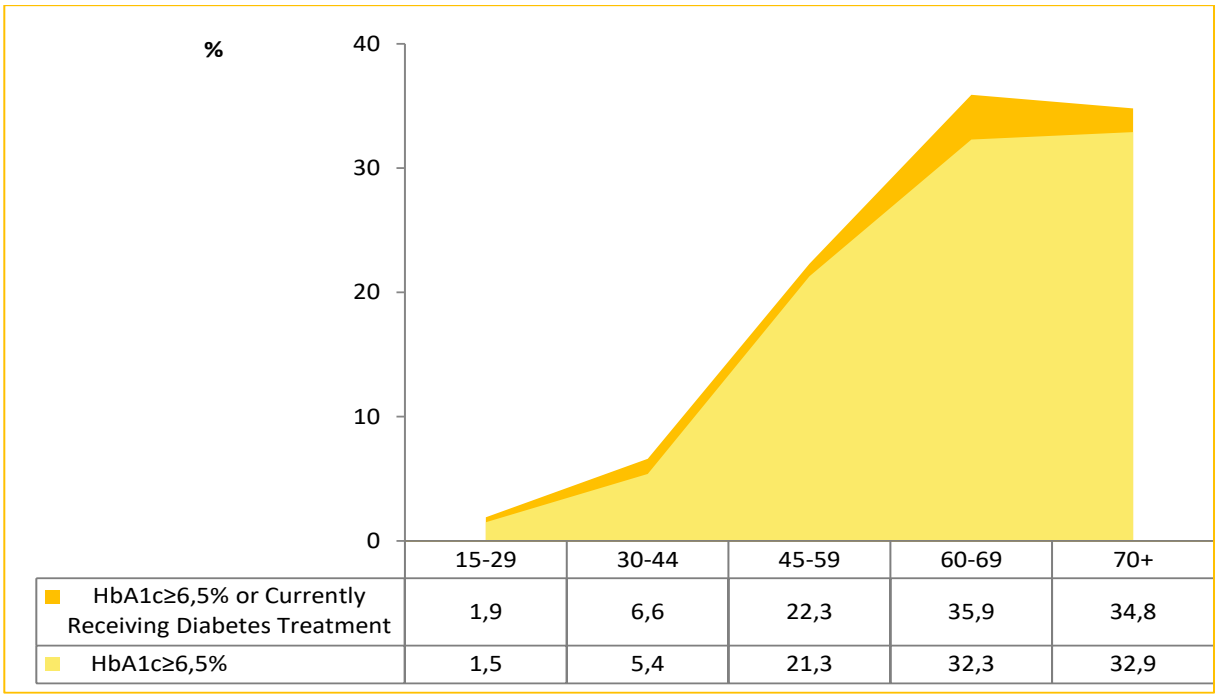
Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

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 Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017

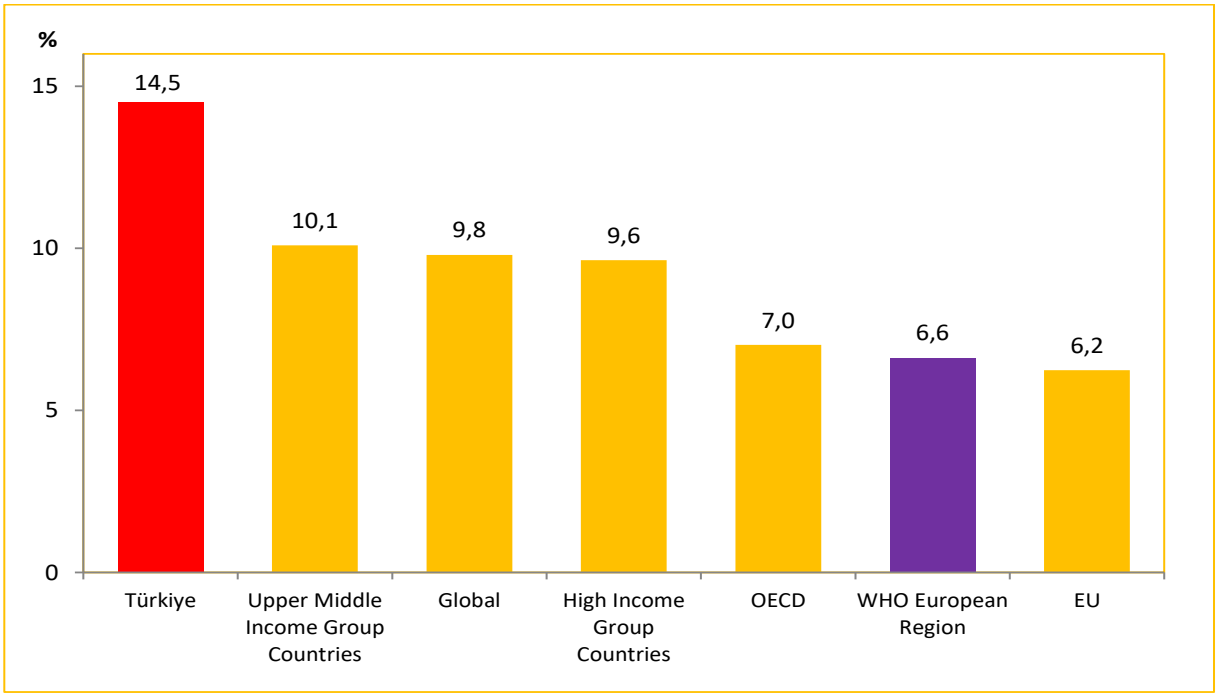
Figure 4.15. Comparison of Distribution of Individuals with HbA1c≥6,5% or Currently Receiving Diabetes Treatment and Individuals with HbA1c≥6,5% by Age Groups, (%), 2017



	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 Türkiye: Prevalence of Noncommunicable Disease Risk Factors 2017

Figure 4.16. International Comparison of Age Standardized Diabetes Prevalence for 20-79 Age Group, (%), (World Standard Population), 2021



Source: IDF Diabetes Atlas 10th Edition, 2021

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

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

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

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

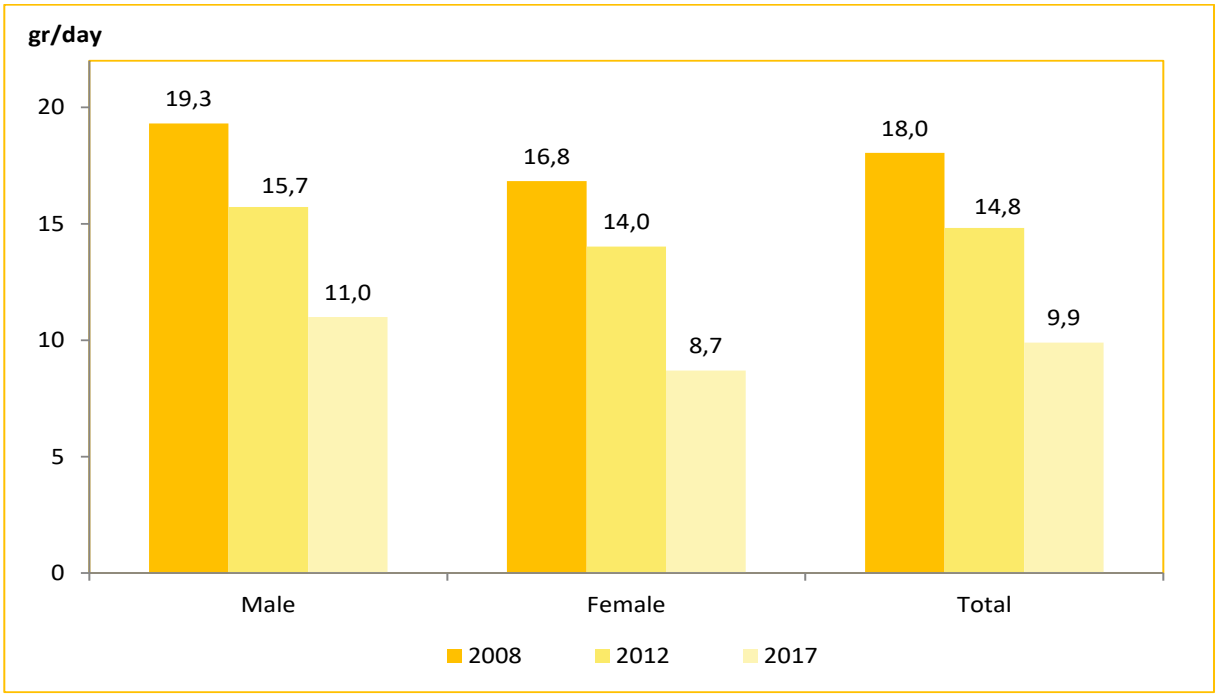
Note: Individuals using drugs were also included in the calculation of total cholesterol. Low HDL threshold was considered as <40 mg/dl for men and <50 mg/dl for women.

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

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

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

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



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

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

		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, Türkiye Nutrition and Health Survey 2017
Note: PAL classification is based on FAO / WHO / UNU standards.

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

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

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

Table 4.23. 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, Türkiye Health Interview Survey 2014, 2016, 2019

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

	Age Group	2014			2016			2019		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Not Able to Walk	15-44	1,3	2,1	1,7	1,4	1,1	1,3	0,5	1,1	0,8
	45-54	3,4	10,4	6,8	2,7	7,6	5,1	2,9	6,0	4,4
	55-64	5,2	20,5	12,9	4,3	17,1	10,8	4,3	12,0	8,2
	65-74	15,3	31,9	24,3	15,4	30,2	23,4	9,3	23,9	17,1
	75+	38,3	59,7	51,2	36,0	55,8	48,0	32,0	53,1	44,7
	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, Türkiye Health Interview Survey 2014, 2016, 2019

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

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

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

Source: TURKSTAT, Türkiye Health Interview Survey 2016, 2019

Explanations for Chapter 4

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

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

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

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 10. Diabetes Atlas:** To make international comparisons, the prevalence of age and sex specific diabetes of countries was estimated by using statistical models. 219 data sources were used for 144 countries and population data were obtained through UNPD. In these data sources; diabetes was diagnosed with oral glucose tolerance test, self-reported studies, medical records, clinical diagnoses, HbA1c and fasting blood glucose results. Most sources are based on refereed journals and research conducted by WHO's STEPwise approach.

TURKSTAT, Türkiye Health Interview Survey 2019

Research is based on self-reported.

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

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

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

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

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

Hacettepe University, Türkiye Demographic and Health Survey 2018

☑ **Coverage:** All country.

☑ **Estimation Level:** The total sample size is 15.775 households.

☑ **Sampling Distribution:** 13.962 out of 15.775 households were found eligible to be interviewed. 79% (11.056) of this group were successfully interviewed. In the 11.056 households interviewed, 9.056 women between the ages of 15-49 were eligible for individual interviews. Interviews were successfully conducted with 7.346 (81%) of these women. In 13.962 of these households the questionnaire was completed.

☑ **Period of Field Study:** The research was conducted between October 2018 and February 2019.

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

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

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

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

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

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

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

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

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

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

High Physical Activity:

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

Moderate Physical Activity:

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

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

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

☑ The research was conducted in the cooperation with World Health Organization European Region. The aim of this study is to monitor the growth and development of school-age children, food consumption habits, physical activity status, and nutrition and physical activity practices in schools among the WHO European Region, and to develop national and international health policies accordingly.

☑ In Türkiye, according to expression of primary school 2nd grade students (6-9 age group) and their families to collect information about the practices of schools regarding nutrition and physical activity, dietary behaviors and physical activity level were identified, the height and weight of the children were measured, and the indicators of growth (weakness, normal weight, overweight and obesity, stunting) were determined.

☑ Our country was included in the 3rd stage of Obesity Research implemented in 21 countries in 2012-2013. The research was conducted in 585 schools, a 2nd grade with 11.732 students (5.901 boy, 5.831 girl). The research was conducted in the cooperation of Ministry of Health, Ministry of National Education, Hacettepe University in the sample size calculated by TURKSTAT.

☑ The research was a cross-sectional epidemiological study, conducted in the cooperation of Ministry of Health, Ministry of National Education, Hacettepe University, WHO European Region.

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

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

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

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

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

Ministry of Health, Türkiye Nutrition and Health Survey 2017

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

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

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

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

CHAPTER 5

Prevention of Diseases and Protection of Health

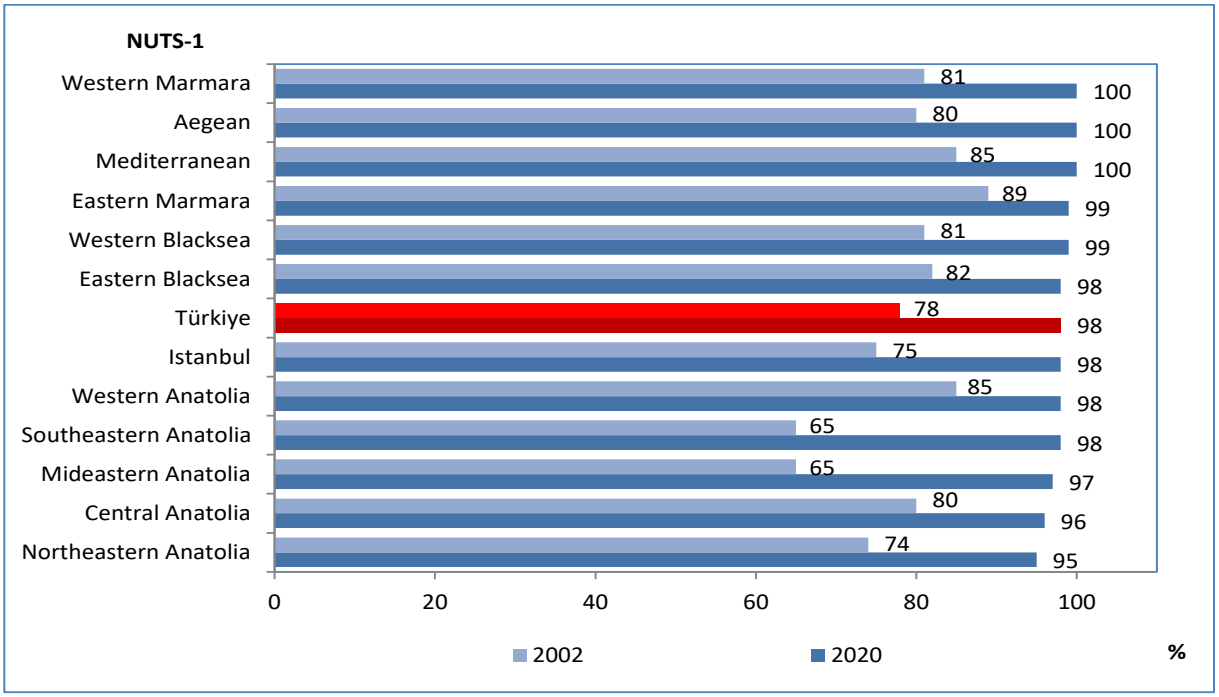
Table 5.1. Vaccination Rate by Years, (%)

	2002	2016	2017	2018	2019	2020
DaPT 3	78	98	96	98	99	98
BCG	77	96	93	96	96	96
HBV 3	72	98	96	98	99	98
MMR	82	98	96	96	97	95
CPV Booster*	-	98	96	98	-	95

Source: General Directorate of Public Health

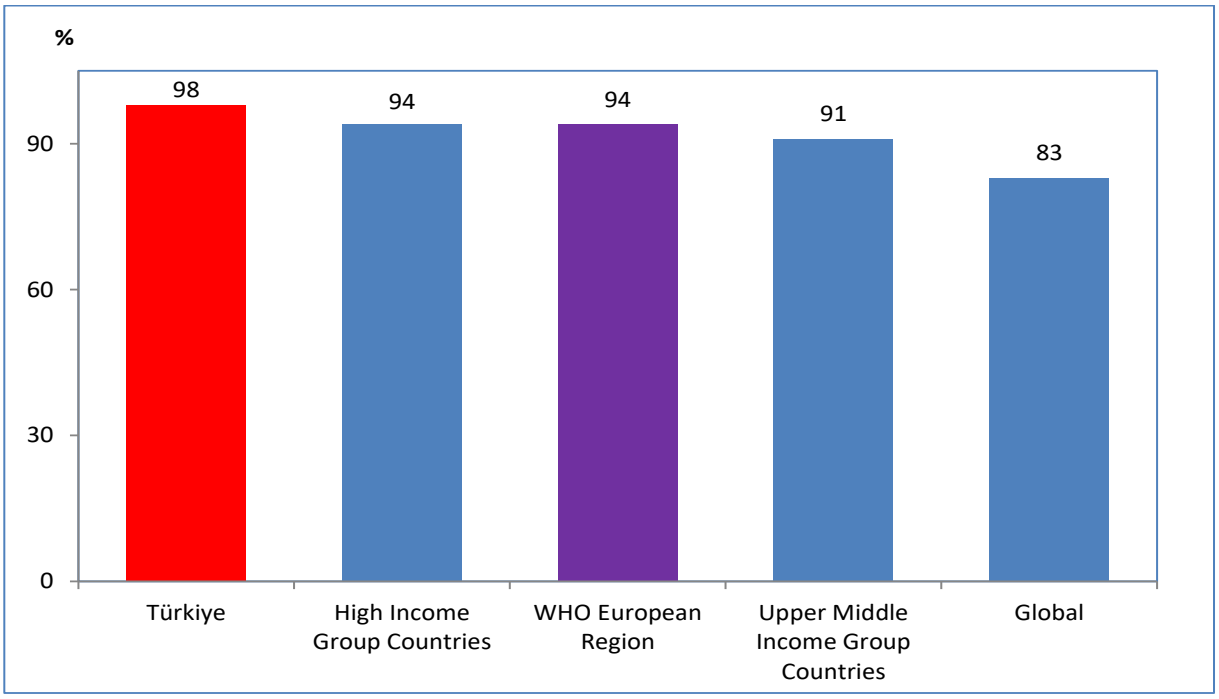
Note: As of 1 July 2019, 3rd dose of CPV was withdrawn and CPV booster vaccination started to be used. Data for the year 2018 and before belong to CPV 3 vaccination.

Figure 5.1. Third Dose Vaccination Rate of 5-Component Combined Vaccine (DaPT+IPV+Hib) by NUTS-1, (%), 2002, 2020



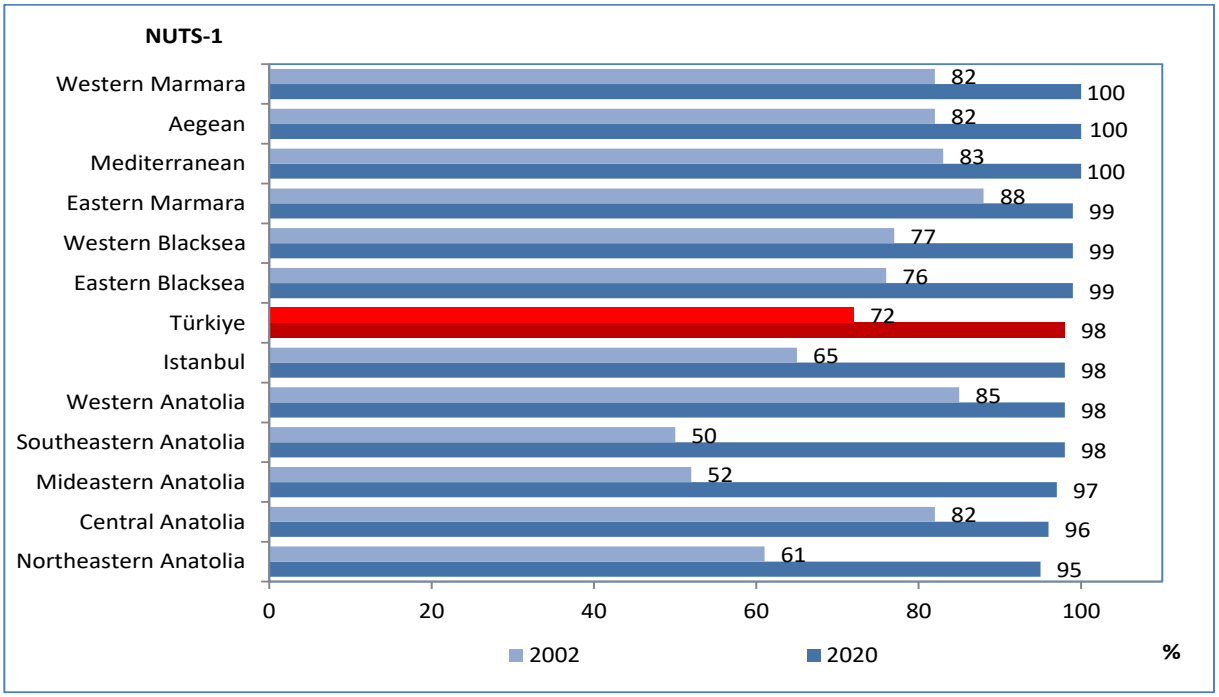
Source: General Directorate of Public Health

Figure 5.2. International Comparison of Third Dose Vaccination Rate of DaPT+IPV+Hib, (%), 2020



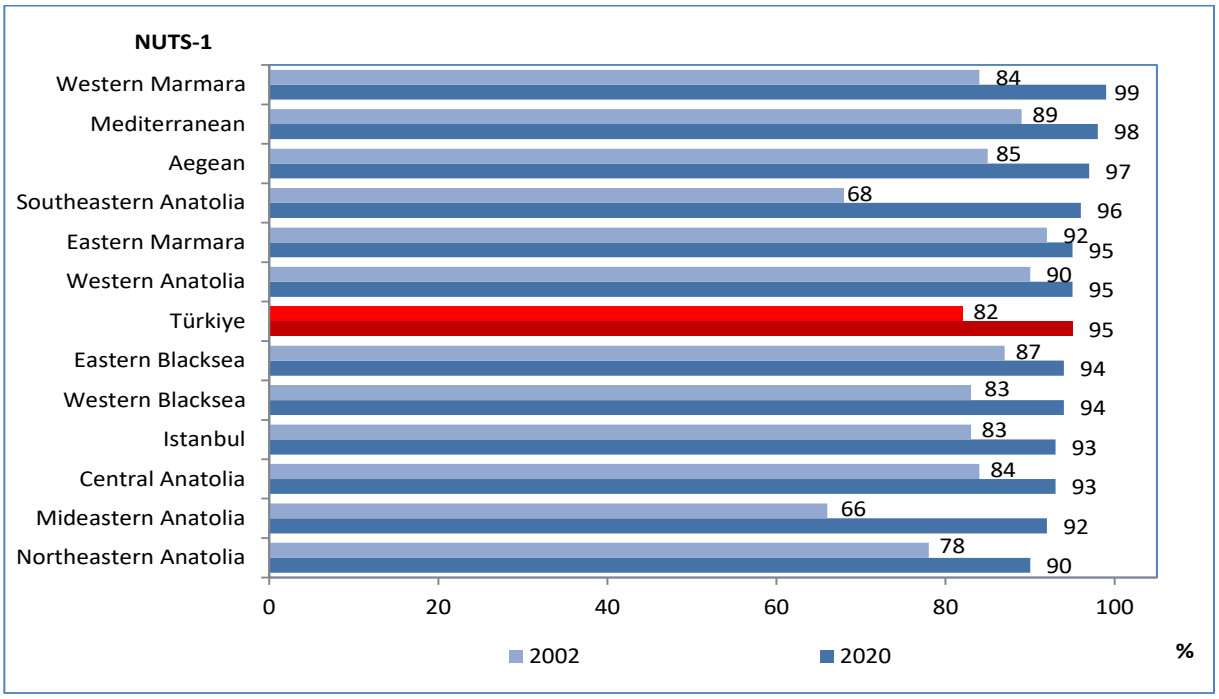
Source: General Directorate of Public Health, WHO Global Health Observatory Database

Figure 5.3. HBV 3 Vaccination Rate by NUTS-1, (%), 2002, 2020



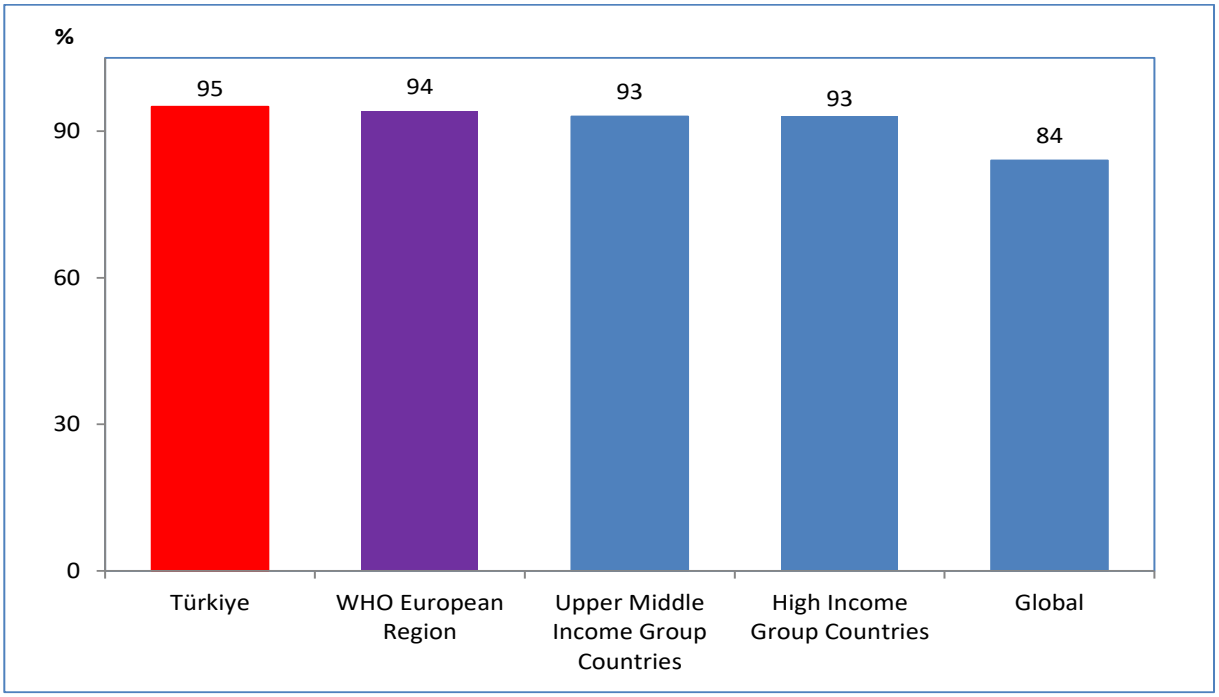
Source: General Directorate of Public Health

Figure 5.4. MMR Vaccination Rate by NUTS-1, (%), 2002, 2020



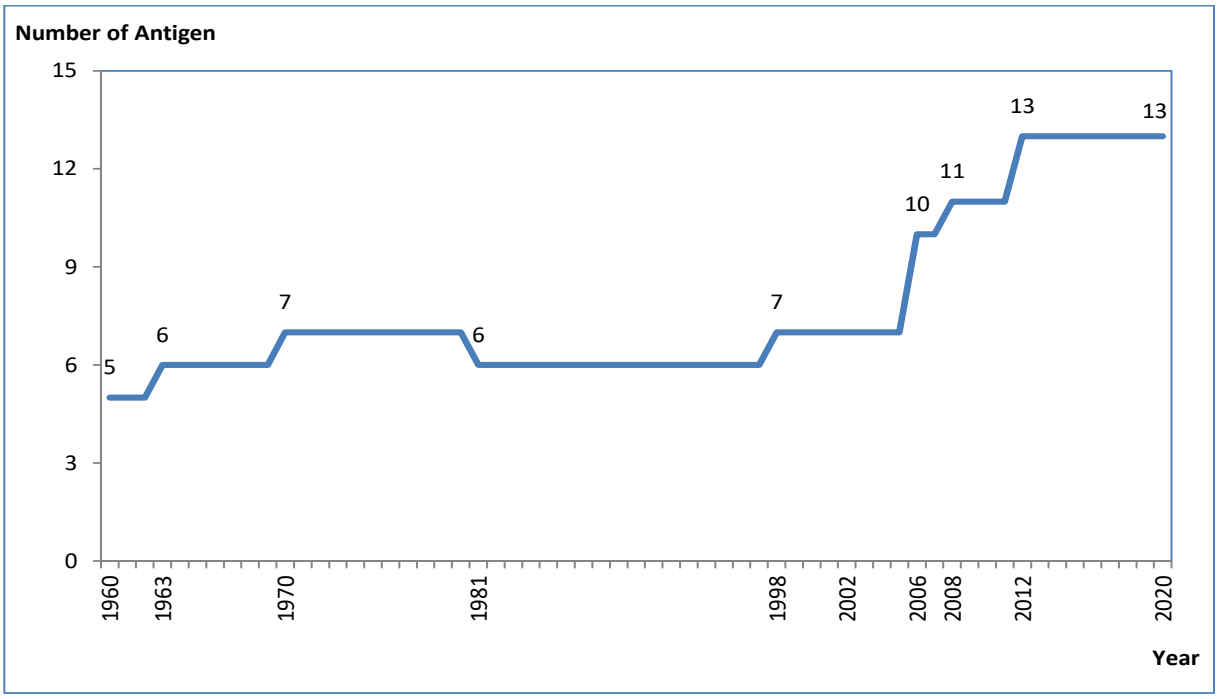
Source: General Directorate of Public Health

Figure 5.5. International Comparison of MMR Vaccination Rate, (%), 2020



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



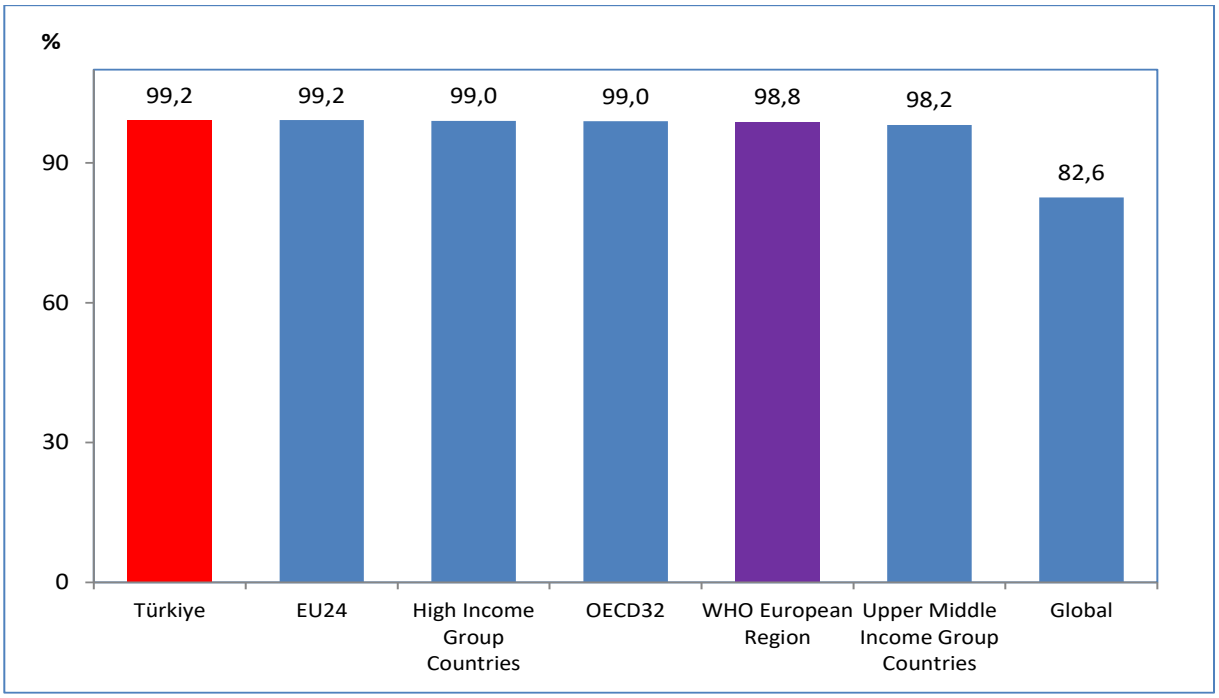
Source: General Directorate of Public Health

Table 5.2. Indicators of Birth by NUTS-1, (%), 2019, 2020

NUTS-1	Births at Hospital, (%)		Cesarean Sections Among Live Births, (%)		Primer Cesarean Sections Among Live Births, (%)	
	2019	2020	2019	2020	2019	2020
Istanbul	98	98	58,9	60,7	30,8	32,8
Western Marmara	95	96	59,2	62,8	31,8	34,8
Aegean	98	99	62,2	65,3	32,4	35,2
Eastern Marmara	97	97	58,0	60,7	29,6	31,9
Western Anatolia	99	99	53,2	55,9	27,3	29,7
Mediterranean	99	100	64,0	67,0	29,1	31,5
Central Anatolia	96	97	51,0	54,4	23,8	27,1
Western Blacksea	97	99	61,1	65,7	30,3	35,2
Eastern Blacksea	95	97	60,4	63,8	29,6	32,7
Northeastern Anatolia	92	94	37,5	40,1	17,4	20,0
Mideastern Anatolia	95	96	40,2	43,5	18,7	21,7
Southeastern Anatolia	96	96	43,5	46,4	18,0	19,2
Türkiye	97	98	54,4	57,3	26,5	28,8

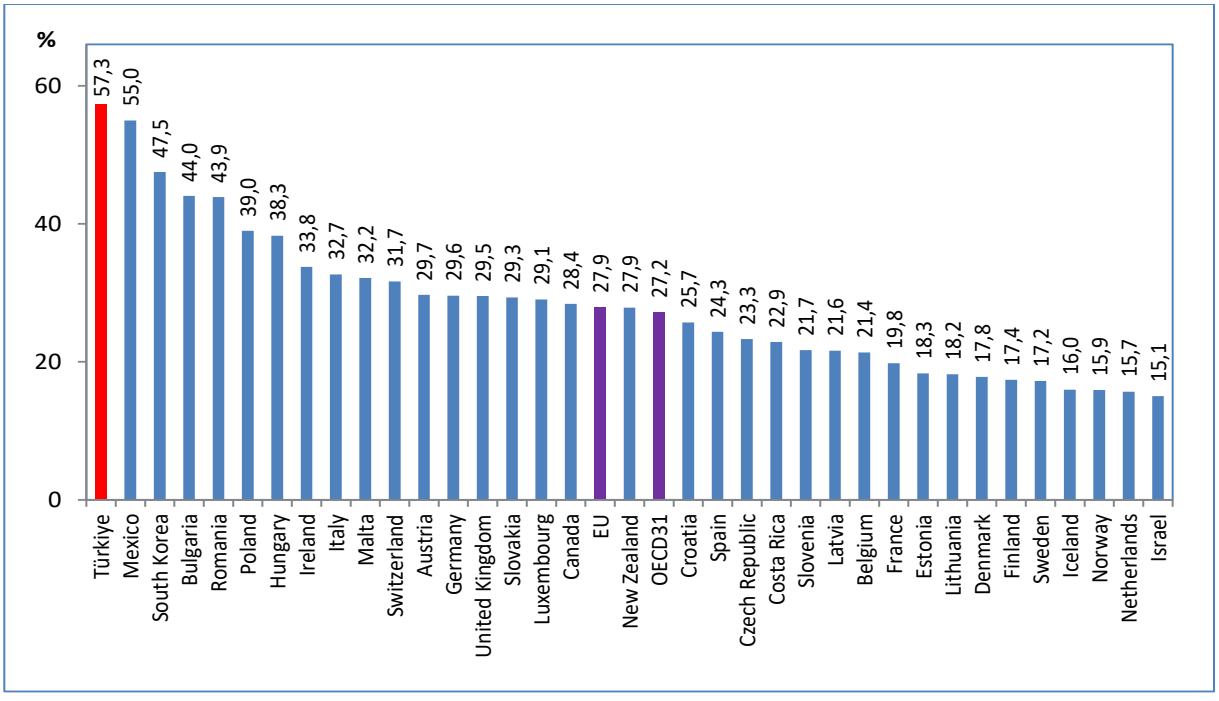
Source: General Directorate of Public Health

Figure 5.7. International Comparison of Proportion of Births Attended by Skilled Health Personnel, (%), 2020



Source: TDHS 2018, UNICEF/WHO Joint Database
Note: Türkiye's data belongs to TDHS 2018. Countries' data belong to the year 2020 or nearest.

Figure 5.8. International Comparison of Cesarean Sections Among Live Births, (%), 2019



Source: General Directorate of Public Health, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belongs to the year 2020. Countries' data belong to the year 2019 or nearest.

Table 5.3. Proportions of Cesarean and Primary Cesarean Section Among All Births Given at Hospital by Sectors, (%), 2019, 2020

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

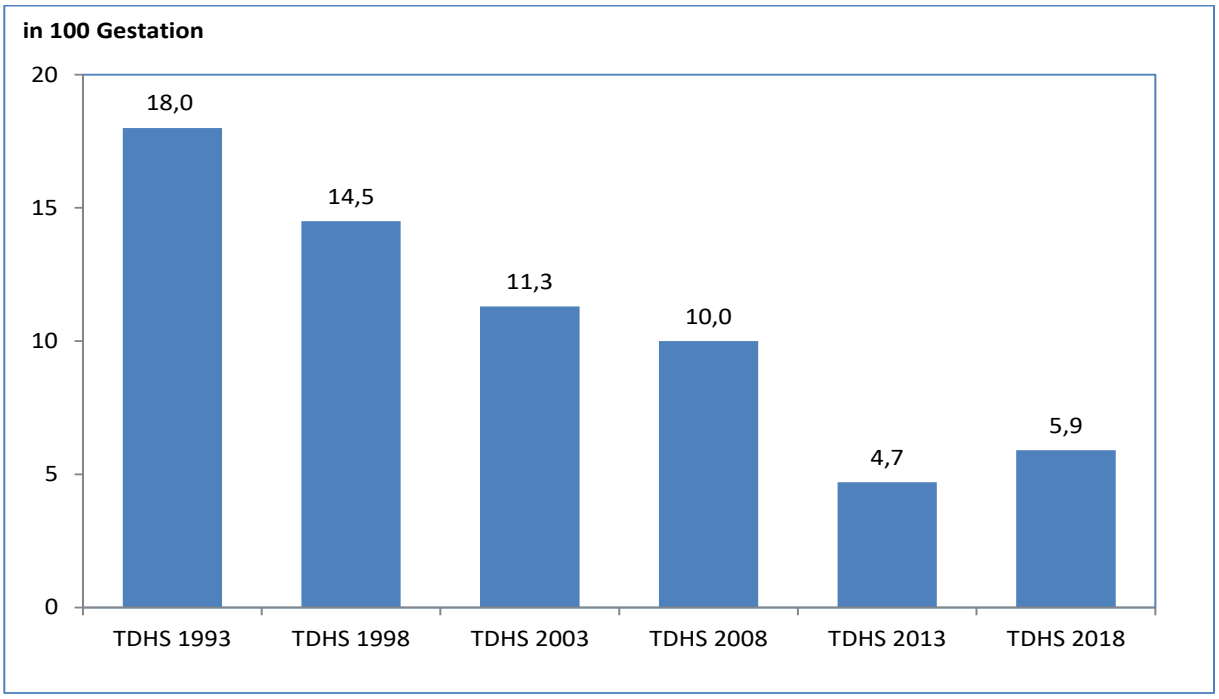
Source: General Directorate of Public Health

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

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

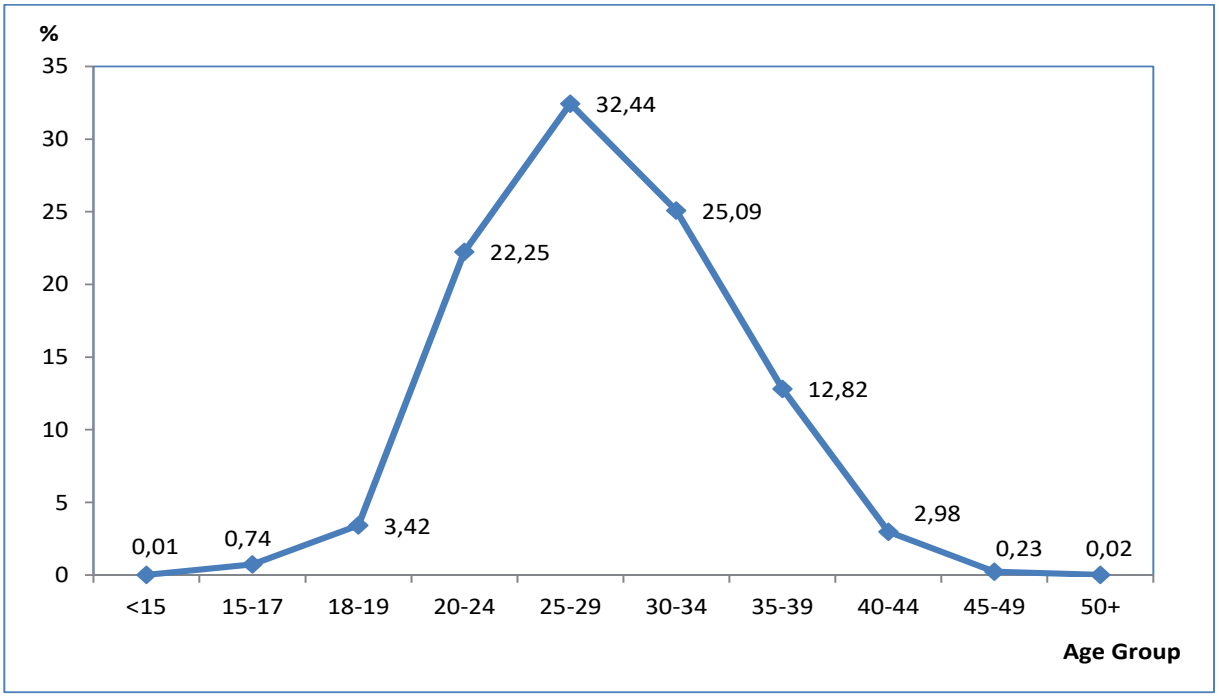
Source: General Directorate of Public Health

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



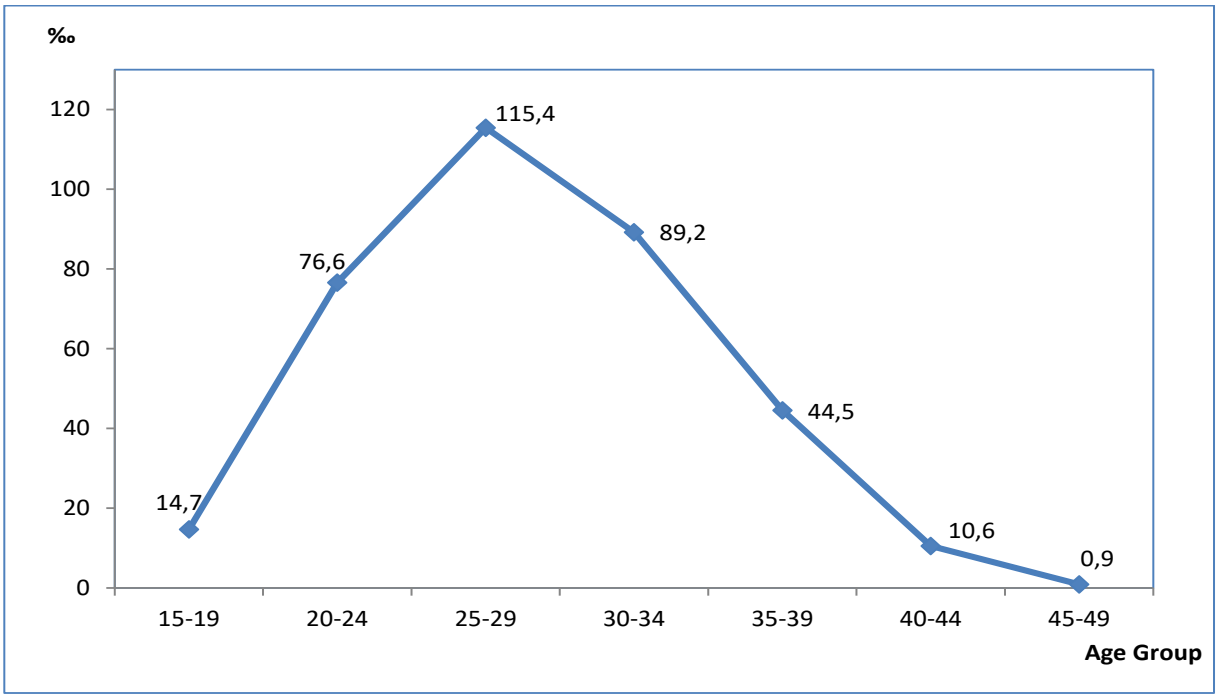
Source: TDHS, 1993, 1998, 2003, 2008, 2013, 2018

Figure 5.10. Proportion of Births by Age Group of Mother Among All Births, (%), 2020



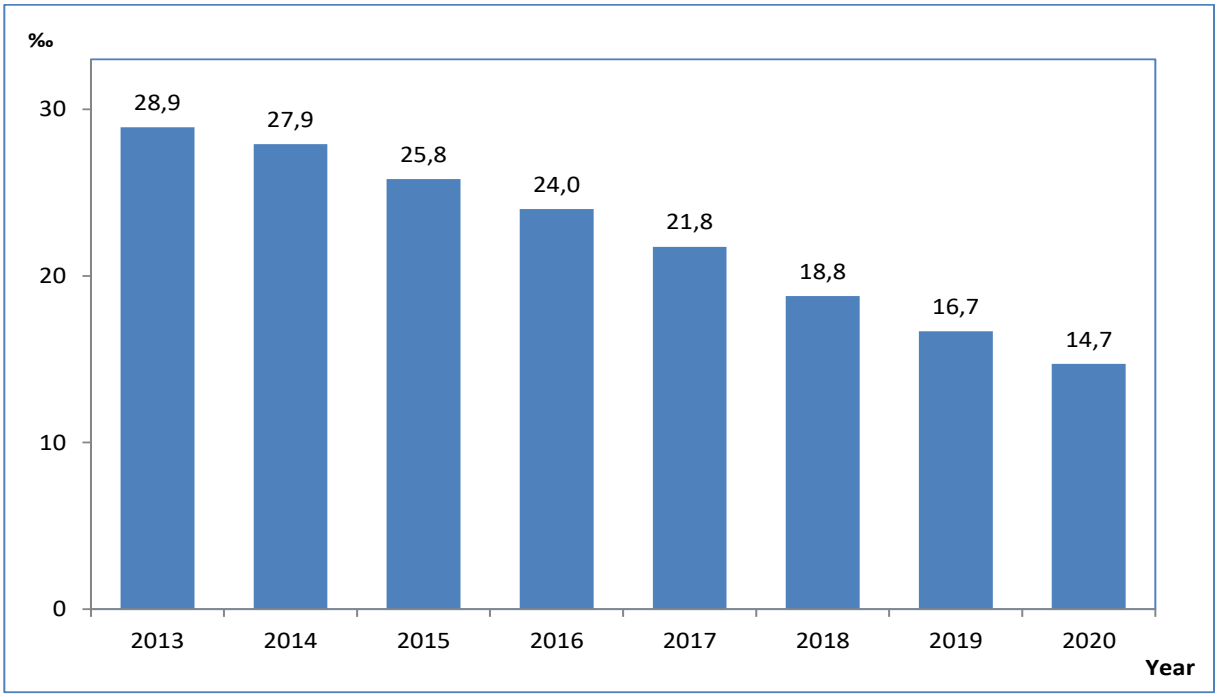
Source: TURKSTAT, Birth Statistics 2020

Figure 5.11. Age-Specific Fertility Rate, (‰), 2020



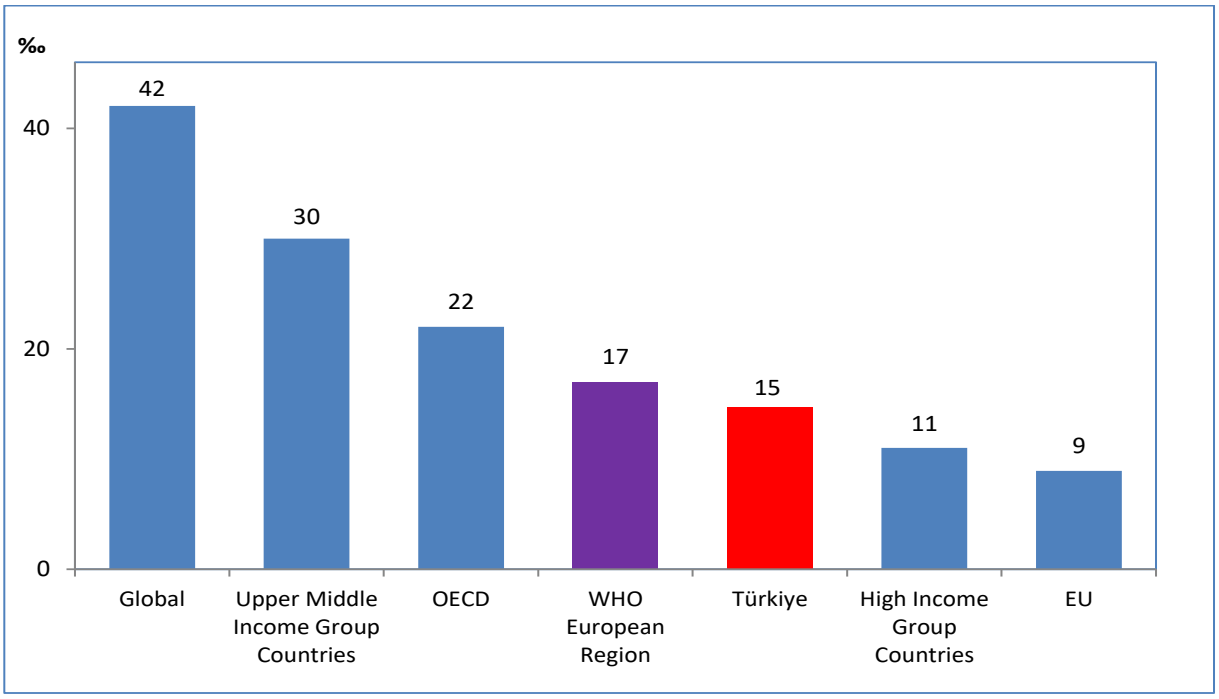
Source: TURKSTAT, Birth Statistics 2020

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



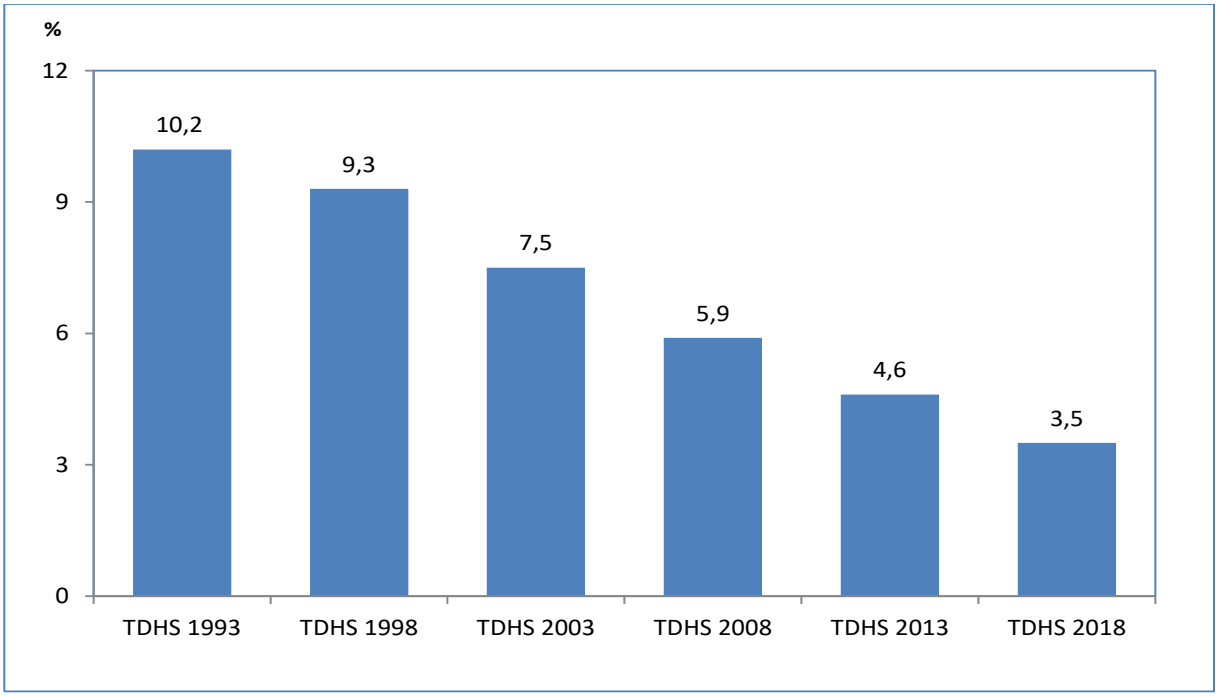
Source: TURKSTAT, Birth Statistics 2020

Figure 5.13. International Comparison of Adolescent Fertility Rate, (‰), 2019



Source: TURKSTAT Birth Statistics 2020, UNPD
Note: Türkiye's data belongs to the year 2020.

Figure 5.14. Proportion of Adolescent Mothers Among All Mothers by Years, (%)



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

Table 5.5. Full Follow-Up Ratio of Pregnant, Infant and Child by NUTS-1, (%), 2019, 2020

NUTS-1	Pregnant		Infant		Child	
	2019	2020	2019	2020	2019	2020
Istanbul	98,1	96,1	90,2	91,2	93,6	90,9
Western Marmara	99,2	98,7	97,0	94,5	97,4	94,9
Aegean	99,4	98,7	95,0	93,1	96,5	94,1
Eastern Marmara	98,7	97,6	94,4	93,4	95,8	93,1
Western Anatolia	97,8	95,5	95,0	94,2	96,5	93,8
Mediterranean	97,8	94,7	93,5	92,0	93,5	90,1
Central Anatolia	98,8	96,3	95,4	93,7	95,2	92,3
Western Blacksea	98,9	98,7	96,4	96,5	97,2	94,8
Eastern Blacksea	99,7	99,2	96,4	96,5	97,0	94,6
Northeastern Anatolia	98,8	97,6	92,0	92,4	93,4	92,2
Mideastern Anatolia	98,3	96,0	88,9	89,7	92,1	89,8
Southeastern Anatolia	97,3	94,2	84,5	85,1	87,2	85,1
Türkiye	98,3	96,2	91,7	90,5	93,6	91,0

Source: General Directorate of Public Health

Explanations for Chapter 5

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

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

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

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

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

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

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

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

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

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

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

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

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

Pregnancy follow-up periods and intervals;

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

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

Infant follow-up periods and intervals;

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

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

☑ **Full Follow-Up of Child:** A child should be followed 7 times between the age of 1 and 6 years. The child who has been followed At least 7 times in the determined period and time intervals is considered to be ***fully followed.***

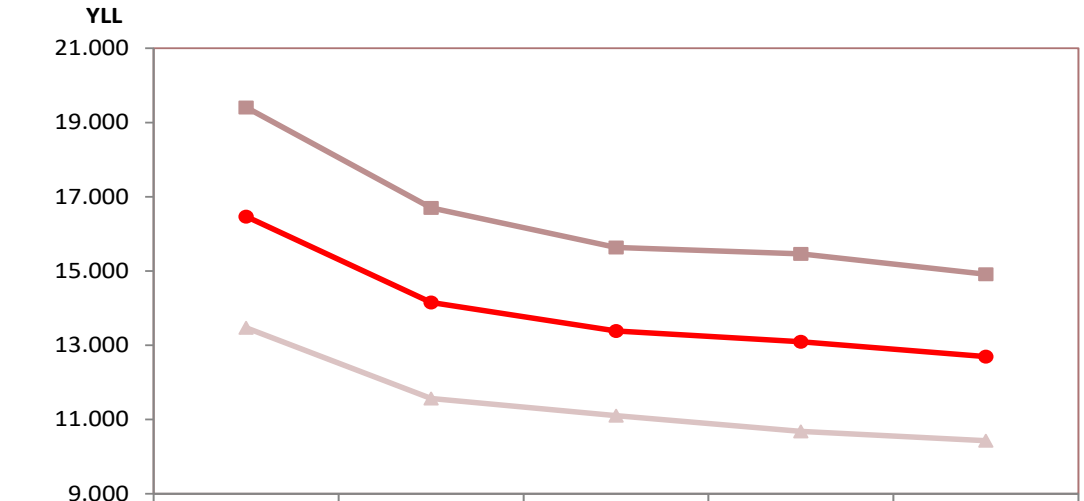
Child follow-up period and time intervals;

1. Follow-up: 12 months follow-up (Between 365th-394th days)
2. Follow-up: 18-month follow-up (Between 481th-570th days)
3. Follow-up: 24-month follow-up (Between 661th-760th days)
4. Follow-up: 30-month follow-up (Between 841th-930th days)
5. Follow-up: 36 months follow-up (Between 1021th-1110th days)
6. Follow-up: 48 months follow-up (Between 1321th-1530th days)
7. Follow-up: 60-month follow-up (Between 1681th-1890th days)

CHAPTER 6

Global Burden of Disease 2019 Türkiye 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

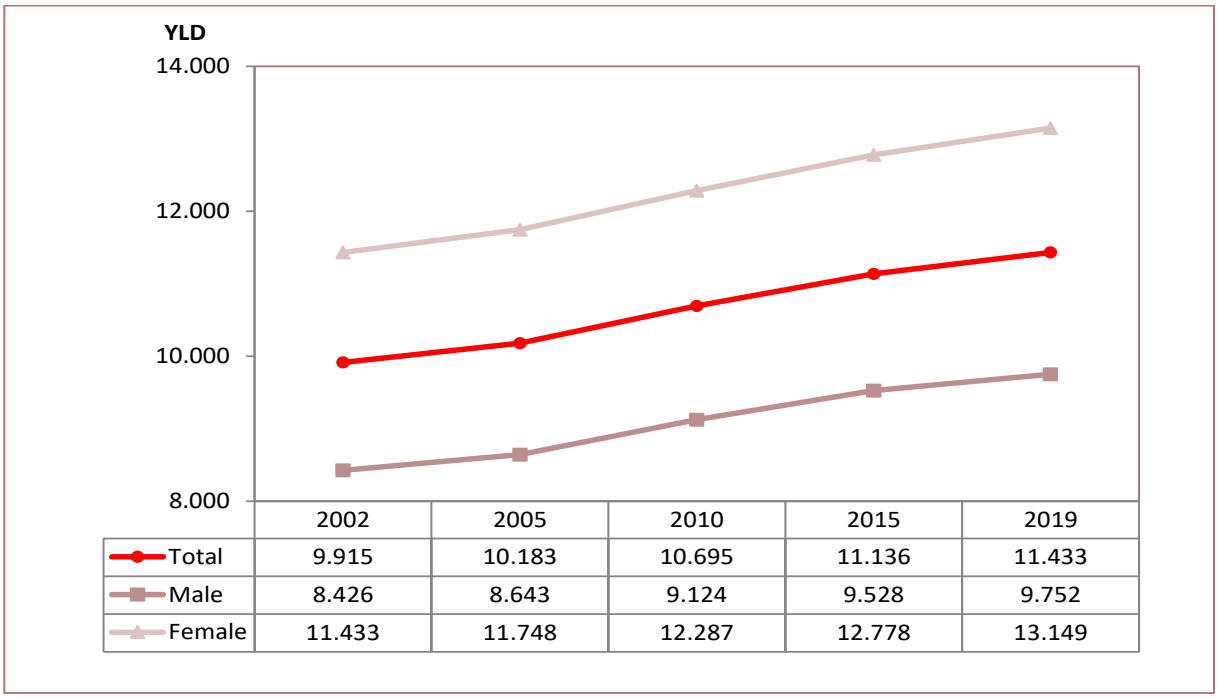
Source: IHME, Global Burden of Disease Study 2019

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

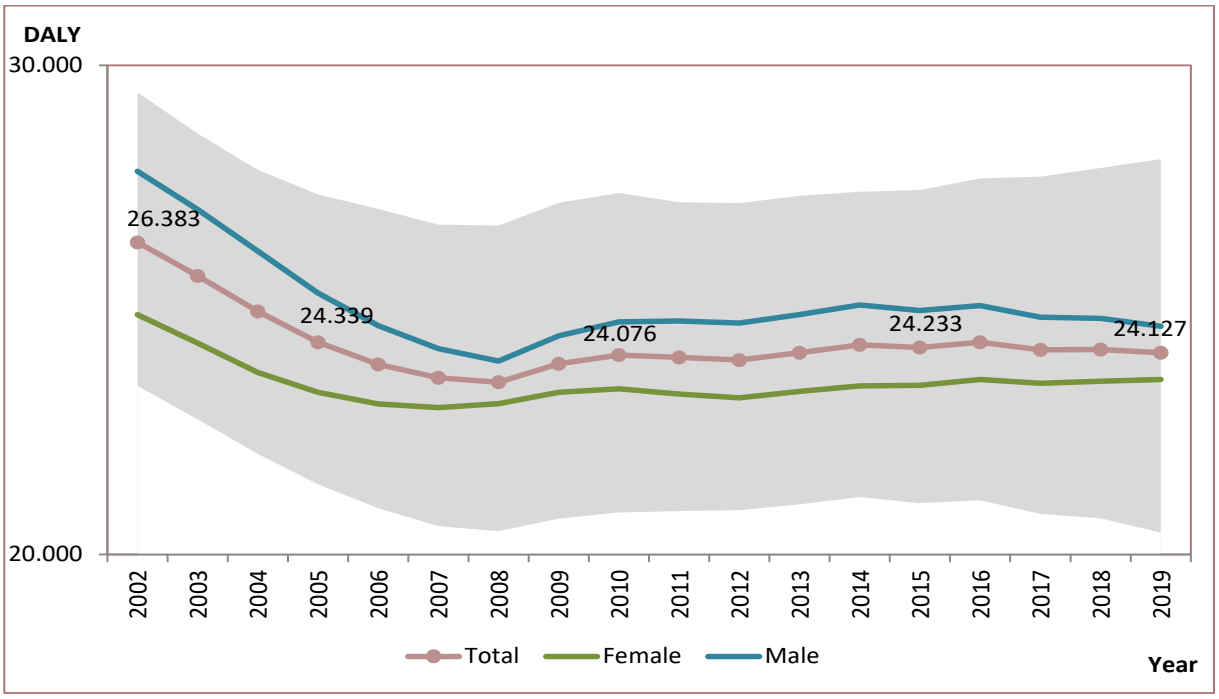
Source: IHME, Global Burden of Disease Study 2019

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

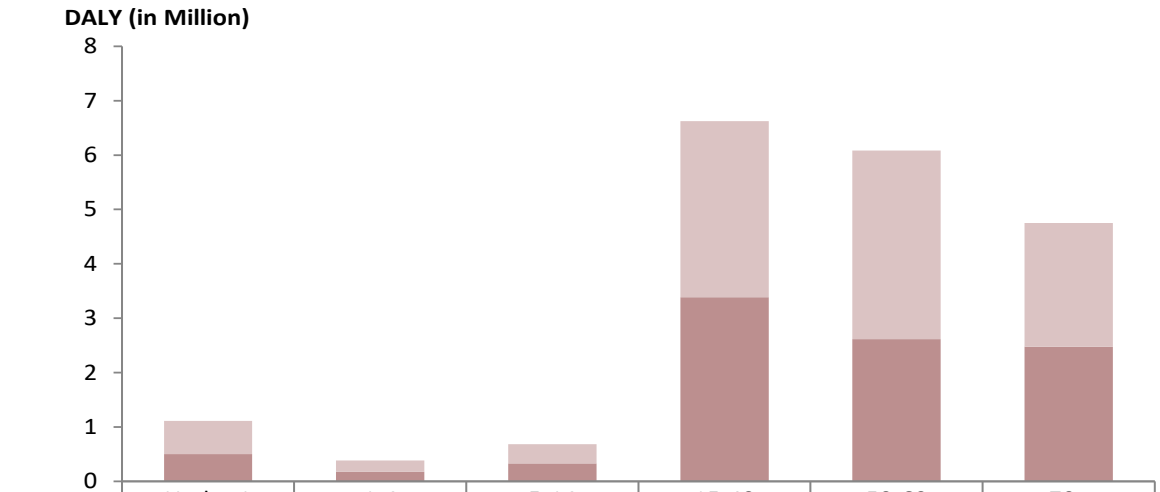
Source: IHME, Global Burden of Disease Study 2019

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

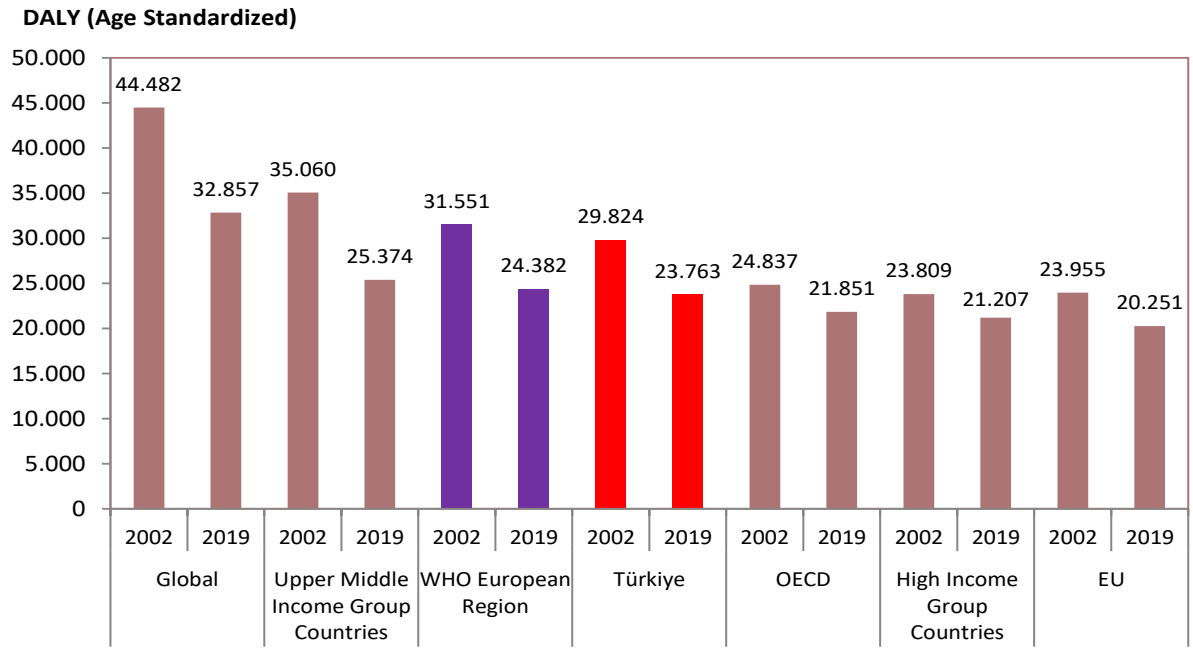
Figure 6.4. DALY by Sex and Age Groups, (in Million), 2019



	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

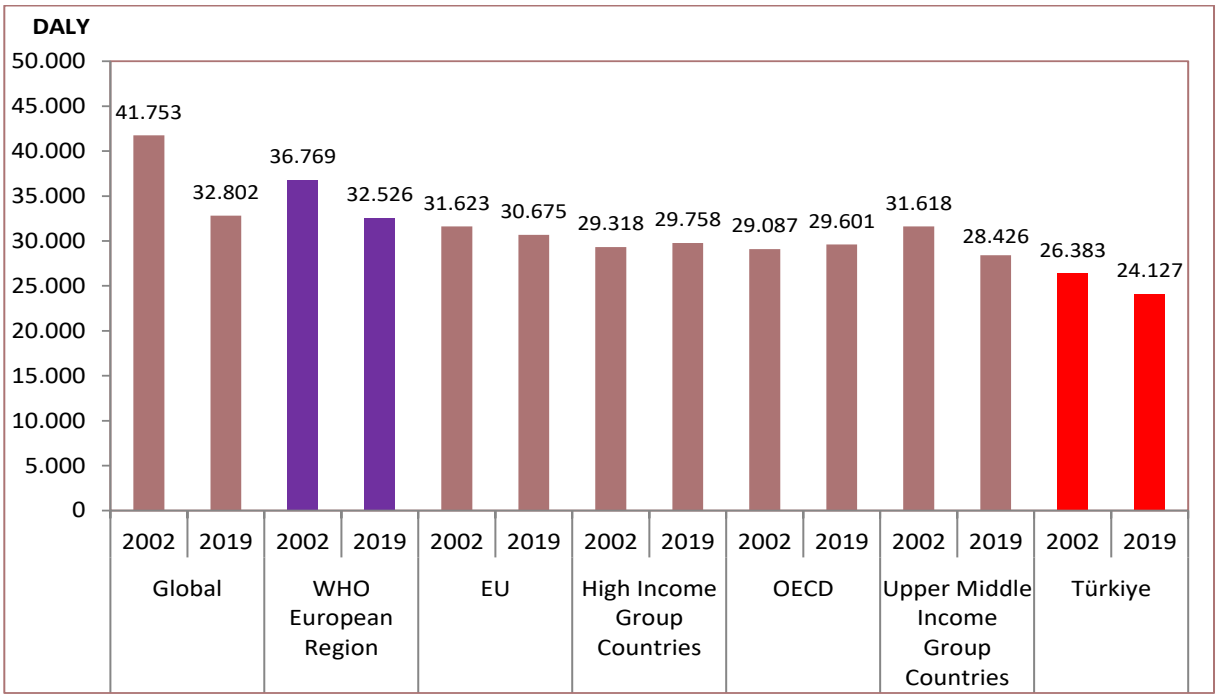
Figure 6.5. International Comparison of DALY per 100.000 Population, Age Standardized, 2002, 2019



Source: IHME, Global Burden of Disease Study 2019

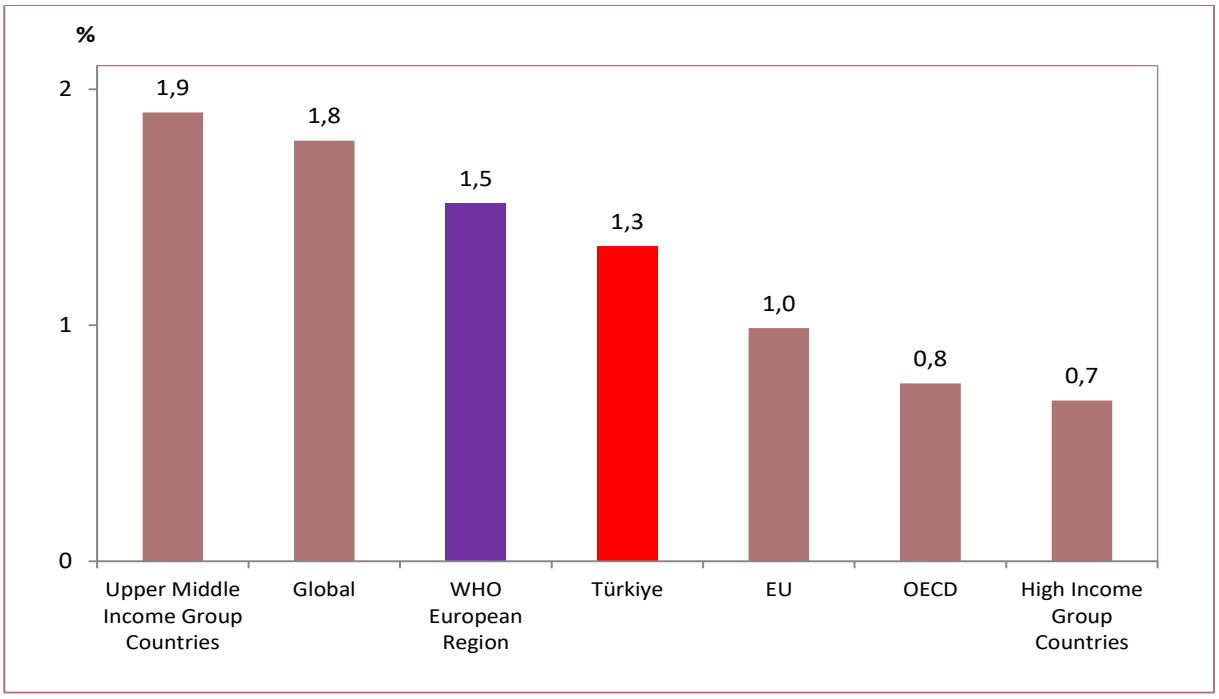
Note: To allow comparisons between countries and over time this metric is age-standardized.

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



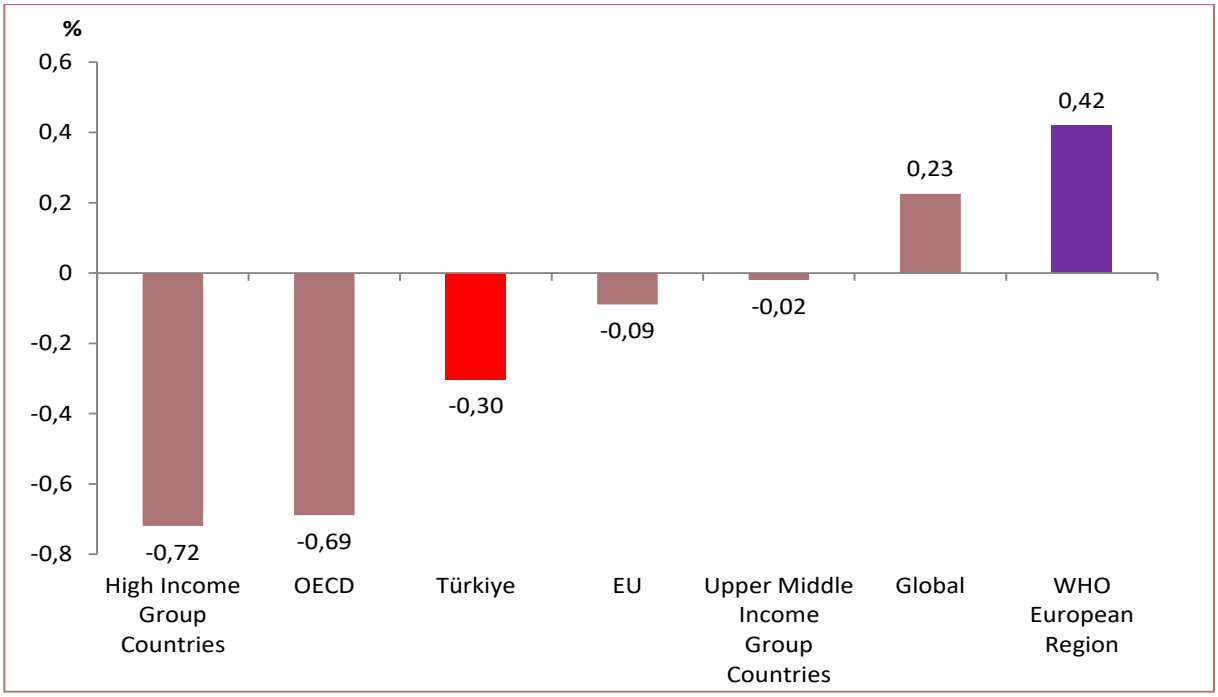
Source: IHME, Global Burden of Disease Study 2019
Note: Age standardization is not used to analyze effect of age pattern.

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



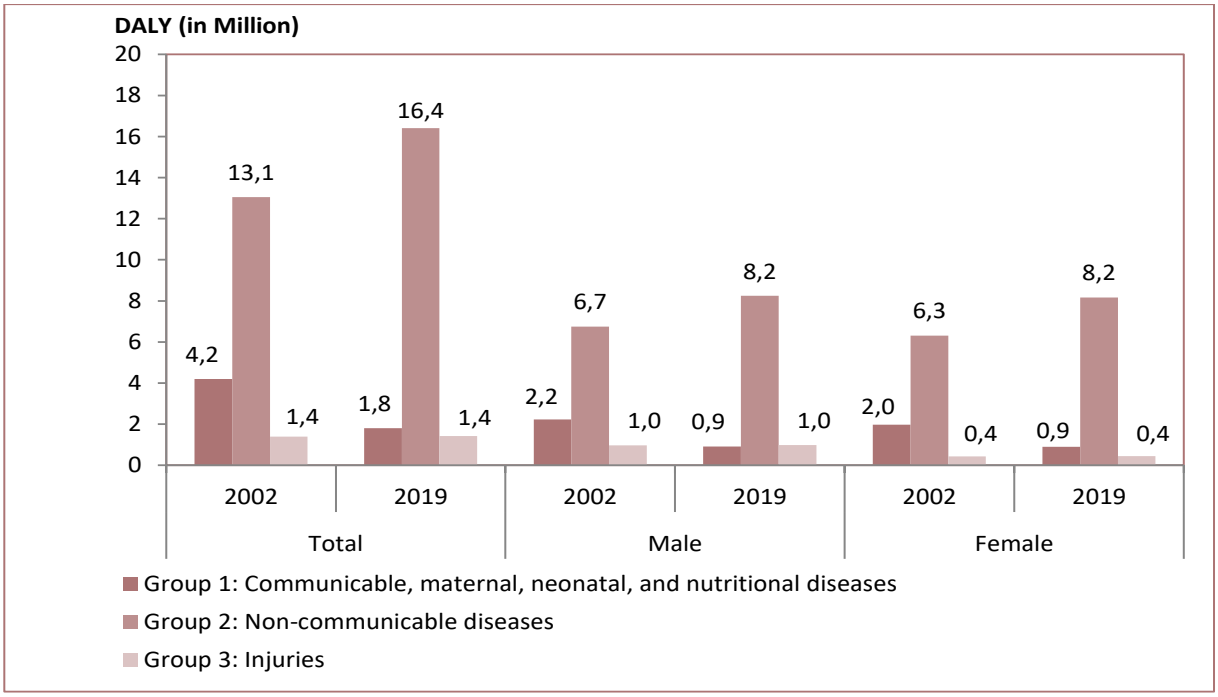
Source: IHME, Global Burden of Disease Study 2019
Note: To allow comparisons between countries and over time this metric is age-standardized.

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



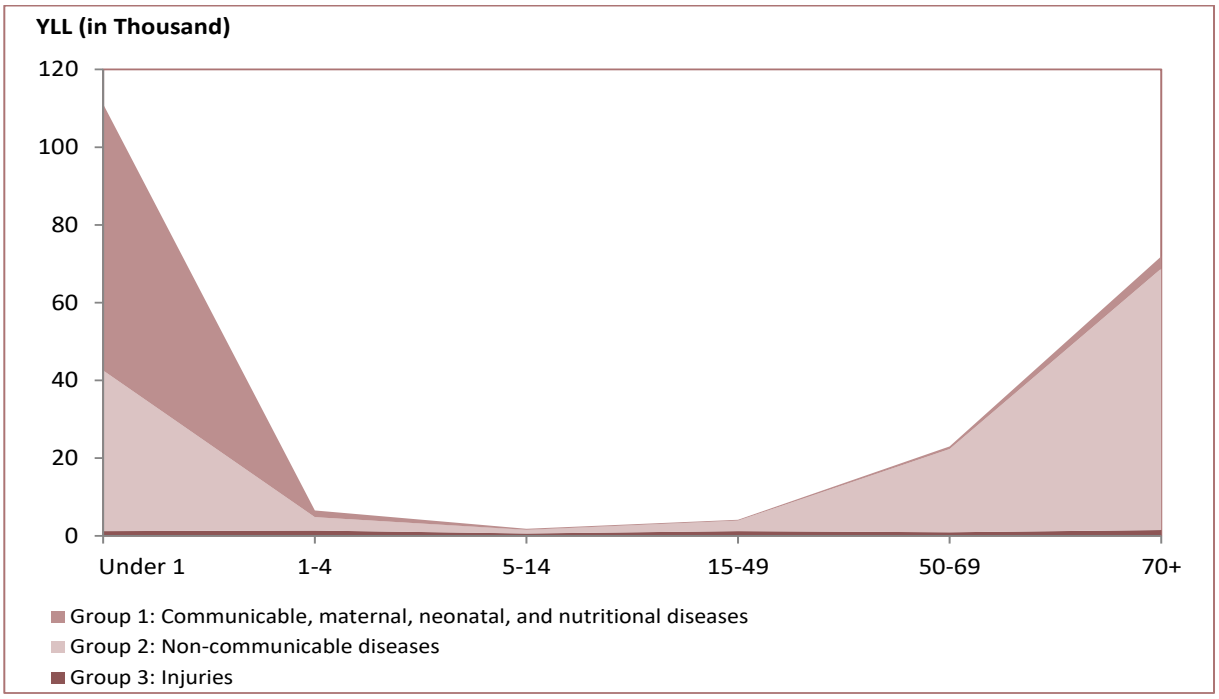
Source: IHME, Global Burden of Disease Study 2019
Note: Age standardization is not used to analyze effect of age pattern.

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



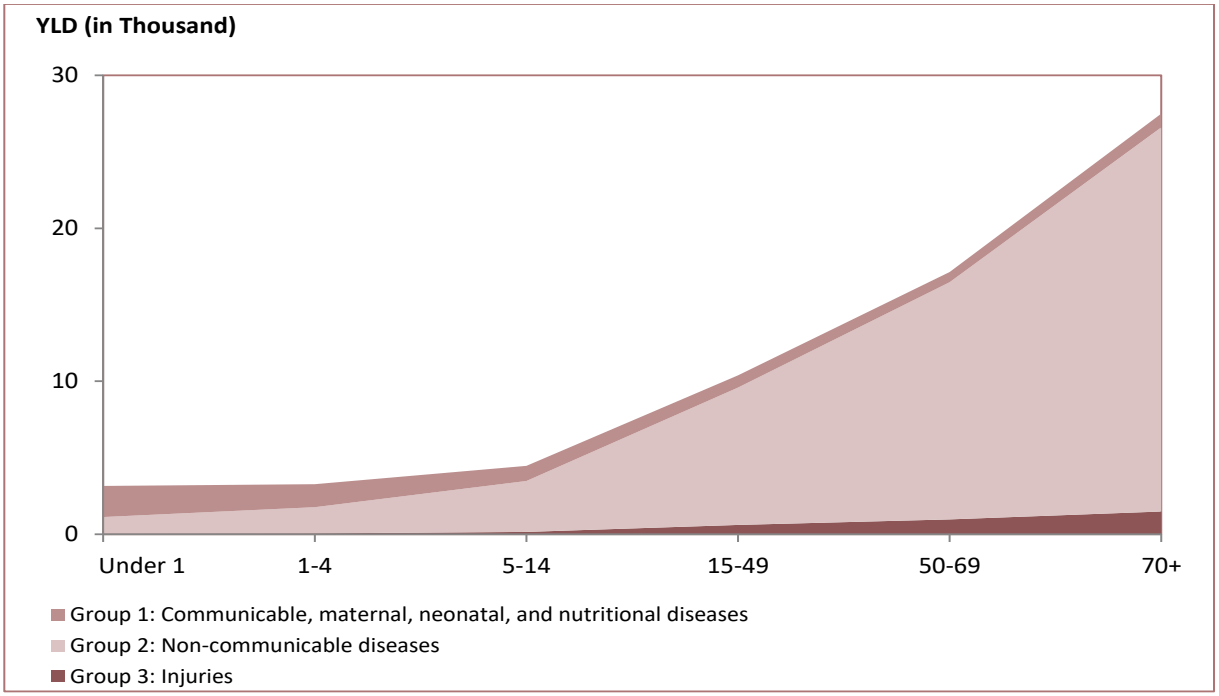
Source: IHME, Global Burden of Disease Study 2019

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



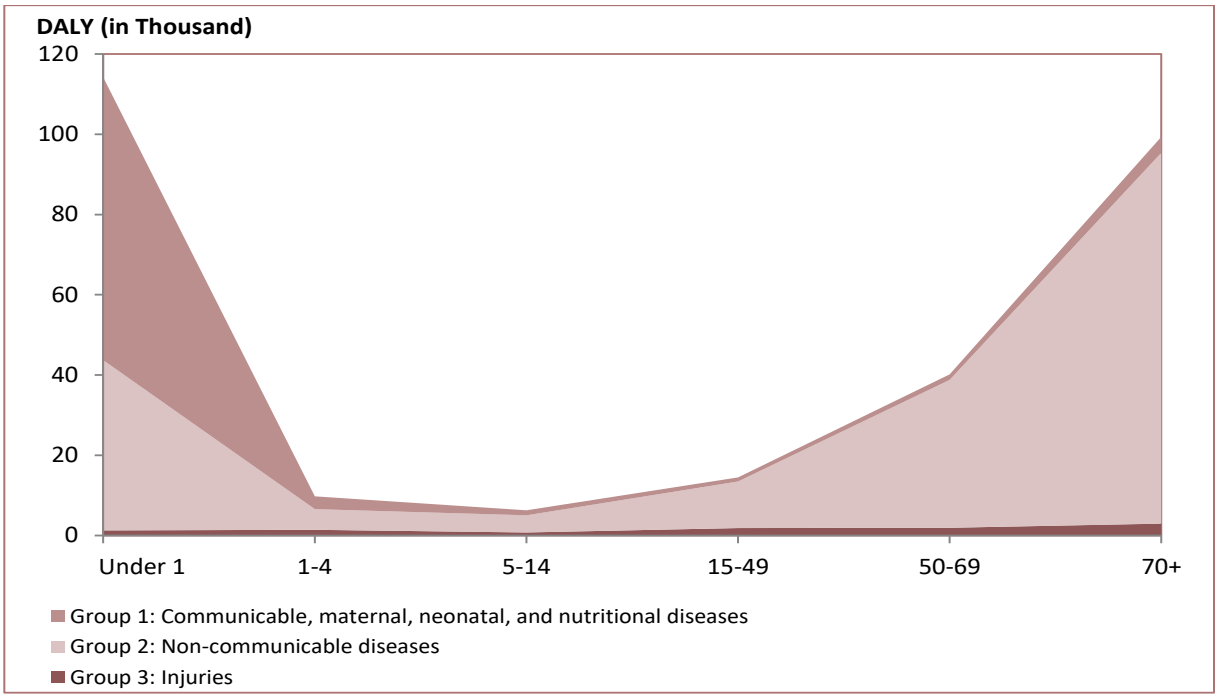
Source: IHME, Global Burden of Disease Study 2019

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



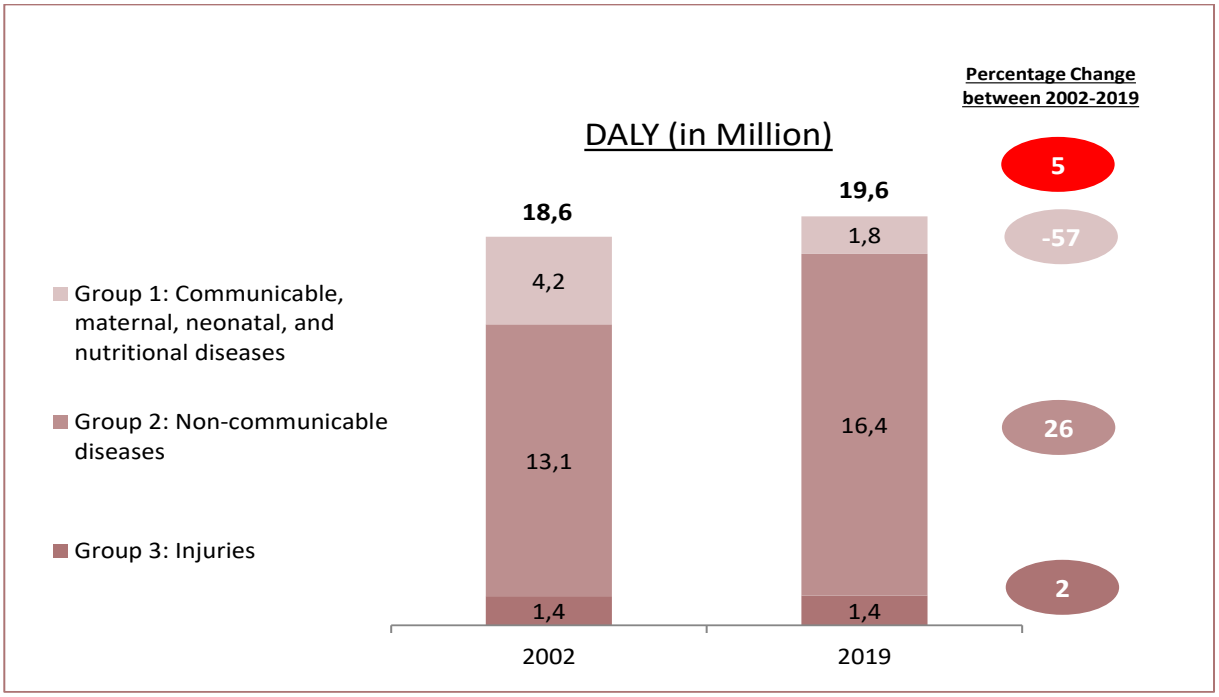
Source: IHME, Global Burden of Disease Study 2019

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



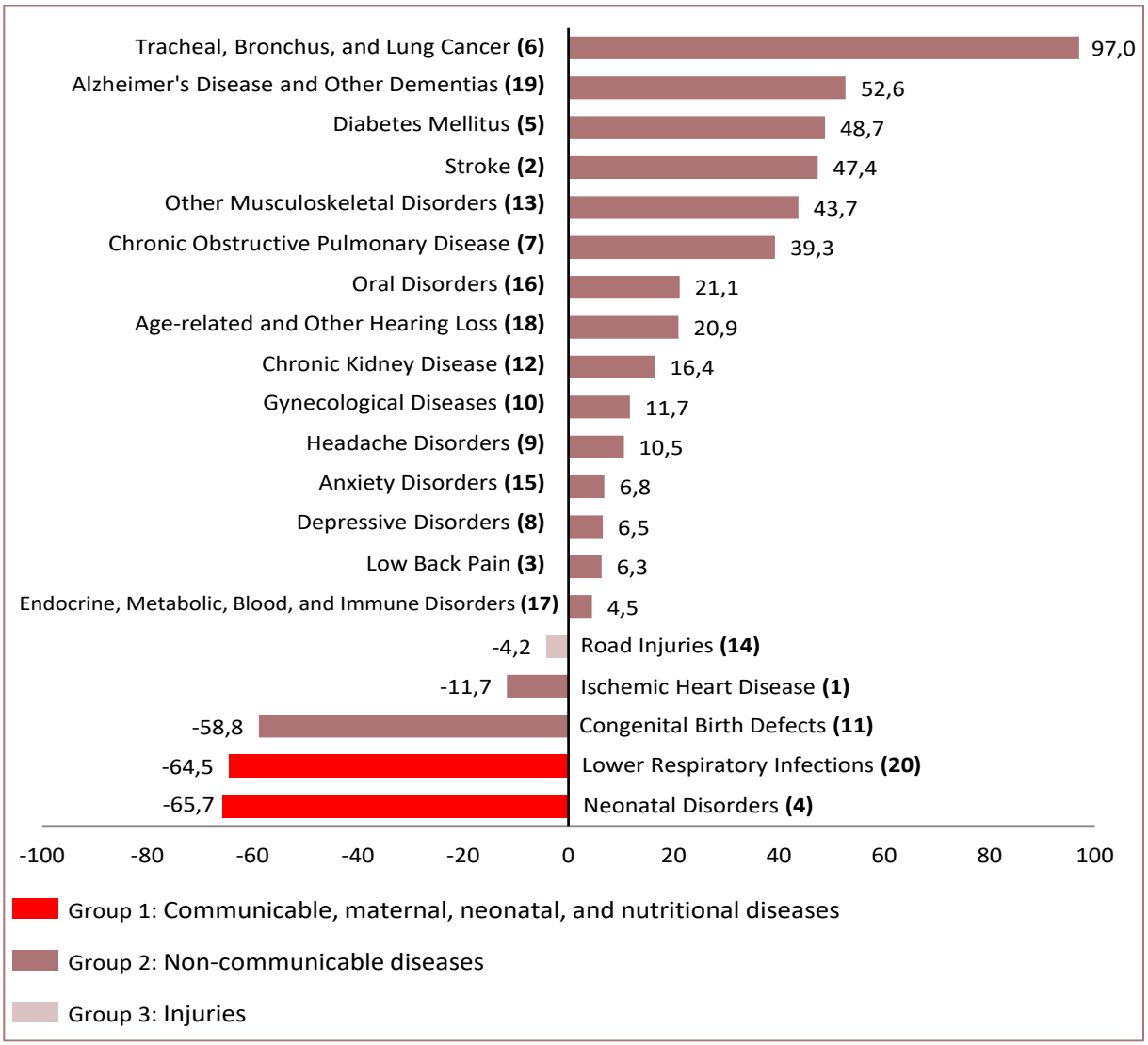
Source: IHME, Global Burden of Disease Study 2019

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



Source: IHME, Global Burden of Disease Study 2019

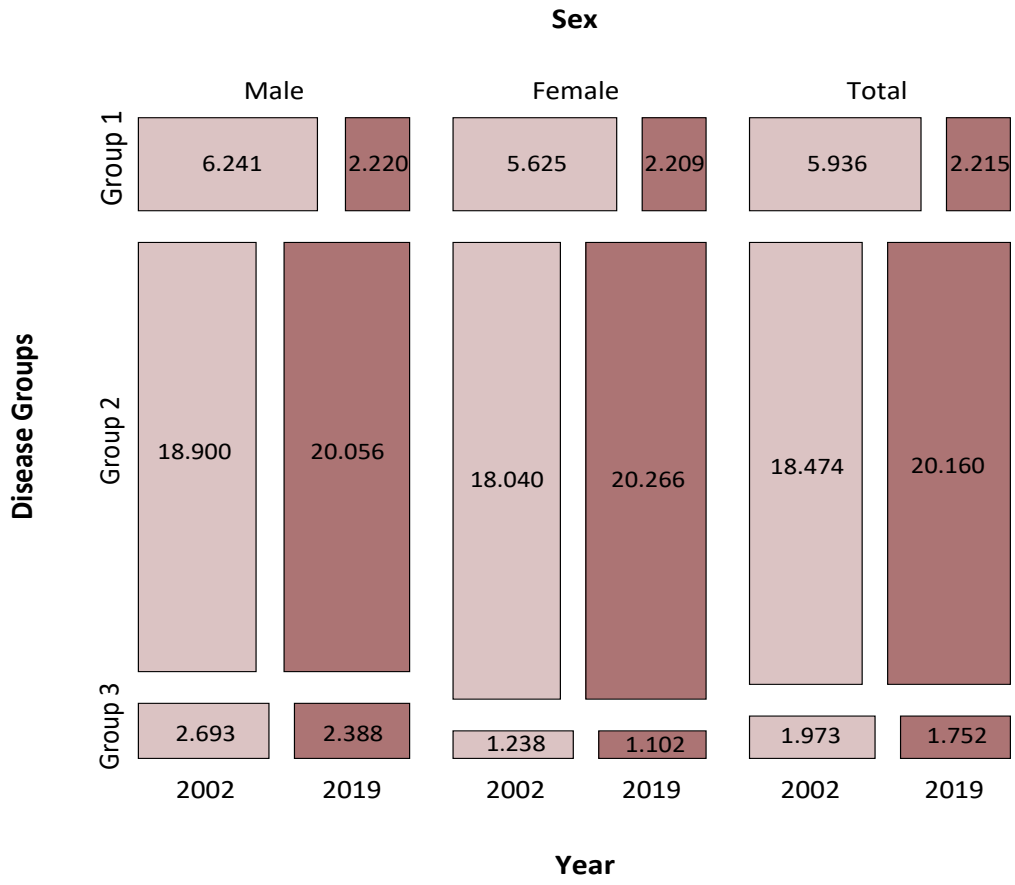
Figure 6.14. Change in Year of 2019 Top 20 DALY Causes Compared to Year of 2002, (%)



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



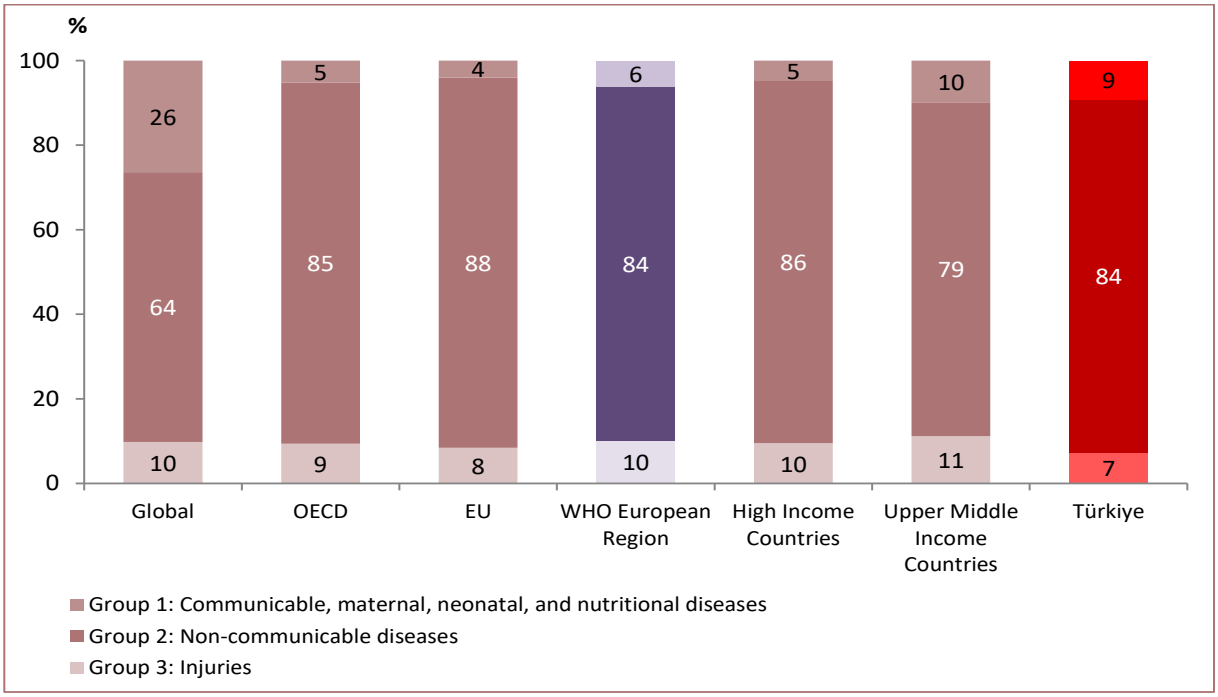
Group 1: Communicable, maternal, neonatal, and nutritional diseases

Group 2: Non-communicable diseases

Group 3: Injuries

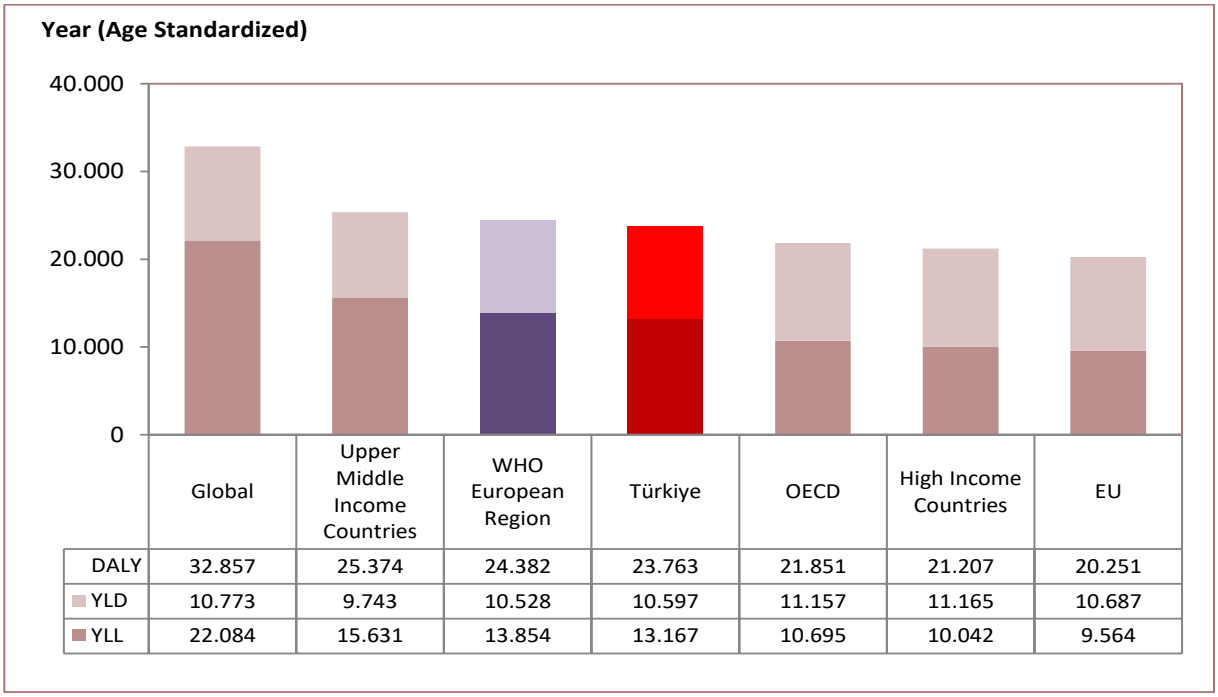
Source: IHME, Global Burden of Disease Study 2019

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	Türkiye	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

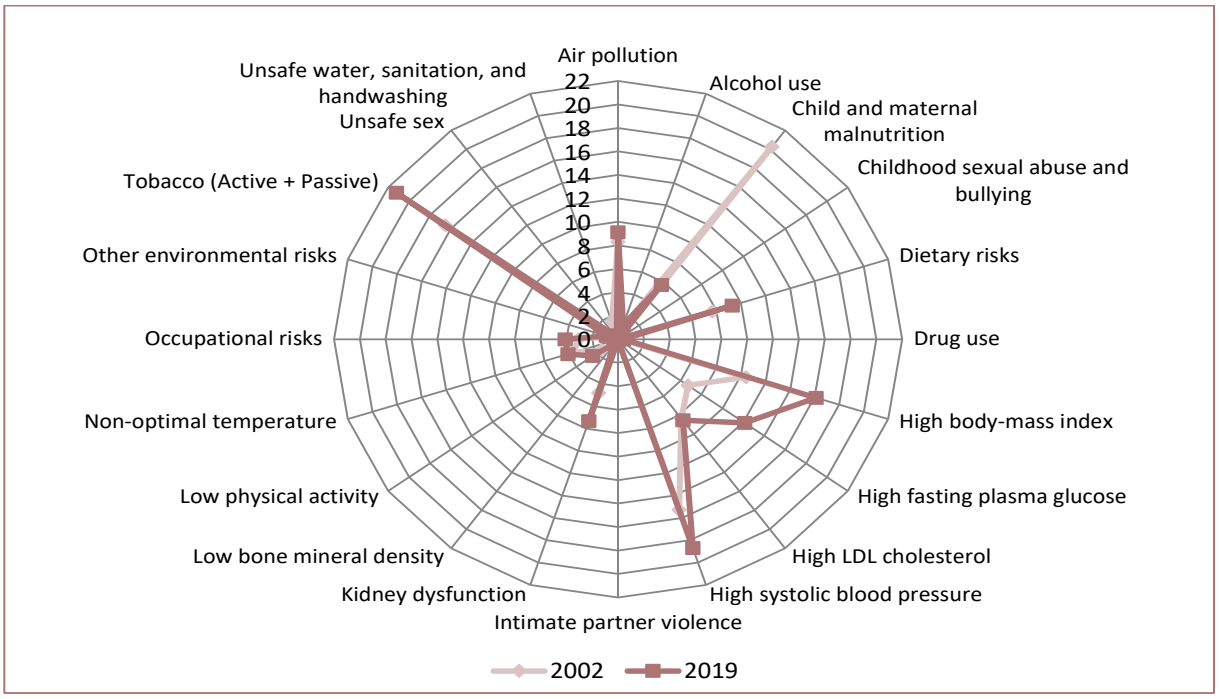
Source: IHME, Global Burden of Disease Study 2019
Note: To allow comparisons between countries and over time this metric is age-standardized.

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

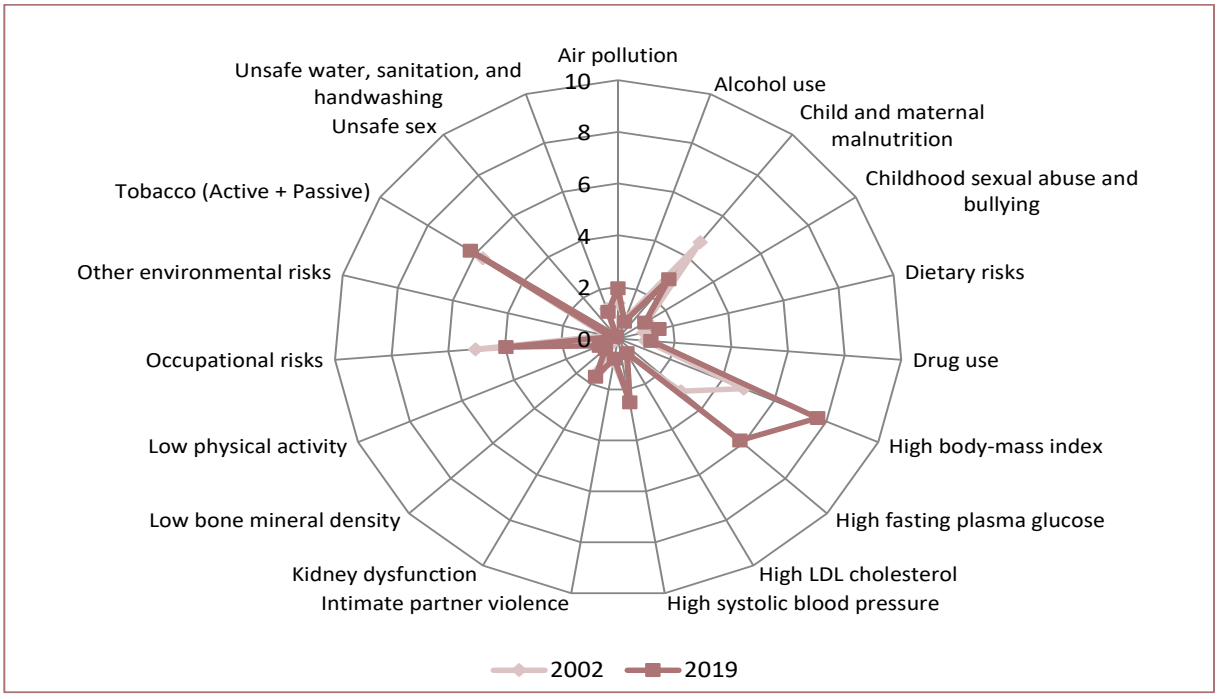
Source: IHME, Global Burden of Disease Study 2019

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



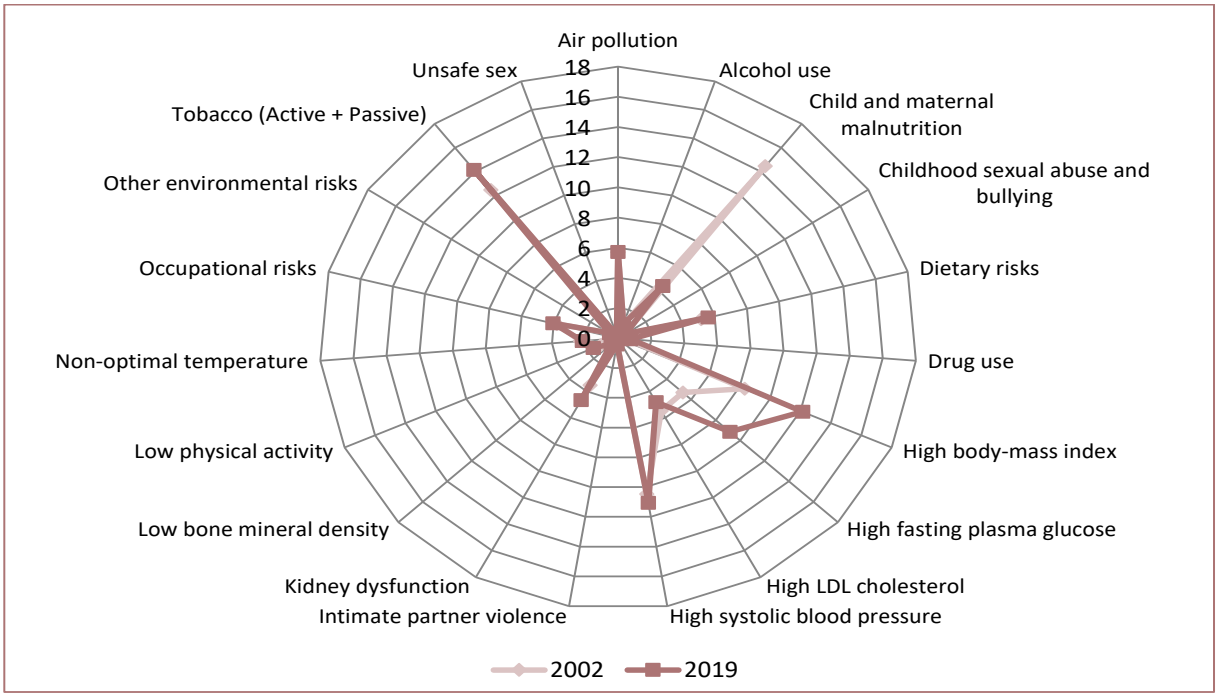
Source: IHME, Global Burden of Disease Study 2019

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



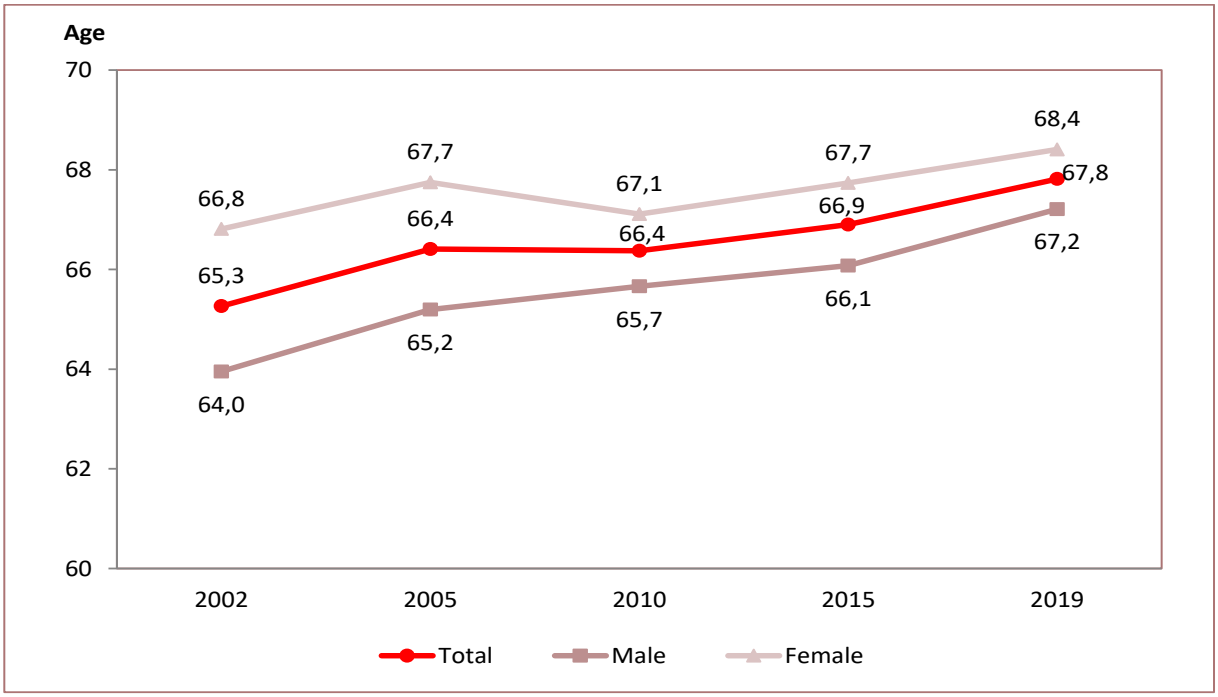
Source: IHME, Global Burden of Disease Study 2019

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



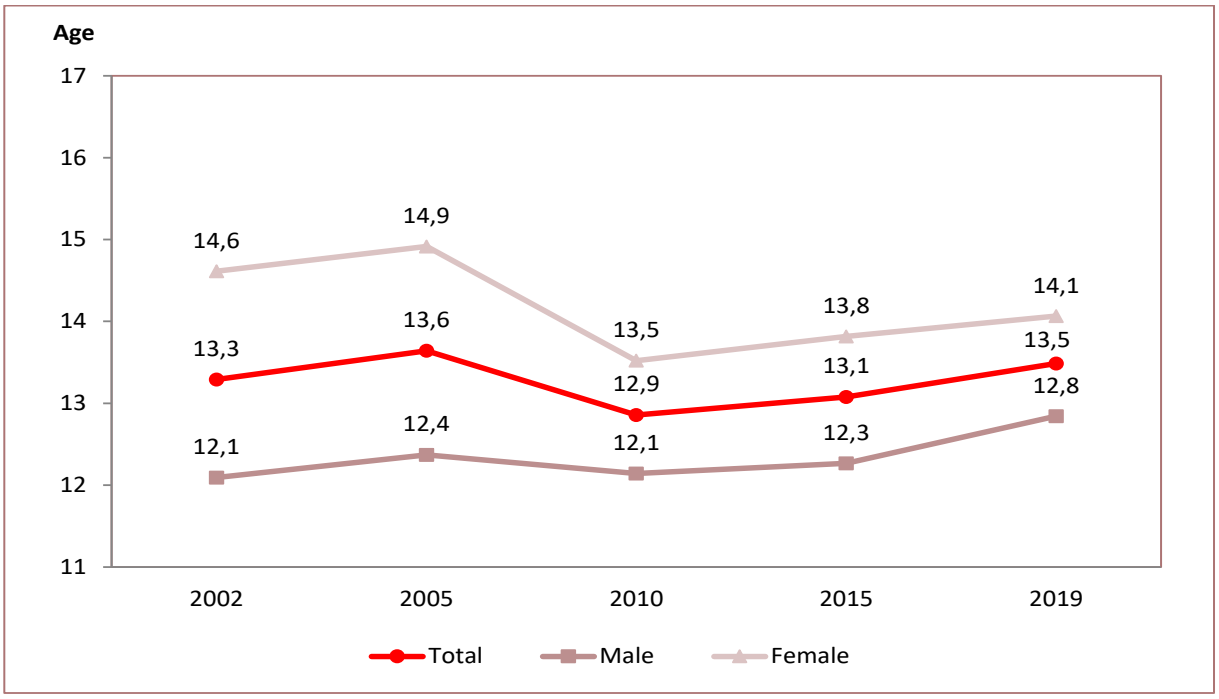
Source: IHME, Global Burden of Disease Study 2019

Figure 6.21. HALE at Birth by Years and Sex



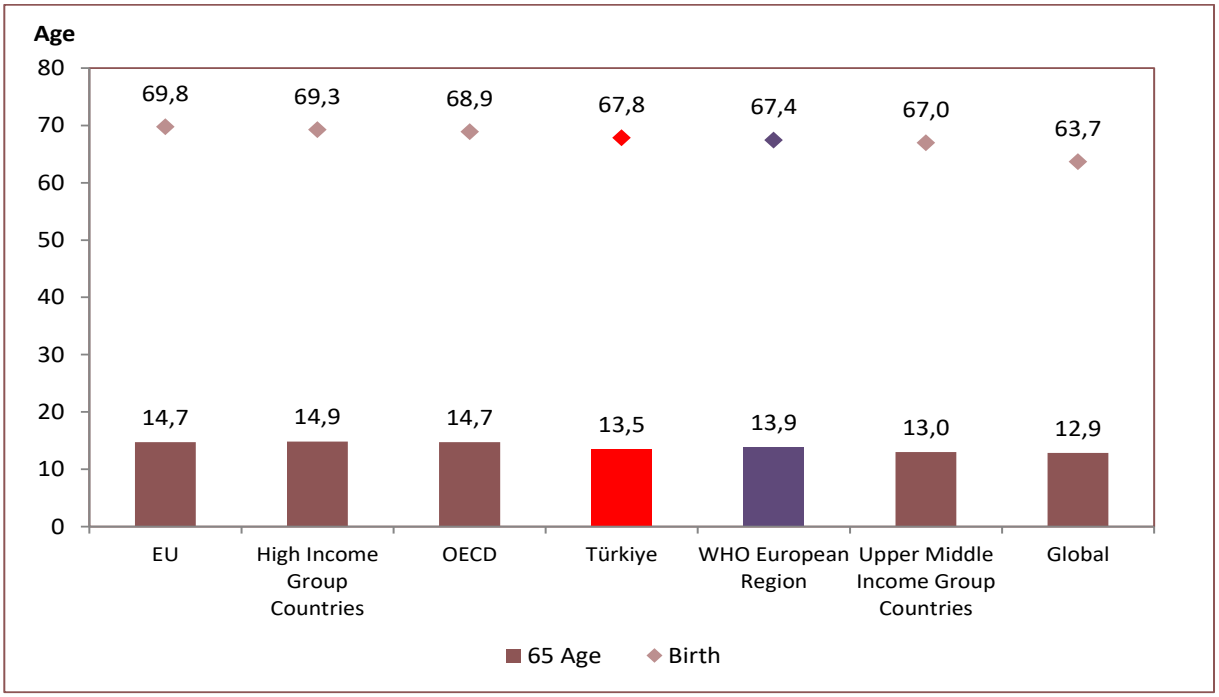
Source: IHME, Global Burden of Disease Study 2019

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.

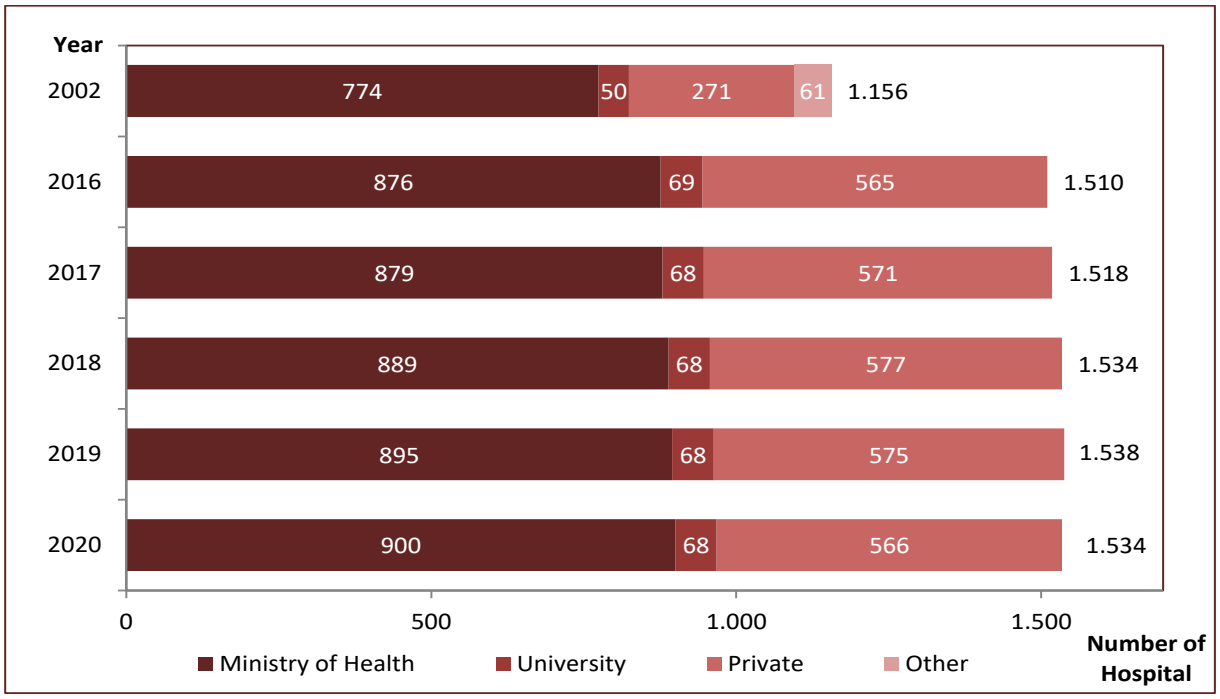
http://www.healthdata.org/results/gbd_summaries/2019/gynecological-diseases-level-3-cause

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

CHAPTER 7

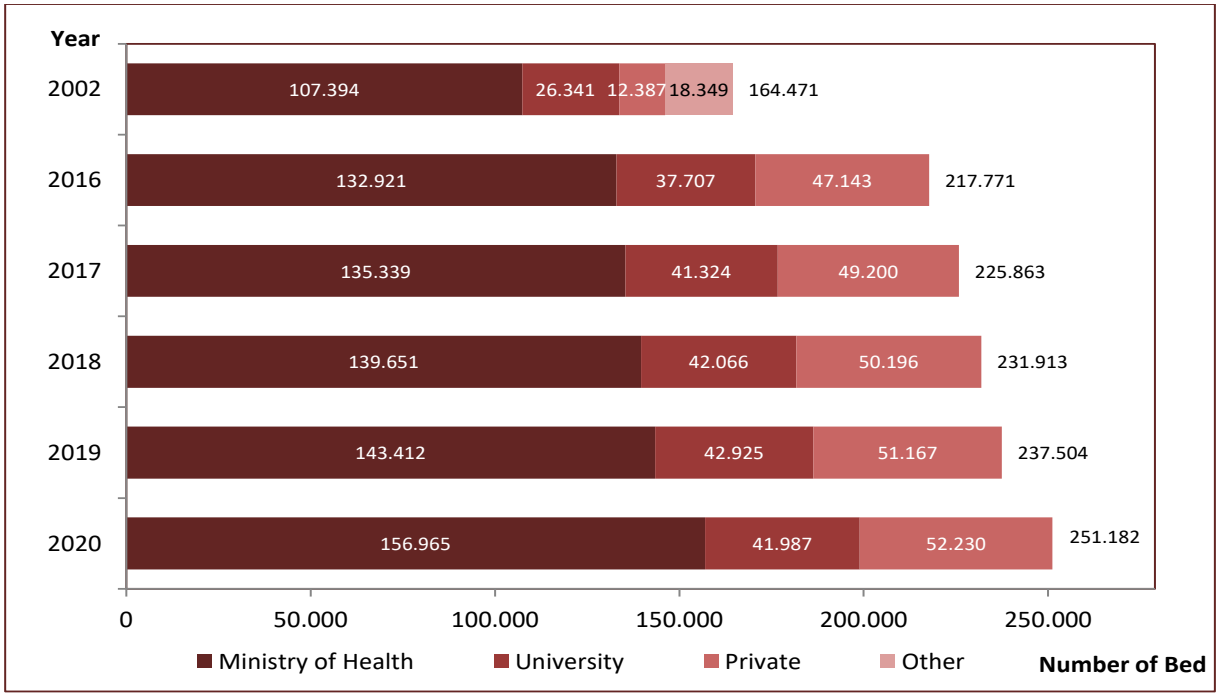
Health Care Facilities and Infrastructures

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



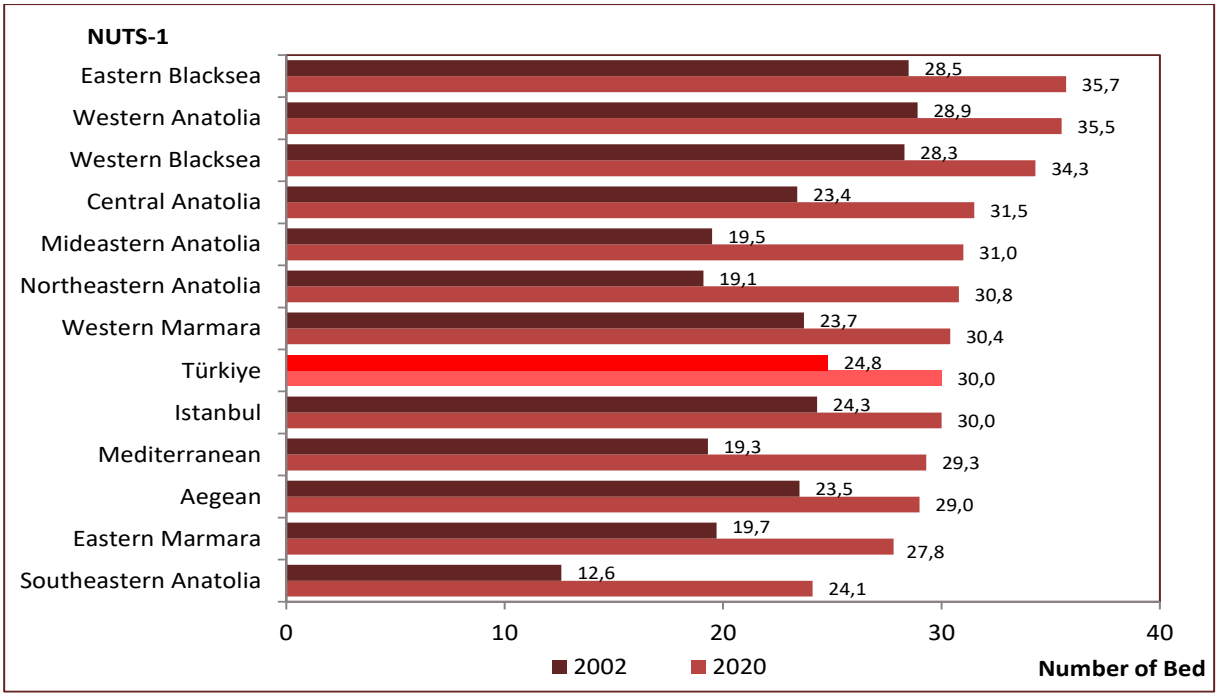
Source: General Directorate of Health Services

Table 7.1. Number of Hospitals and Beds by Branches, 2020

Branches	Hospital	Bed
General Hospital	**1.429**	**233.371**
Integrated District Hospital	288	1.621
City Hospital	18	24.372
Municipal Hospital	2	333
General Training Hospital	128	85.959
Other General Hospital	993	121.086
Ophthalmology Hospital	25	293
Obstetric and Child Hospital	20	3.579
Physical Treatment and Rehabilitation Center	18	2.612
Psychiatry Hospital	11	3.952
Chest Diseases Hospital	11	3.688
Child Diseases Hospital	4	1.253
Cardiovascular Diseases Hospital	4	599
Oncology Hospital	3	844
Bone Diseases Hospital	3	436
Occupational Diseases Hospital	2	234
Hospital for Children with Leukemia	1	200
Spastic Children's Hospital and Rehab Center	1	54
Leprosy Hospital	1	34
Orthopedics and Traumatology Hospital	1	33
Total	1.534	251.182

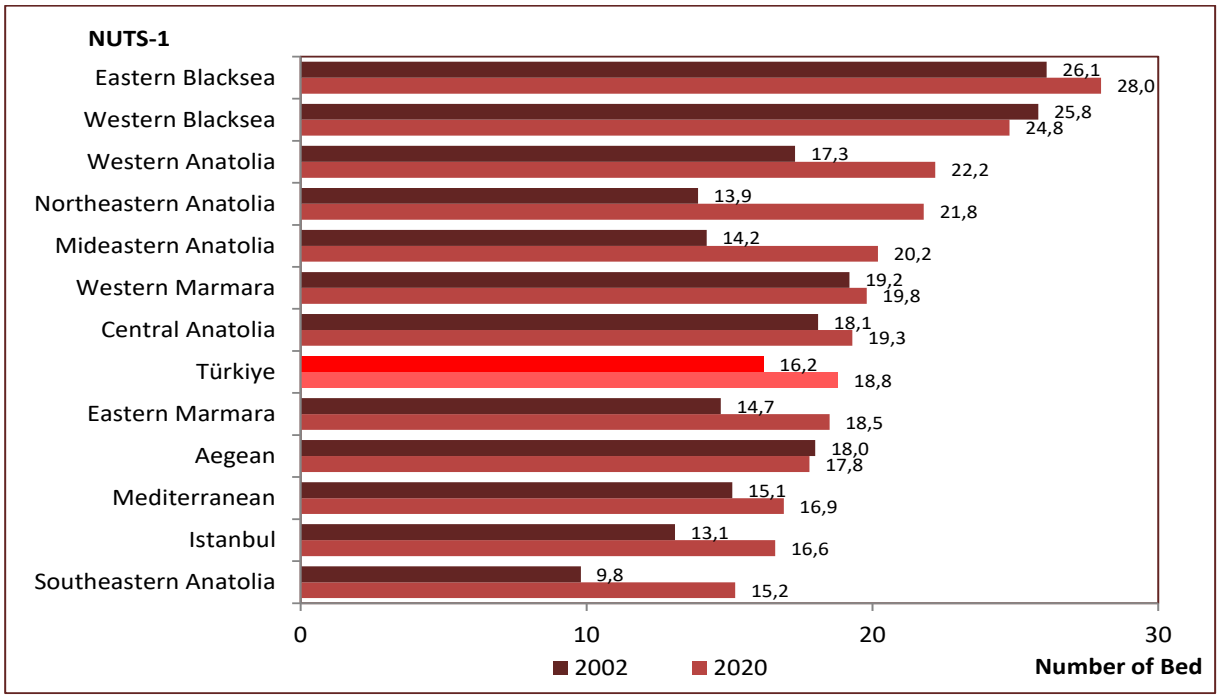
Source: General Directorate of Health Services

Figure 7.3. Number of Hospital Beds per 10.000 Population by NUTS-1, All Sectors, 2002, 2020



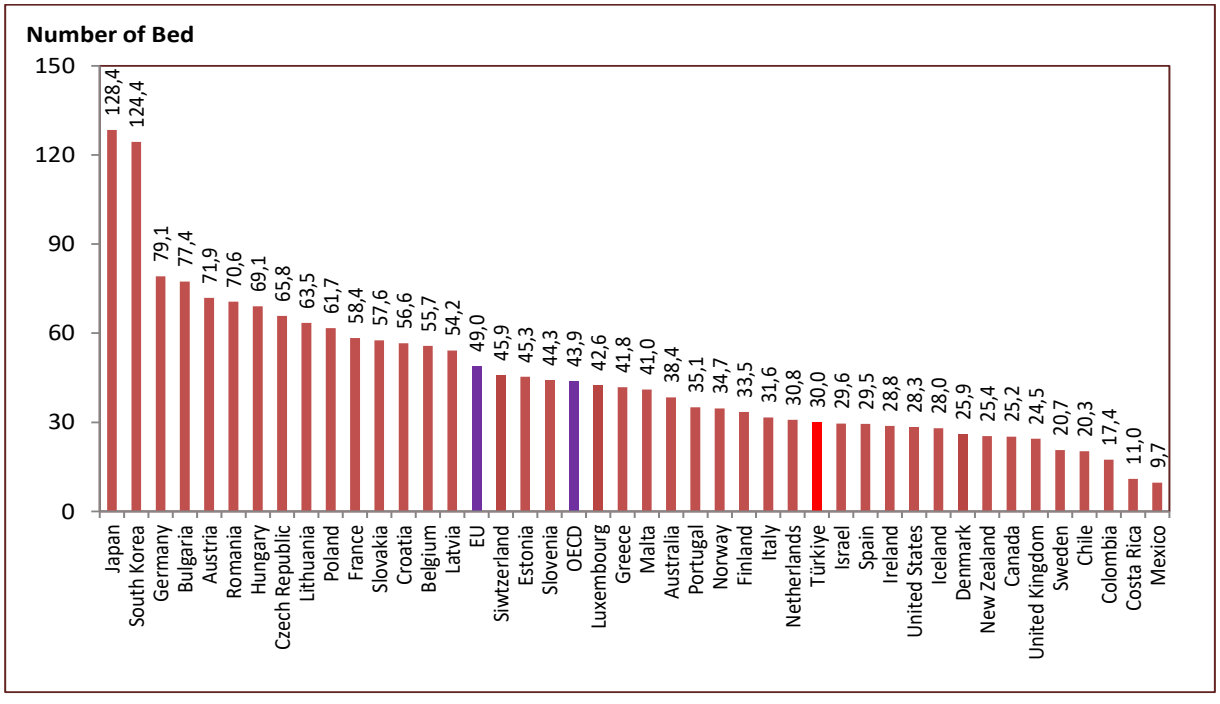
Source: General Directorate of Health Services

Figure 7.4. Number of Hospital Beds per 10.000 Population by NUTS-1, Ministry of Health, 2002, 2020



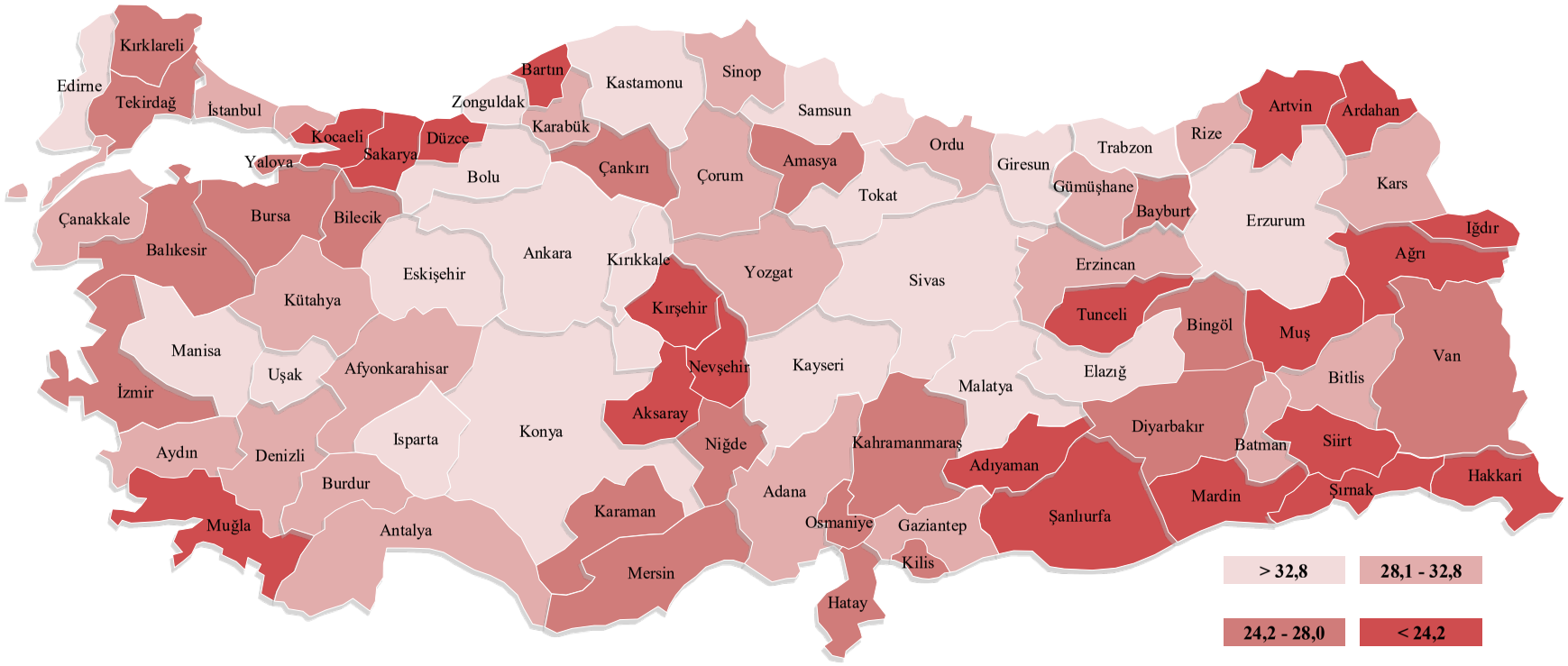
Source: General Directorate of Health Services

Figure 7.5. International Comparison of Number of Hospital Beds per 10.000 Population, 2019



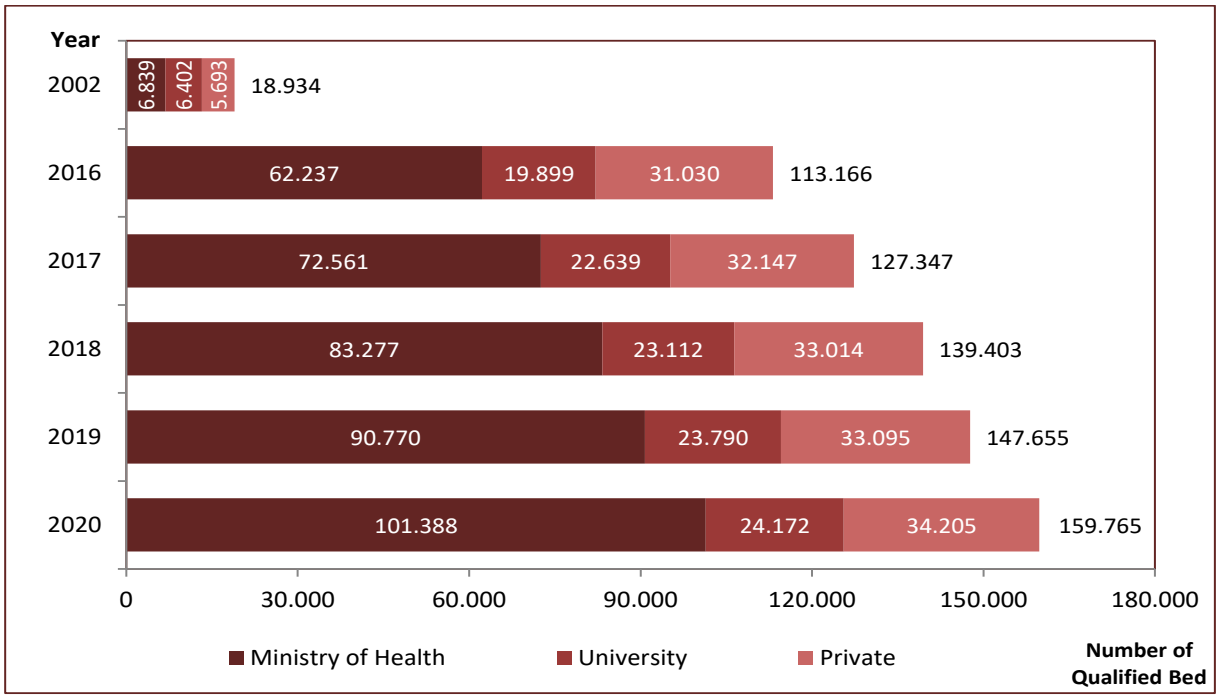
Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belong to the year 2020. Countries' data belong to the year 2019 or nearest.

Map 7.1. Number of Hospital Beds per 10.000 Population by Provinces, All Sectors, 2020



Source: General Directorate of Health Services

Figure 7.6. Number of Qualified Beds by Years and Sectors



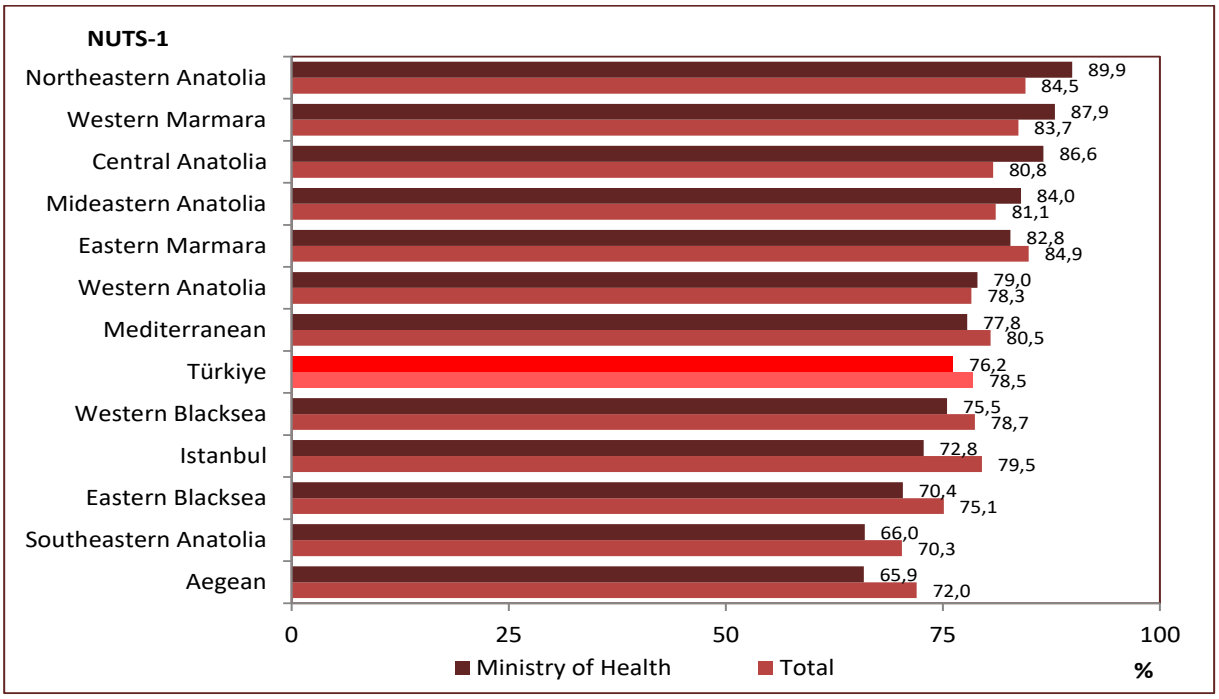
Source: General Directorate of Health Services

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

	Ministry of Health	University	Private	Total
2002	6,4	24,6	19,1	11,7
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
2020	76,2	68,8	96,8	78,5

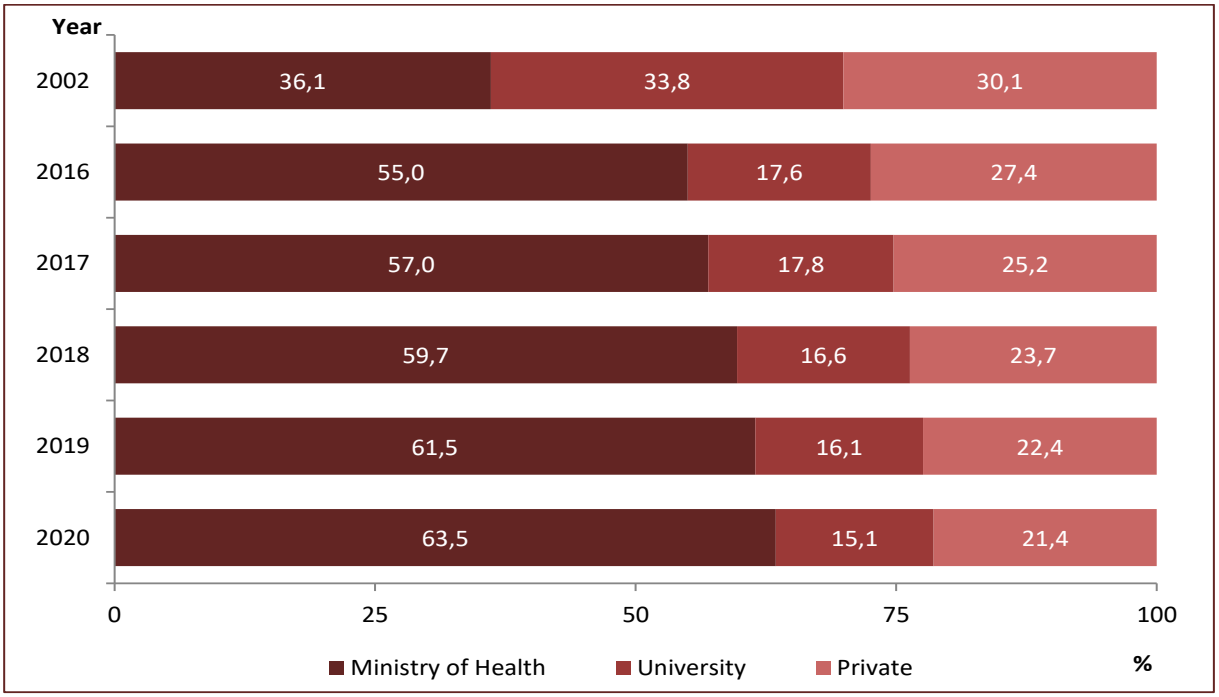
Source: General Directorate of Health Services
Note: Intensive care unit beds are not included.

Figure 7.7. Proportion of Qualified Beds Among Total Beds, (%), All Sectors, Ministry of Health, 2020



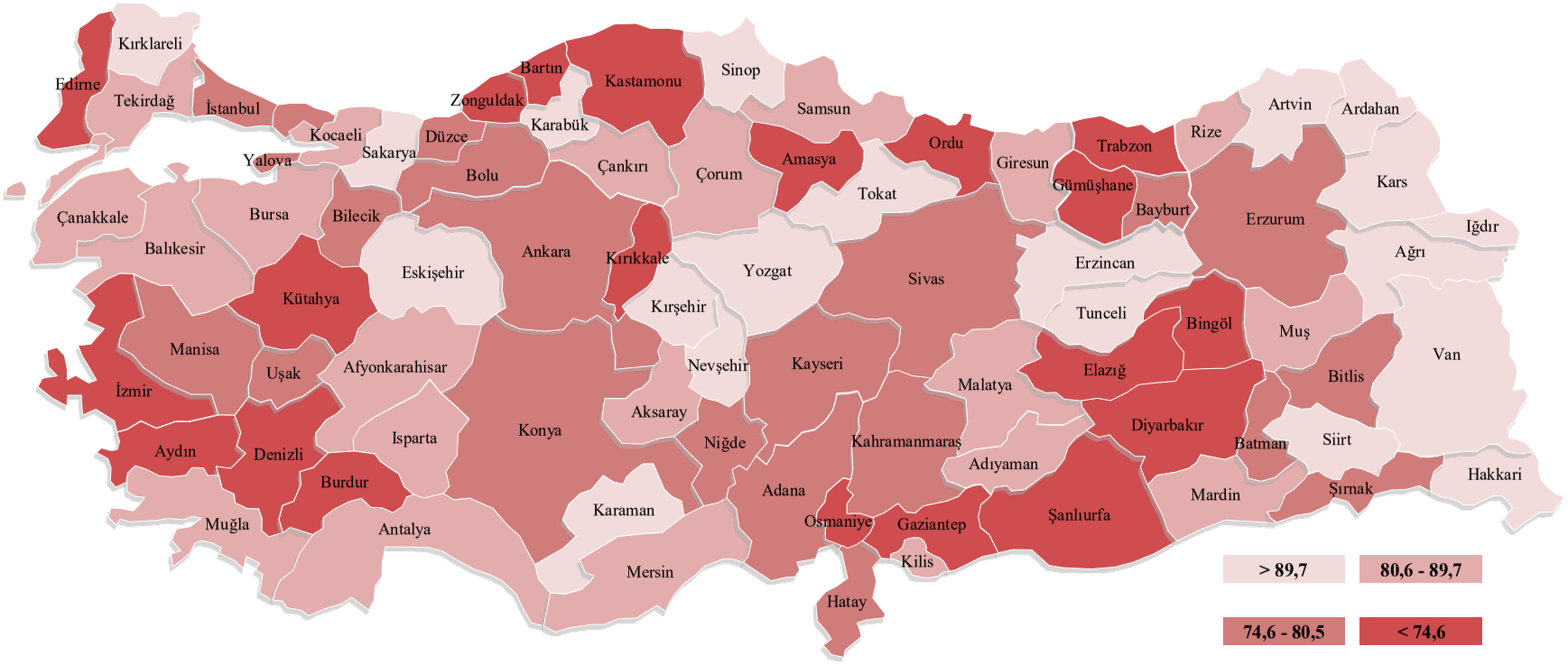
Source: General Directorate of Health Services
Note: Intensive care unit beds are not included.

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



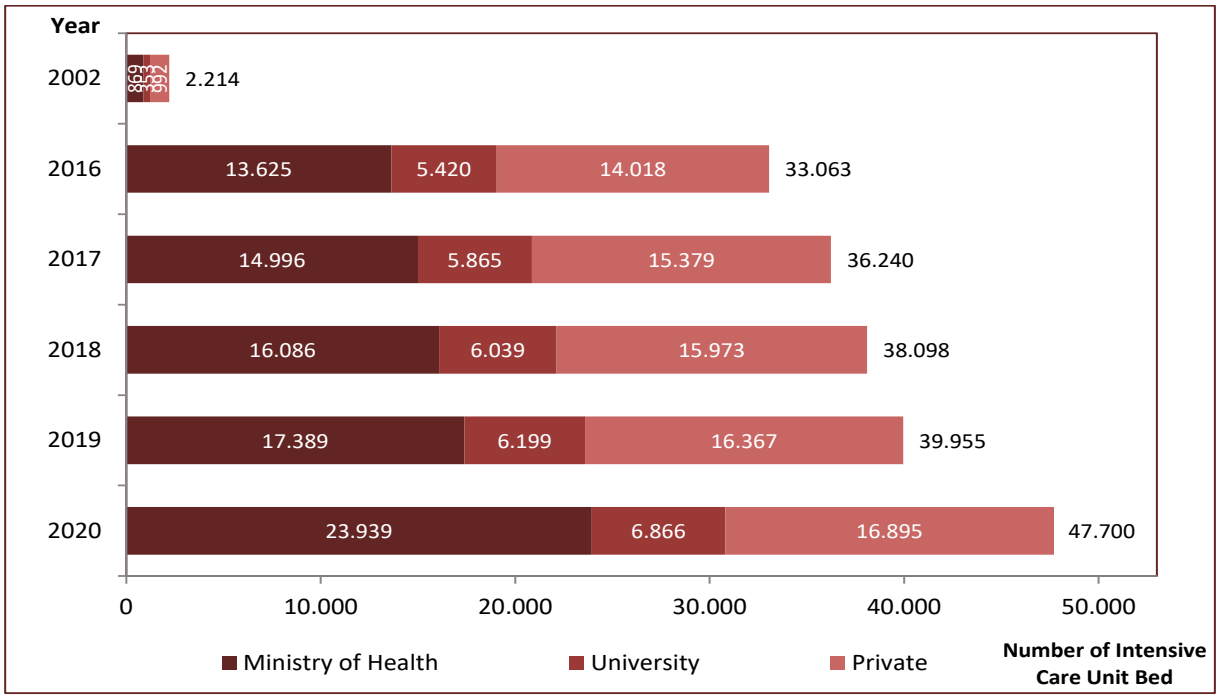
Source: General Directorate of Health Services

Map 7.2. Proportion of Qualified Beds Among Total Beds by Provinces, (%), All Sectors, 2020



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

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



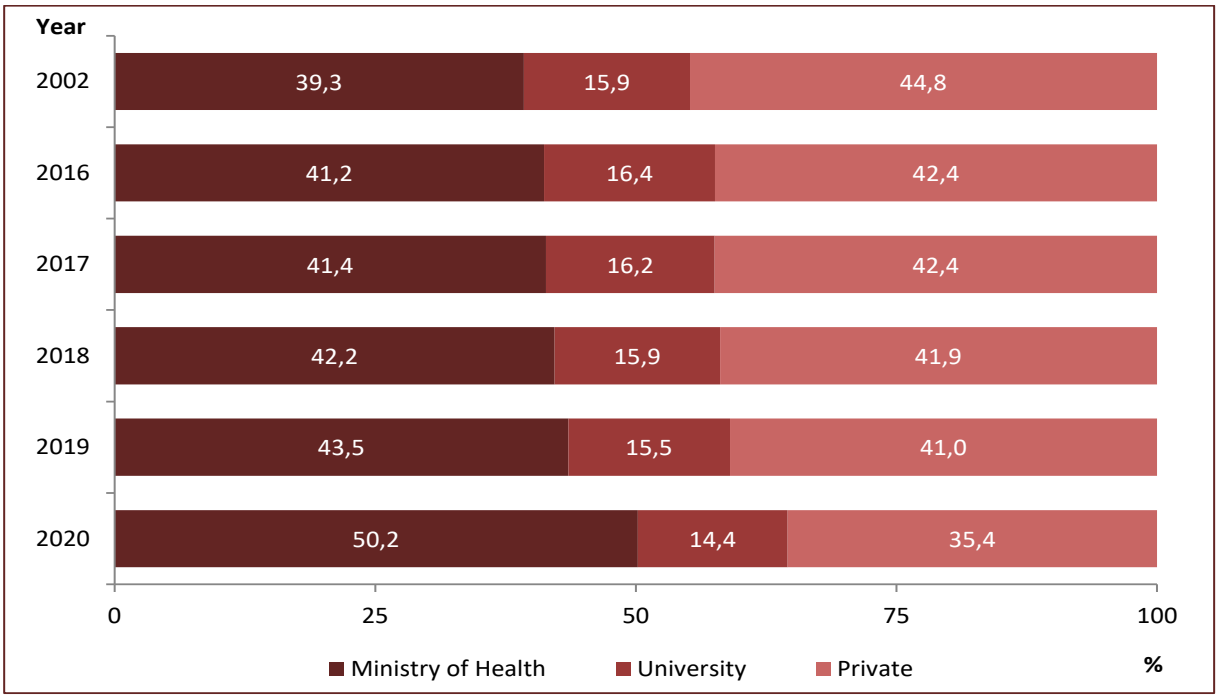
Source: General Directorate of Health Services

Table 7.3. Number and Distribution (%) of Intensive Care Unit Beds by Types and Sectors, 2020

	Ministry of Health		University		Private		Total	
	Number	%	Number	%	Number	%	Number	%
Adult	18.440	77,0	4.635	67,5	9.588	56,8	32.663	68,5
Child	1.138	4,8	651	9,5	167	1,0	1.956	4,1
Neonatal	4.361	18,2	1.580	23,0	7.140	42,3	13.081	27,4
Total	23.939	100	6.866	100	16.895	100	47.700	100

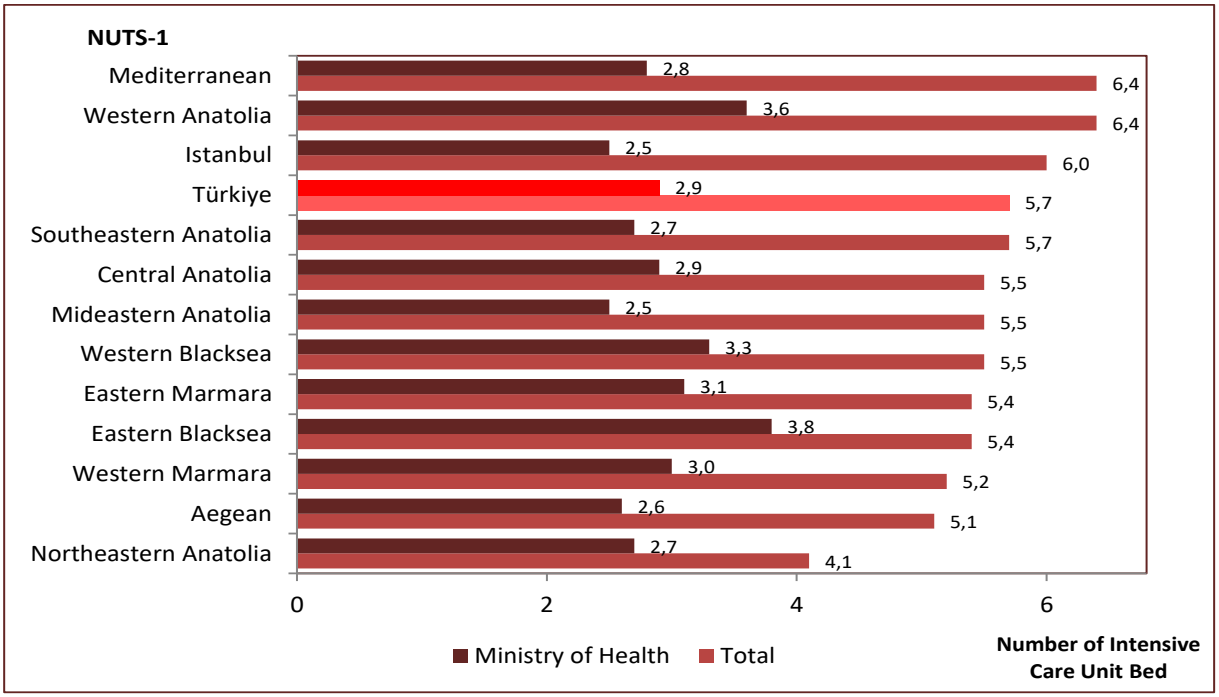
Source: General Directorate of Health Services

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



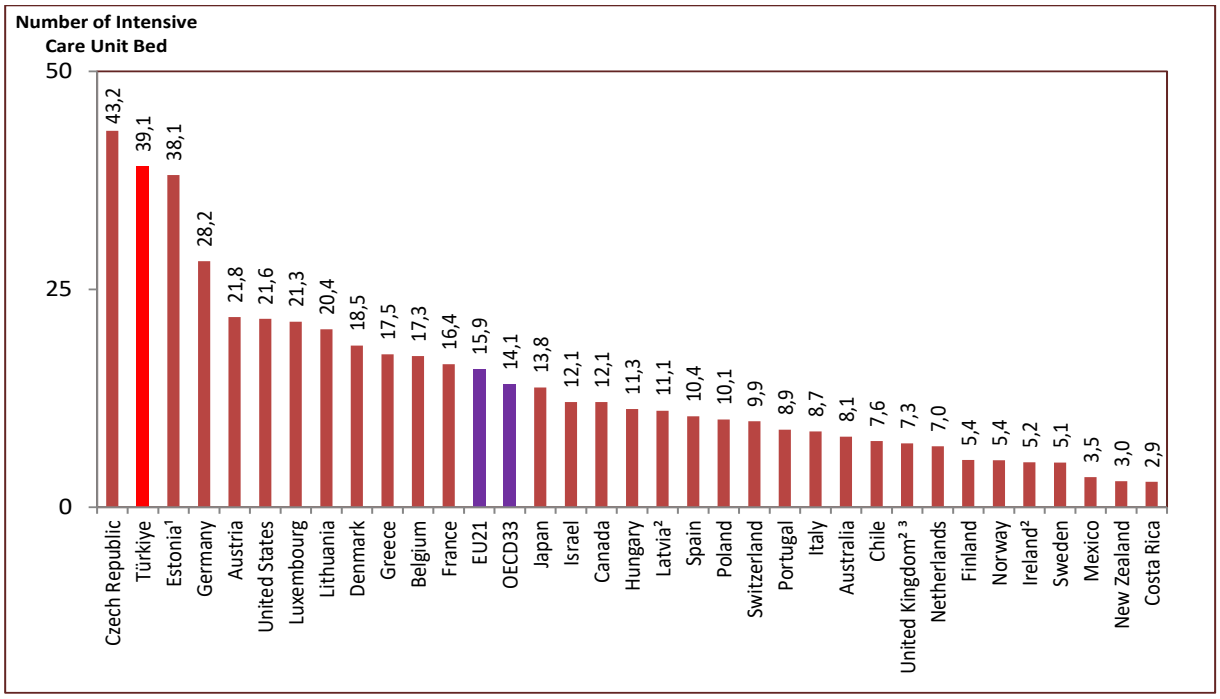
Source: General Directorate of Health Services

Figure 7.11. Number of Intensive Care Unit Beds per 10.000 Population by NUTS-1, All Sectors, Ministry of Health, 2020



Source: General Directorate of Health Services

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

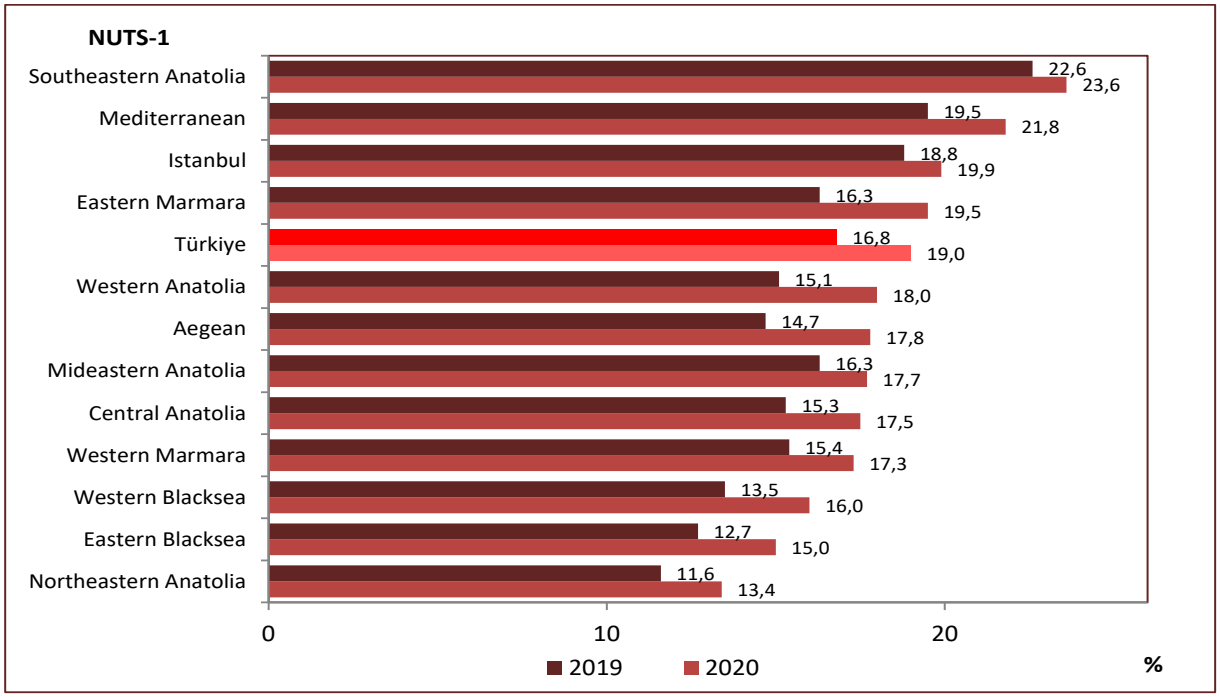


Source: General Directorate of Health Services, OECD Health at a Glance: Europe 2021

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

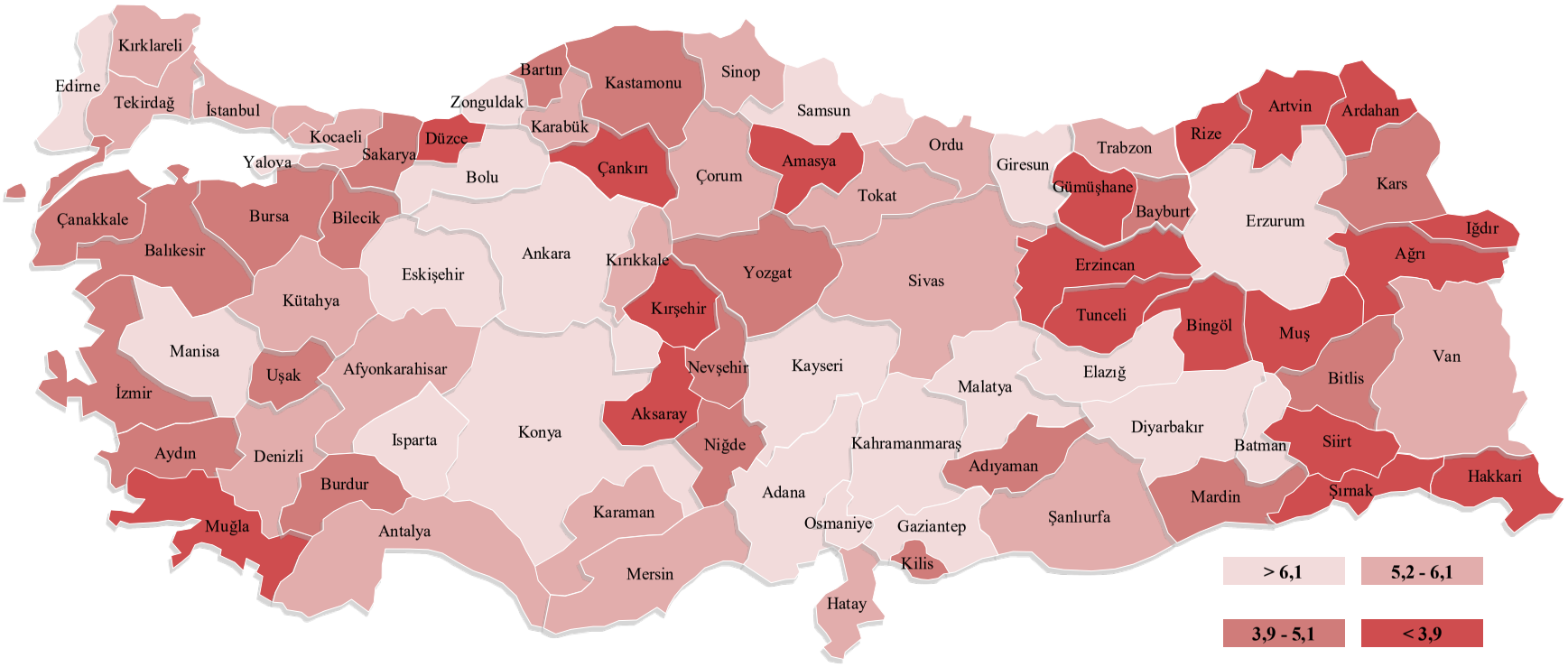
1. *Neonatal and child intensive care units are included.*
2. *Level 2 and Level 3 intensive care units are included.*
3. *Data only belongs to England.*

Figure 7.13. Proportion of Intensive Care Unit Beds to All Beds by NUTS-1, (%), All Sectors, 2019, 2020



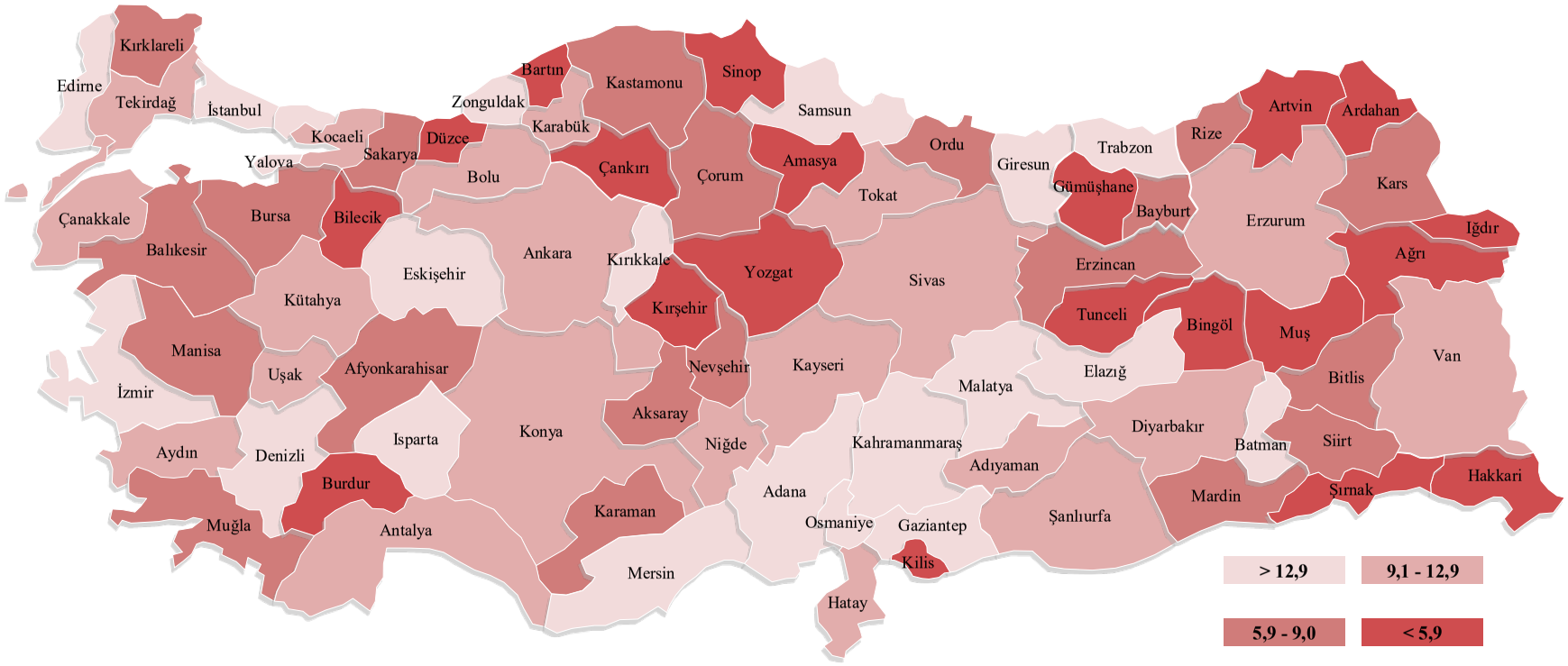
Source: General Directorate of Health Services

Map 7.3. Number of Intensive Care Unit Beds per 10.000 Population by Provinces, All Sectors, 2020



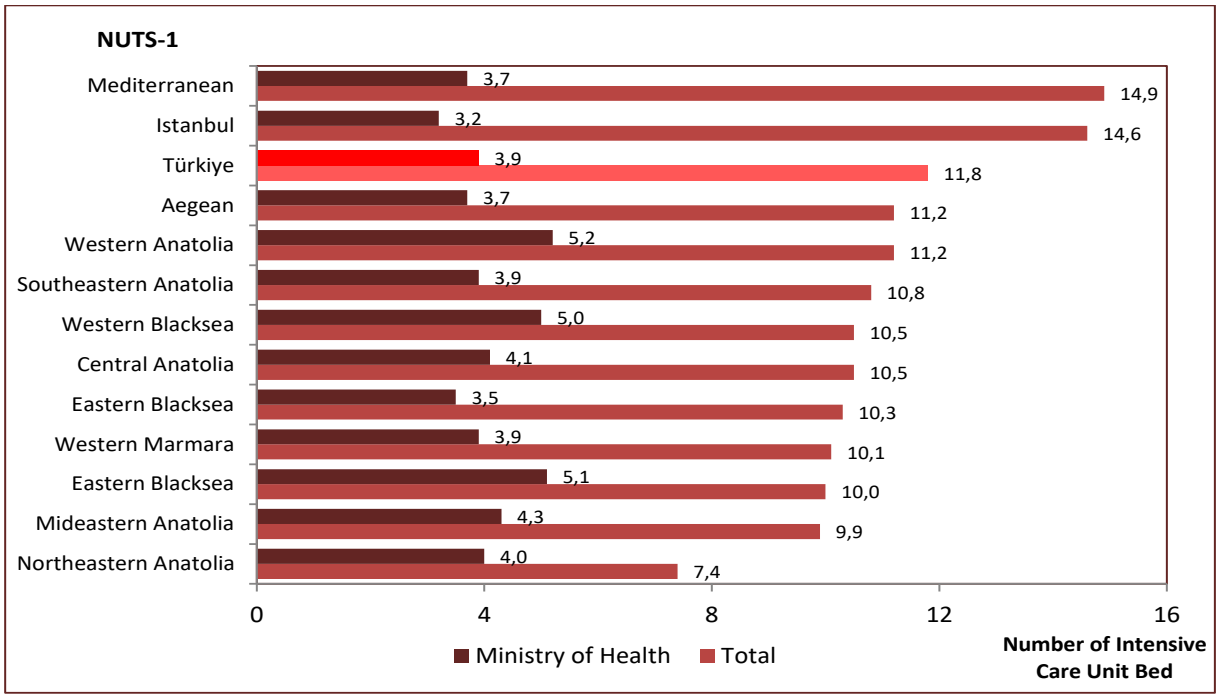
Source: General Directorate of Health Services

Map 7.4. Number of Neonatal Intensive Care Unit Beds per 1.000 Live Births by Provinces, All Sectors, 2020



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, 2020



Source: General Directorate of Health Services, TURKSTAT

Table 7.4. Infrastructure of Operating Services in Hospitals by Sectors, 2020

	Ministry of Health	University	Private	Total
Surgery	1.250	181	844	2.275
Operation Theatre	3.527	1.068	2.185	6.780
Operation Table	3.561	1.089	2.186	6.836

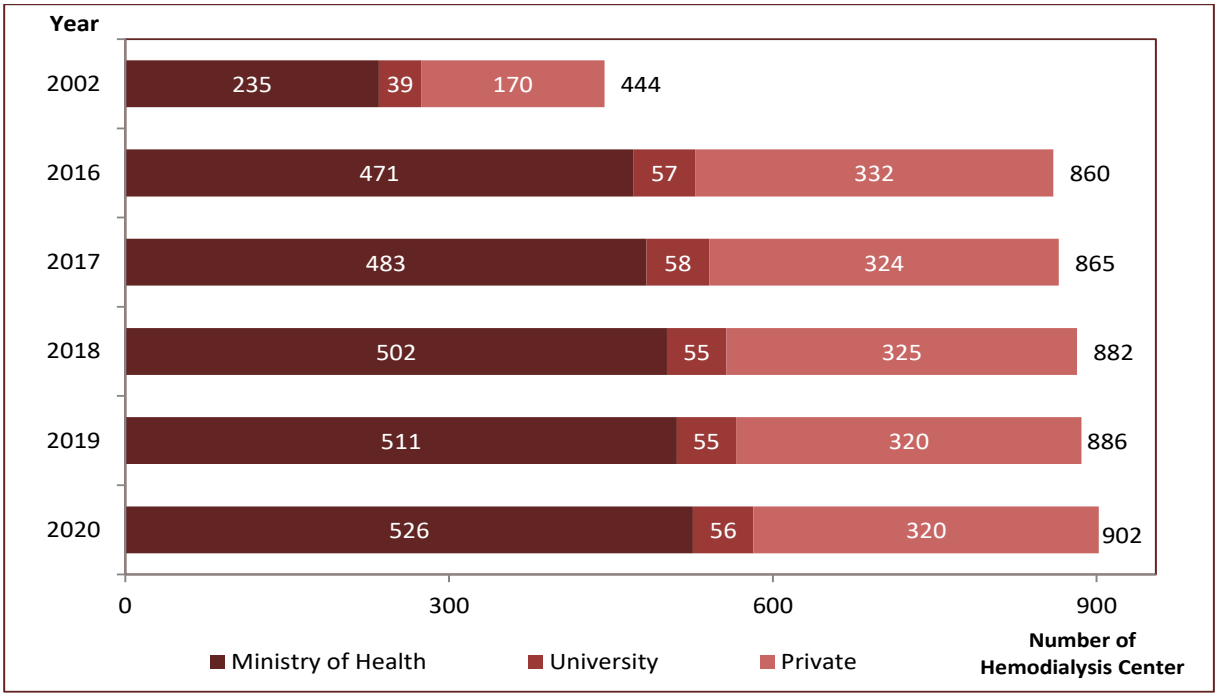
Source: General Directorate of Health Services

Table 7.5. Indicators Regarding to Health Care Facilities Actively Providing Health Care Services on 31.12.2020 by Sectors

Indicators	Ministry of Health	University	Private	Total
Number of Hospitals	904	68	560	1.532
Number of Hospital Beds	157.036	43.275	52.176	252.487
Number of Hospital Beds per 10.000 Population	18,8	5,2	6,2	30,2
Number of Qualified Beds	102.365	24.179	34.466	161.010
Proportion of Qualified Beds Among Total Beds, (%)*	76,9	66,4	97,5	78,6
Number of Adult Intensive Care Unit Beds	18.440	4.635	9.532	32.607
Number of Child Intensive Care Unit Beds	1.138	651	167	1.956
Number of Neonatal Intensive Care Unit Beds	4.361	1.580	7.130	13.071
Total Number of Intensive Care Unit Beds	23.939	6.866	16.829	47.634
Proportion of Intensive Care Unit Beds to All Beds, (%)	15,2	15,9	32,3	18,9
Total Number of Intensive Care Unit Beds per 10.000 Population	2,9	0,8	2,0	5,7
Surgery	1.250	181	838	2.269
Operation Theatre	4.394	1.217	2.267	7.878
Operation Table	4.338	1.165	2.253	7.756
Private Outpatient Clinic	-	-	309	309
Speciality Medical Center	-	-	629	629

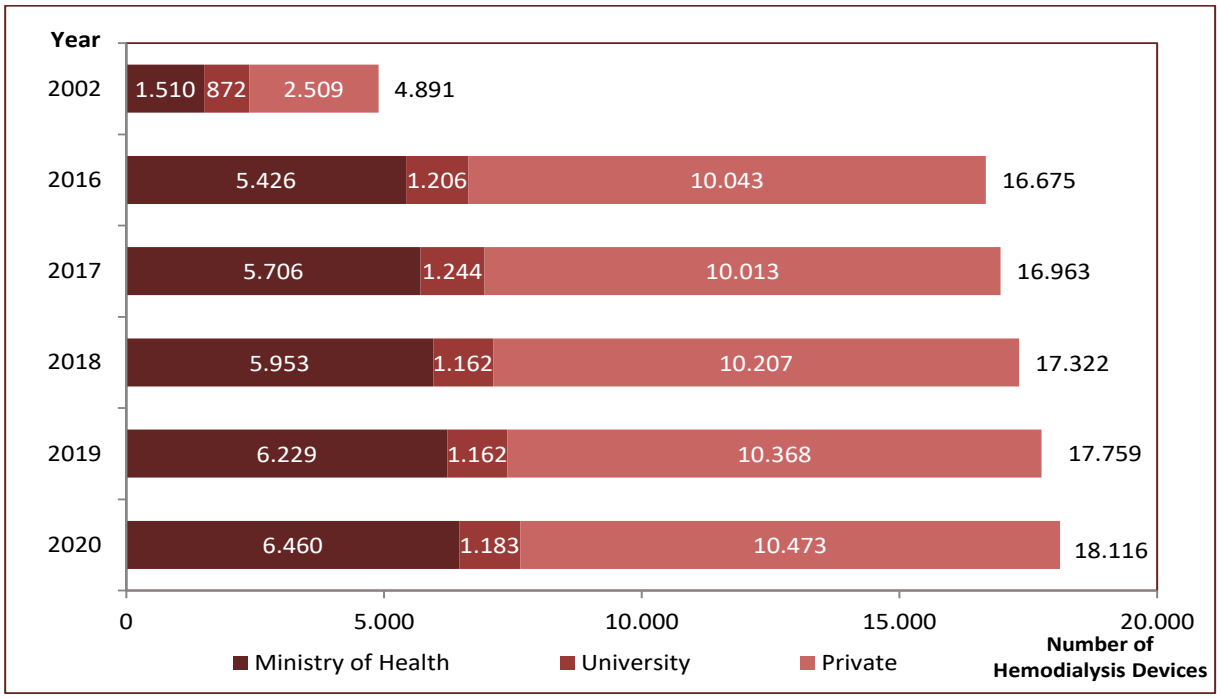
Source: General Directorate of Health Services
**Intensive care unit beds are not included.*

Figure 7.15. Number of Hemodialysis Centers by Years and Sectors



Source: General Directorate of Health Services

Figure 7.16. Number of Hemodialysis Devices by Years and Sectors



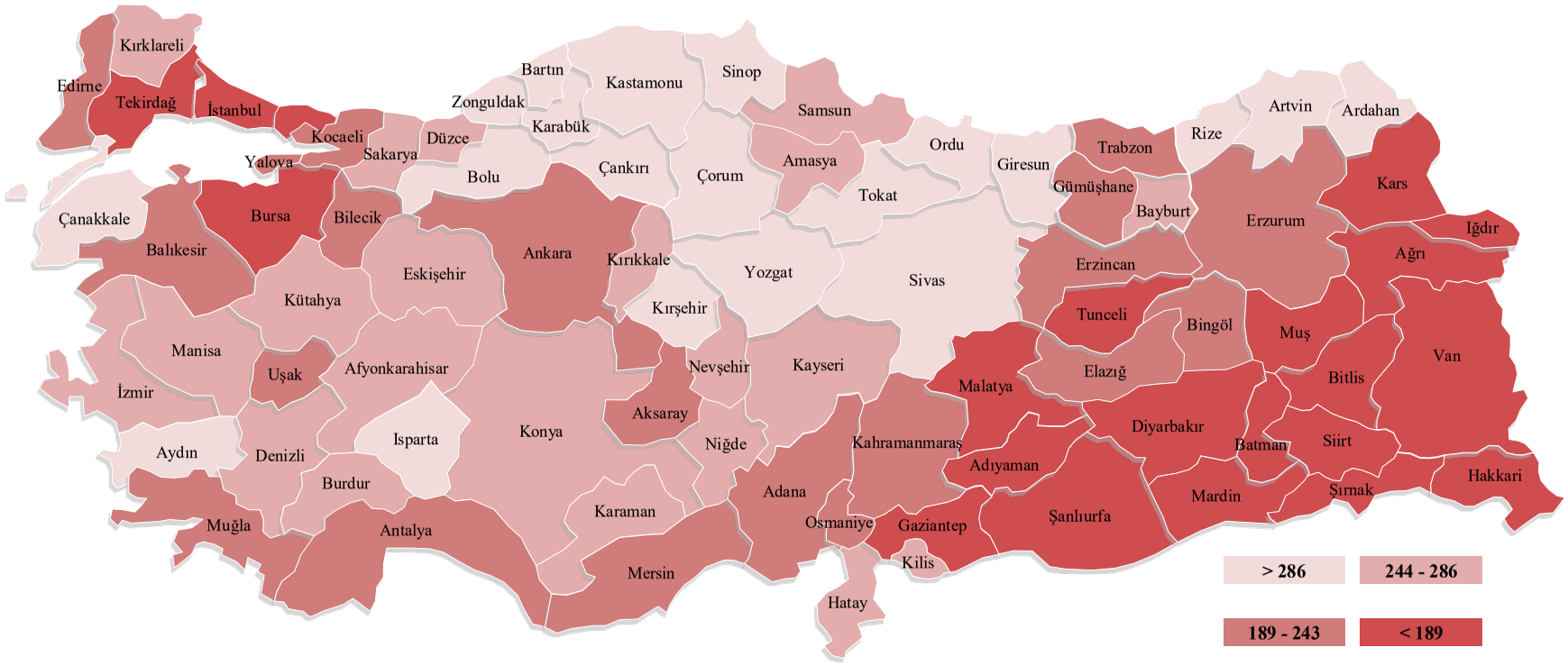
Source: General Directorate of Health Services

Table 7.6. Number of Hemodialysis Devices per 1.000.000 Population by NUTS-1 and Sectors, 2020

NUTS-1	Ministry of Health	University	Private	Total
Western Blacksea	160,4	17,5	125,7	303,5
Central Anatolia	110,1	17,1	158,5	285,7
Eastern Blacksea	175,2	4,9	95,2	275,2
Aegean	77,6	12,4	168,6	258,6
Western Marmara	102,4	6,9	124,7	234,0
Mediterranean	80,4	20,9	130,4	231,7
Western Anatolia	51,2	33,9	140,2	225,3
Eastern Marmara	75,5	11,4	135,4	222,3
Türkiye	**77,3**	**14,1**	**125,3**	**216,7**
Istanbul	22,2	6,1	153,7	181,9
Northeastern Anatolia	145,0	10,0	21,4	176,5
Mideastern Anatolia	93,4	20,2	46,1	159,7
Southeastern Anatolia	72,5	7,6	50,9	130,9

Source: General Directorate of Health Services

Map 7.5. Number of Hemodialysis Devices per 1.000.000 Population by Provinces, All Sectors, 2020



Source: General Directorate of Health Services

Table 7.7. Number of Devices in Hospitals by Years

	2002	2016	2017	2018	2019	2020
MRI	58	836	884	915	902	939
CT	323	1.152	1.186	1.211	1.213	1.248
Ultrasound	1.005	5.470	5.635	5.846	6.098	6.080
Doppler Ultrasound	681	4.679	4.892	5.557	6.383	6.538
ECHO	259	2.121	2.269	2.520	2.714	2.823
Mammography	647*	931	947	966	961	982

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, 2020

	Ministry of Health	University	Private	Total
MRI	369	113	457	939
CT	570	144	534	1.248
Ultrasound	2.555	946	2.579	6.080
Doppler Ultrasound	4.286	588	1.664	6.538
ECHO	1.726	311	786	2.823
Mammography	412	75	495	982

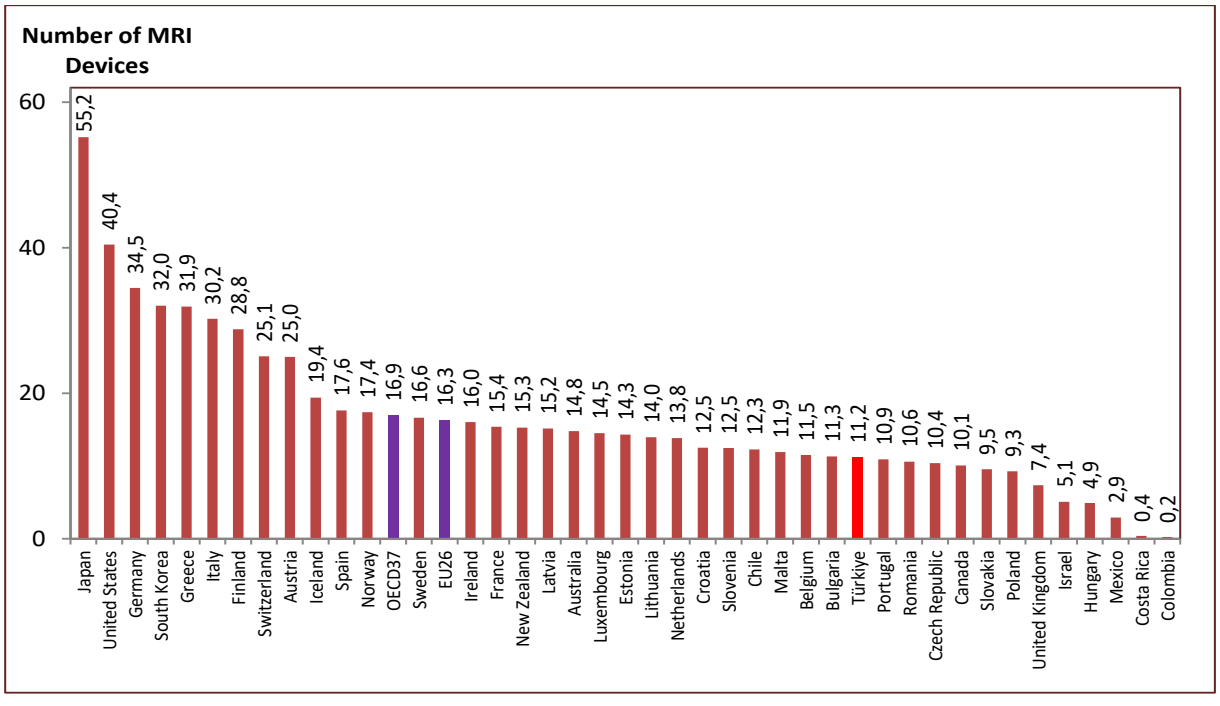
Source: General Directorate of Health Services

Table 7.9. Number of MRI Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2020

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

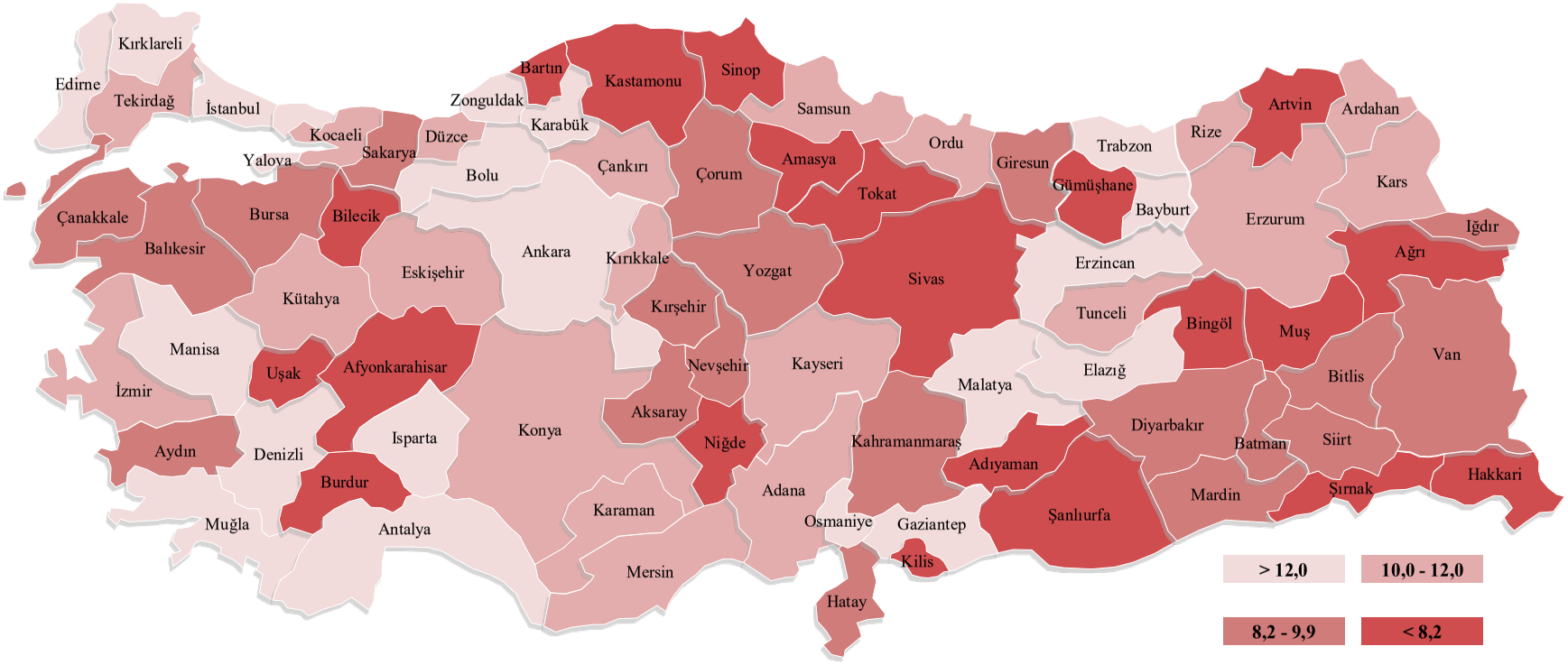
Source: General Directorate of Health Services

Figure 7.17. International Comparison of Number of MRI Devices per 1.000.000 Population, 2019



Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belong to the year 2020. Countries' data belong to the year 2019 or nearest.

Map 7.6. Number of MRI Devices in Hospitals per 1.000.000 Population by Provinces, All Sectors, 2020



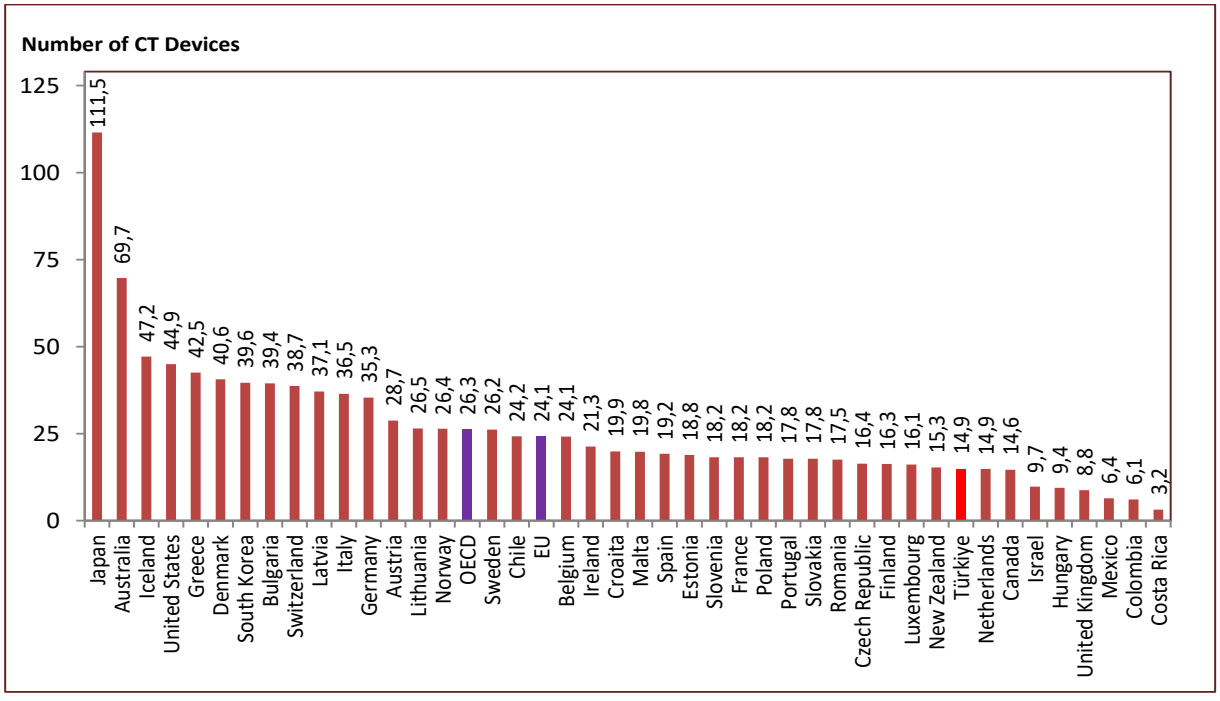
Source: General Directorate of Health Services

Table 7.10. Number of CT Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2020

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	5,8	1,9	9,7	17,3
Western Anatolia	7,6	3,6	5,6	16,8
Mediterranean	5,9	2,0	8,2	16,0
Western Marmara	8,3	1,9	5,8	16,0
Northeastern Anatolia	9,6	2,3	3,6	15,5
Eastern Blacksea	10,1	0,7	4,5	15,3
Western Blacksea	9,3	1,7	4,1	15,1
Türkiye	**6,8**	**1,7**	**6,4**	**14,9**
Mideastern Anatolia	7,3	1,5	5,6	14,4
Aegean	6,8	1,2	5,8	13,8
Eastern Marmara	6,7	1,1	5,1	12,9
Central Anatolia	6,6	1,7	4,4	12,7
Southeastern Anatolia	5,6	0,9	5,0	11,5

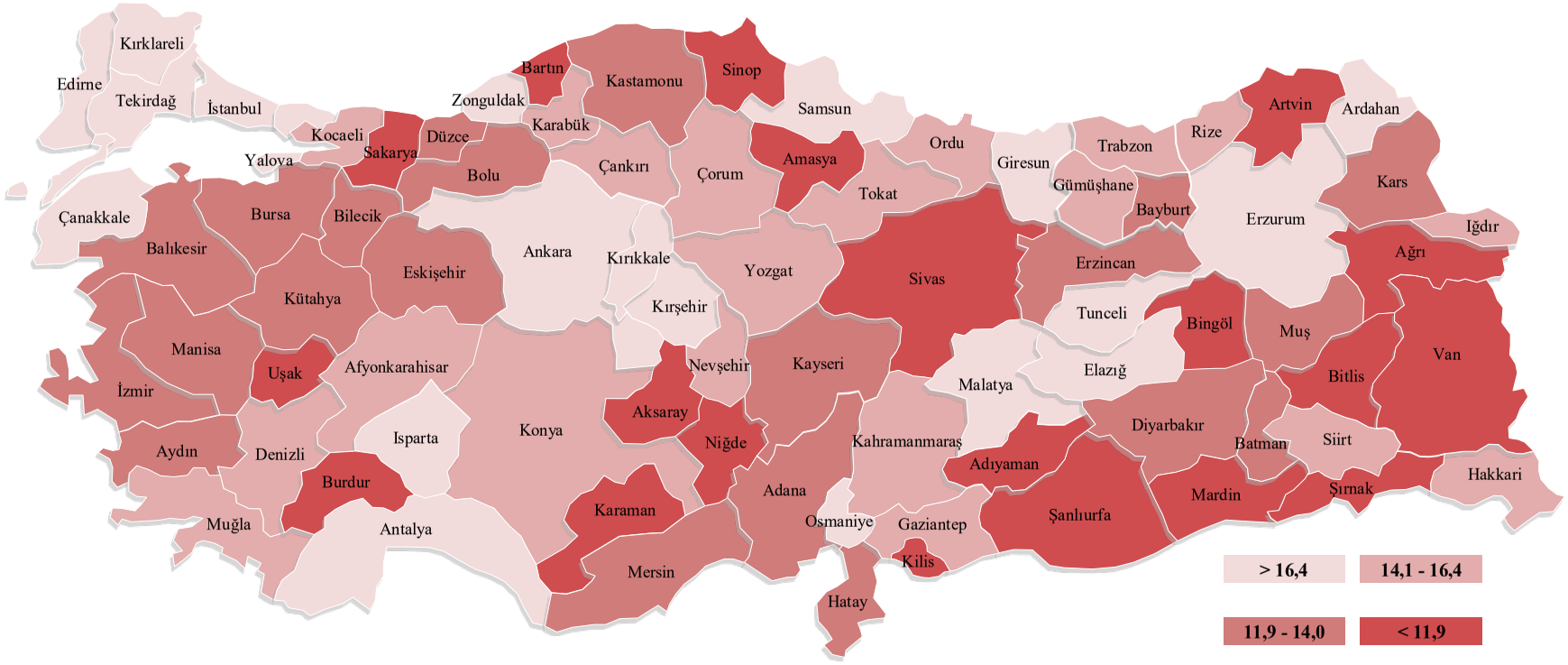
Source: General Directorate of Health Services

Figure 7.18. International Comparison of Number of CT Devices per 1.000.000 Population, 2019



Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belong to the year 2020. Countries' data belong to the year 2019 or nearest.

Map 7.7. Number of CT Devices in Hospitals per 1.000.000 Population by Provinces, All Sectors, 2020



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, 2020

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	23,4	9,1	61,1	93,6
Aegean	34,4	21,1	22,7	78,3
Northeastern Anatolia	59,8	10,0	8,2	78,0
Western Anatolia	33,4	16,3	23,0	72,7
Türkiye	**30,6**	**11,3**	**30,8**	**72,7**
Mediterranean	25,3	13,0	34,3	72,6
Central Anatolia	32,0	8,8	27,4	68,2
Western Marmara	39,1	10,7	18,2	68,0
Eastern Blacksea	34,4	14,6	18,7	67,6
Mideastern Anatolia	45,8	8,1	13,4	67,3
Southeastern Anatolia	25,4	10,1	27,0	62,5
Western Blacksea	41,6	1,9	17,0	60,6
Eastern Marmara	21,6	4,6	25,5	51,7

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, 2020

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	61,8	4,6	37,1	103,4
Western Anatolia	66,7	16,9	15,4	99,0
Central Anatolia	49,7	14,2	23,7	87,6
Türkiye	**51,3**	**7,0**	**19,9**	**78,2**
Eastern Marmara	54,9	4,7	17,8	77,5
Aegean	43,0	10,0	20,0	73,1
Mediterranean	48,0	4,6	16,7	69,2
Western Blacksea	45,5	10,3	13,2	69,0
Eastern Blacksea	58,3	0,7	9,0	68,0
Western Marmara	44,0	8,0	13,2	65,2
Mideastern Anatolia	43,8	4,0	12,1	60,0
Northeastern Anatolia	42,0	9,6	6,4	57,9
Southeastern Anatolia	39,8	1,1	14,5	55,4

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, 2020

NUTS-1	Ministry of Health	University	Private	Total
Istanbul	23,4	3,6	16,0	42,9
Central Anatolia	22,5	5,1	8,6	36,2
Türkiye	**20,6**	**3,7**	**9,4**	**33,8**
Eastern Blacksea	26,5	0,7	6,3	33,6
Aegean	21,0	3,6	9,0	33,6
Western Blacksea	24,1	3,2	6,0	33,4
Eastern Marmara	19,7	2,4	10,3	32,4
Western Anatolia	15,7	8,2	8,4	32,3
Northeastern Anatolia	23,7	6,8	1,4	31,9
Mediterranean	18,8	3,3	9,9	31,9
Western Marmara	21,7	3,6	6,1	31,4
Mideastern Anatolia	21,5	3,0	6,1	30,6
Southeastern Anatolia	17,2	1,9	5,9	25,0

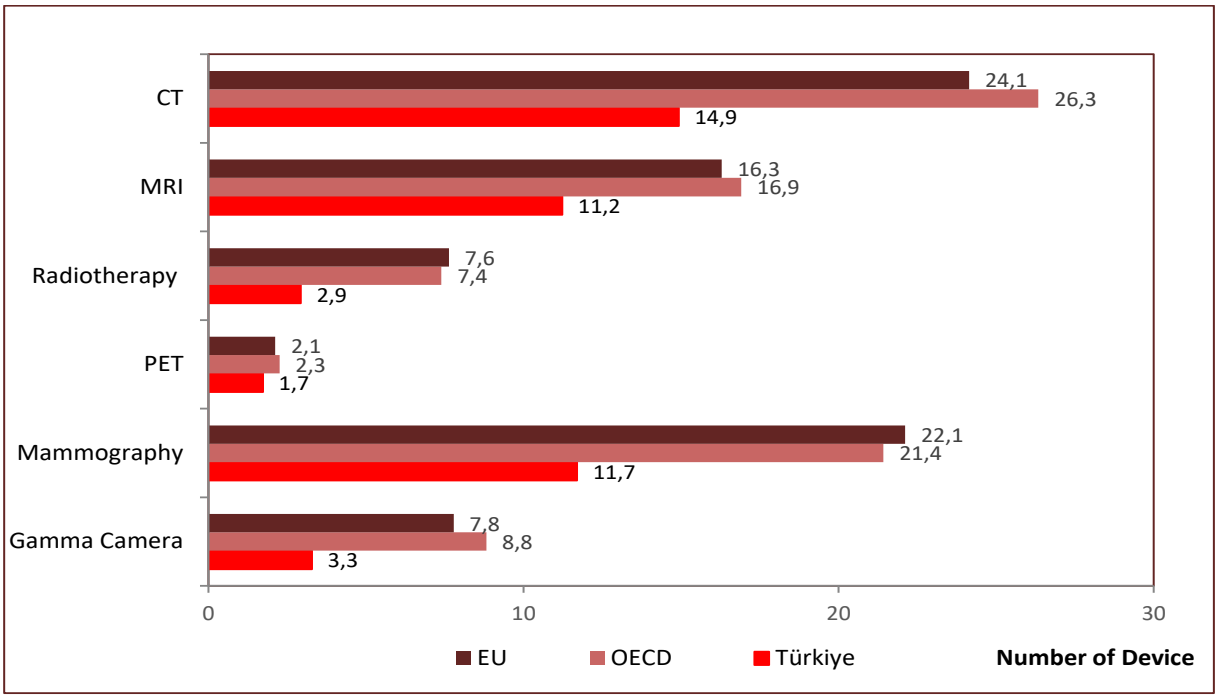
Source: General Directorate of Health Services

Table 7.14. Number of Mammography Devices in Hospitals per 1.000.000 Population by NUTS-1 and Sectors, 2020

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

Source: General Directorate of Health Services

Figure 7.19. International Comparison of Number of Devices per 1.000.000 Population, 2019



Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belong to the year 2020. OECD and EU data belong to the year 2019 or nearest.

Table 7.15. Number of Specialty Medical Center and Private Outpatient Clinic by NUTS-1, 2020

NUTS-1	Specialty Medical Center	Private Outpatient Clinic
Istanbul	235	142
Western Marmara	13	4
Aegean	107	56
Eastern Marmara	56	15
Western Anatolia	83	44
Mediterranean	65	35
Central Anatolia	8	4
Western Blacksea	18	5
Eastern Blacksea	8	5
Northeastern Anatolia	2	0
Mideastern Anatolia	9	1
Southeastern Anatolia	34	3
Türkiye	638	314

Source: General Directorate of Health Services

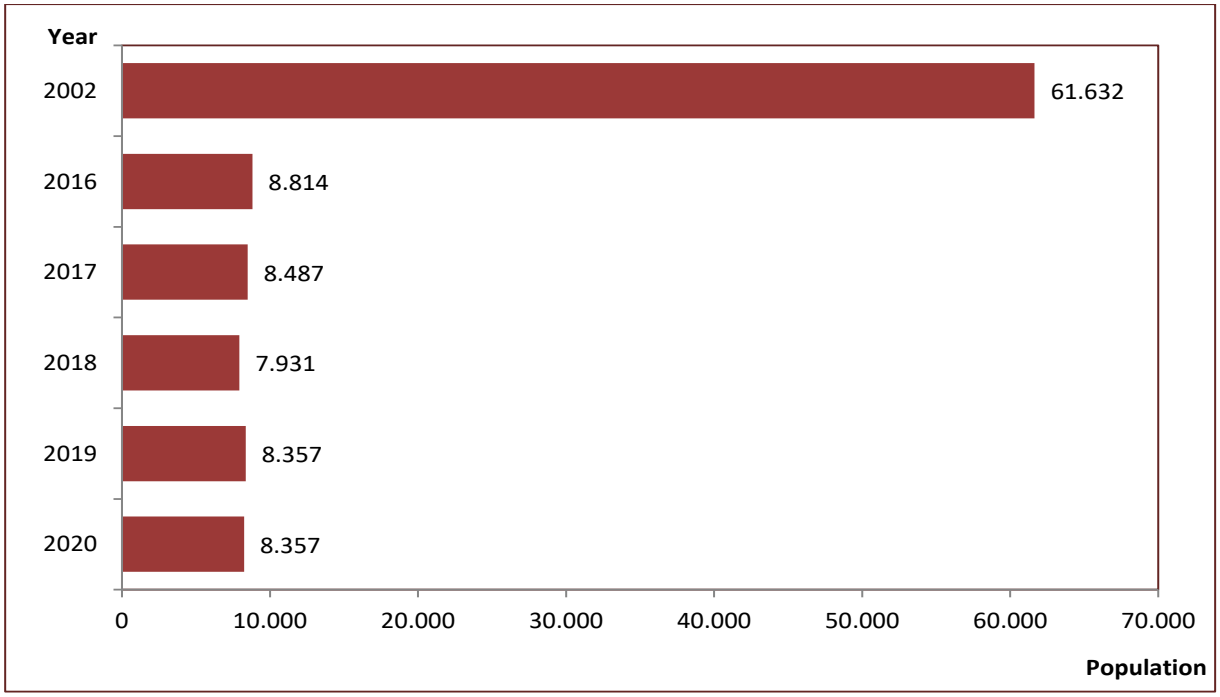
Table 7.16. Number of the Institution Providing Oral and Dental Health Care Services by Sectors, 2020

	Ministry of Health		University		Private		Total	
	Institution	Unit	Institution	Unit	Institution	Unit	Institution	Unit
Oral and Dental Health Center	132	4.488	-	-	86	937	218	5.425
Dental Hospital	28	2.013	-	-	3	82	31	2.095
Dental Training Hospital	5	438	52	5.514	-	-	57	5.952
Dental Policlinic (Hospital)	815	3.199	14	228	212	490	1.041	3.917
Dental Policlinic	-	-	-	-	2.413	9.895	2.413	9.895
Total	980	10.138	66	5.742	2.714	11.404	3.760	27.284

Source: General Directorate of Health Services

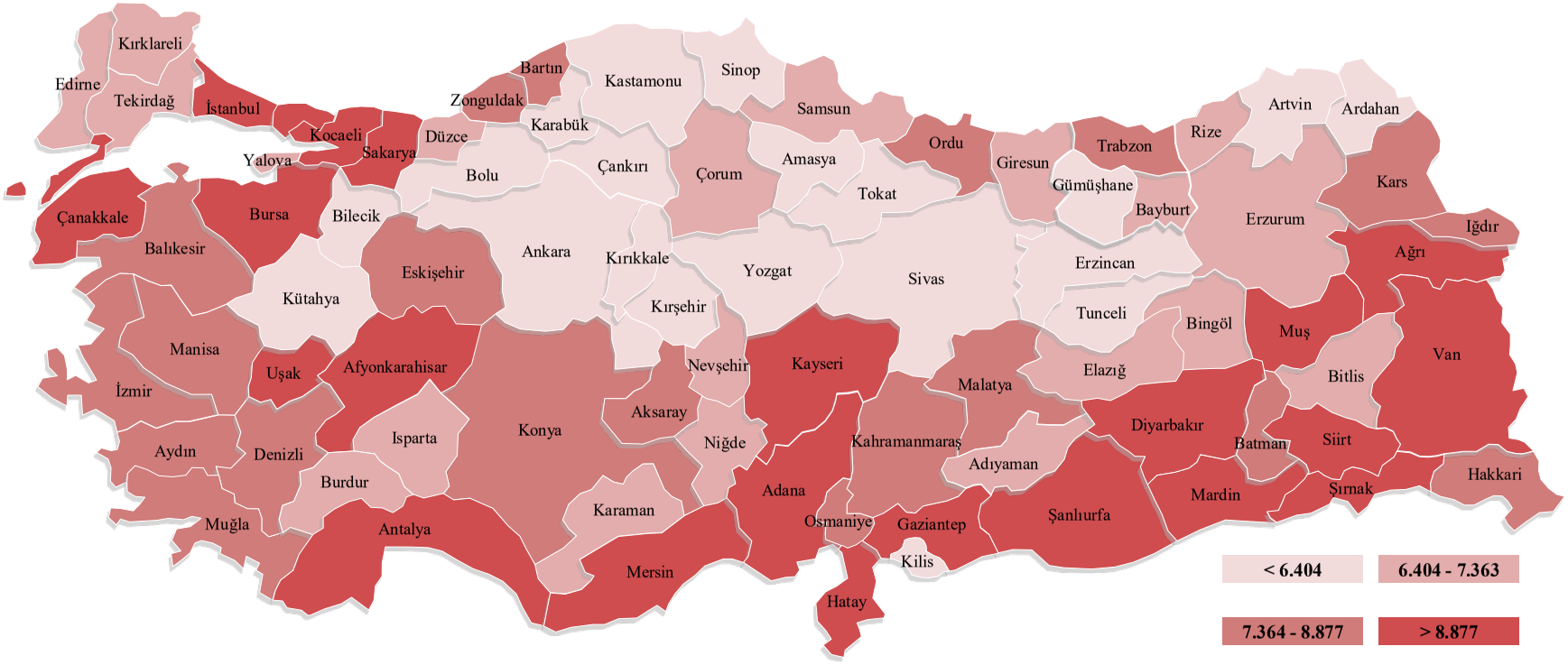
Note: Data related to dental clinic and dental prosthesis center belonging to oral and dental health center and hospital exist in Dental Policlinic (Hospital).

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



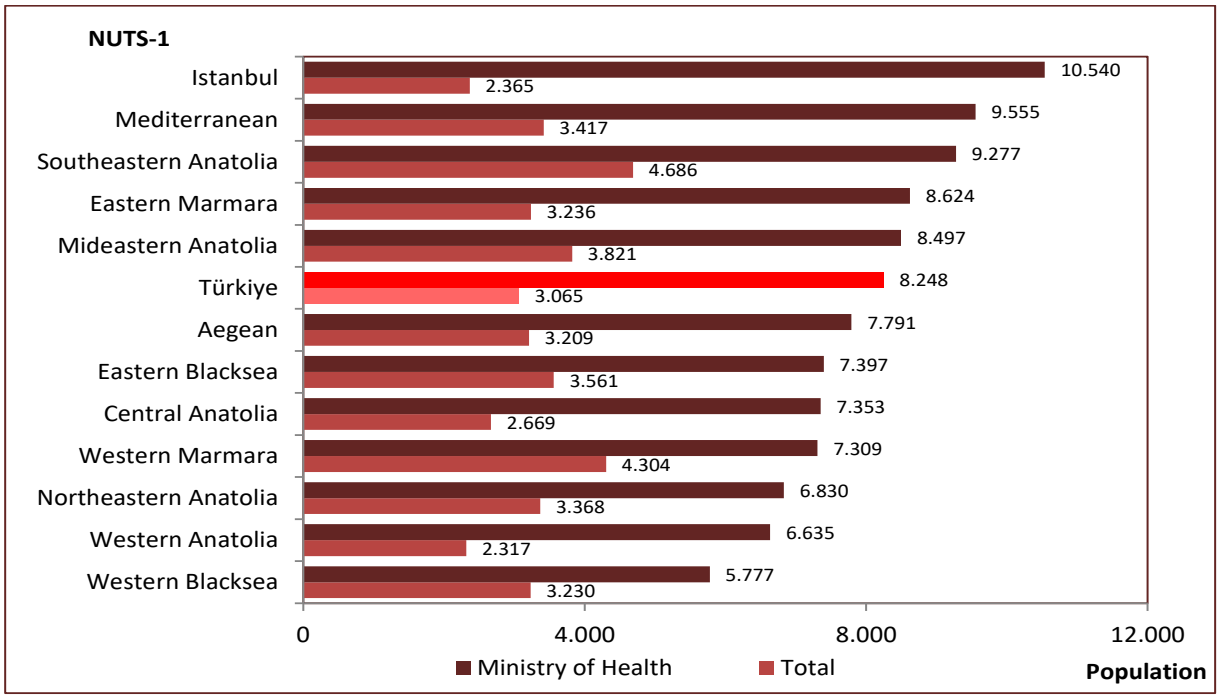
Source: General Directorate of Health Services

Map 7.8. Population per Dental Unit by Provinces, Ministry of Health, 2020



Source: General Directorate of Health Services

Figure 7.21. Population per Dental Unit by NUTS-1, All Sectors, Ministry of Health, 2020



Source: General Directorate of Health Services

Table 7.17. Indicators Regarding to Institution Actively Provide Oral and Dental Health Care Services on 31.12.2020 by Sectors

	Ministry of Health		University		Private		Total	
	Institution	Unit	Institution	Unit	Institution	Unit	Institution	Unit
Oral and Dental Health Center	132	4.488	-	-	85	930	217	5.418
Dental Hospital	28	2.013	-	-	3	82	31	2.095
Dental Training Hospital	5	438	56	5.586	-	-	61	6.024
Dental Policlinic (Hospital)	826	3.178	16	229	218	494	1.060	3.901
Dental Policlinic	-	-	-	-	2.479	9.958	2.479	9.958
Total	991	10.117	72	5.815	2.785	11.464	3.848	27.396

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).

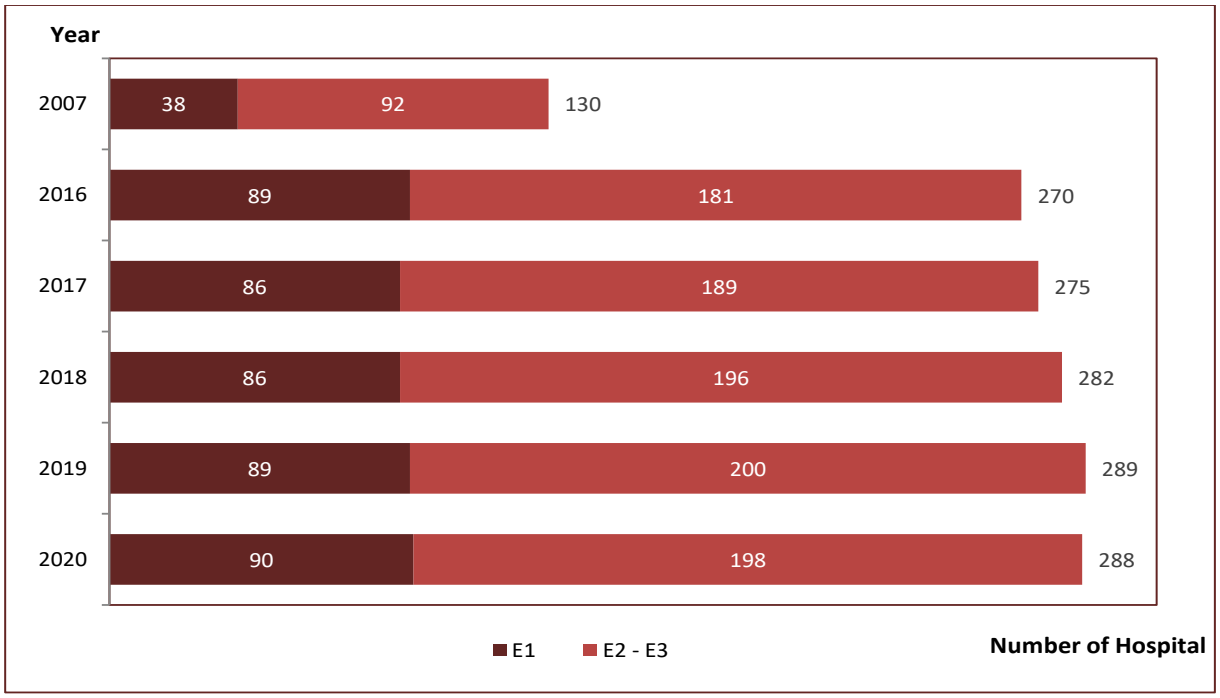
Table 7.18. Primary Health Care Facilities by Years, Ministry of Health

	2002	2016	2017	2018	2019	2020
Health Center	5.055	-	-	-	-	-
Family Medicine Unit	-	24.428	25.198	26.252	26.476	26.594
Family Health Center	-	7.636	7.774	7.979	7.997	8.015
Community Health Center*	-	970	972	776	778	779
Health House	2.899	5.419	5.320	5.259	5.078	5.027
Child, Adolescent, Women and Reproductive Health Unit (CEKUS)	298	181	177	172	167	166
Tuberculosis Control Dispensary	277	180	177	173	174	173
Cancer Early Diagnosis, Screening and Training Centers (KETEM)	84	159	164	175	178	175
E2-E3 Integrated District State Hospitals	-	181	189	196	200	198
Number of Public Health Laboratories	-	83	83	83	83	84

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

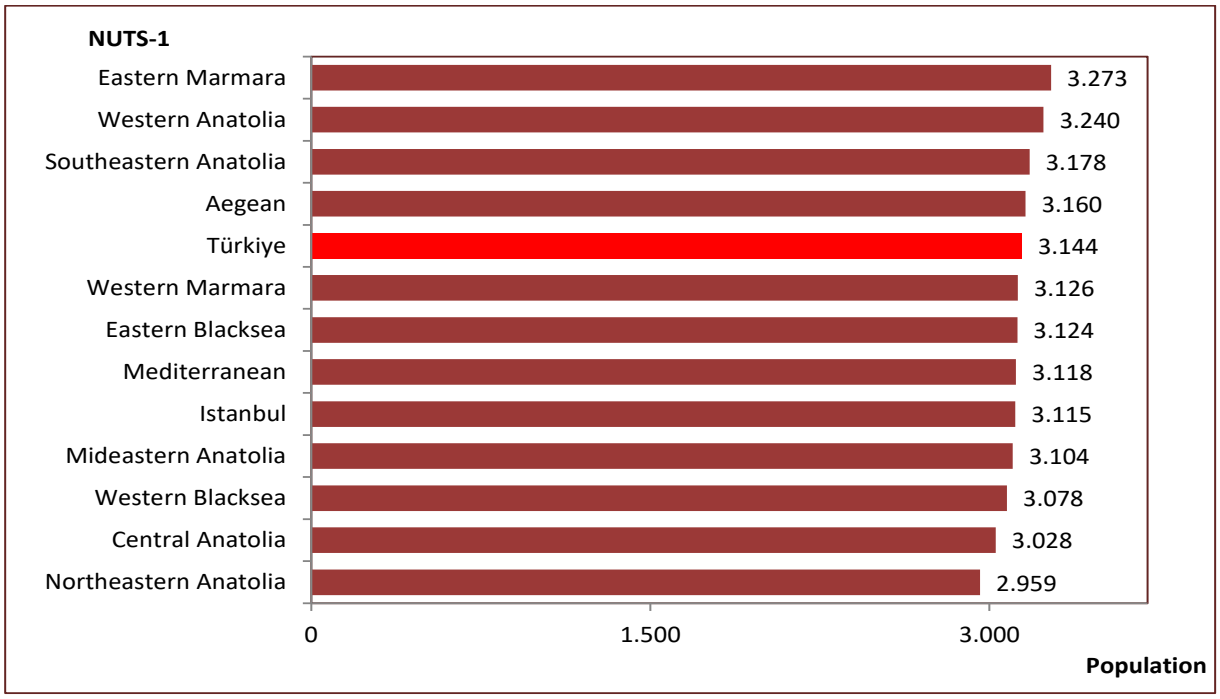
** In districts with a population of 30.000 or more, 429 District Health Directorates, which provide the same services, included the number of Community Health Centers.*

Figure 7.22. Number of Integrated District State Hospitals by Years



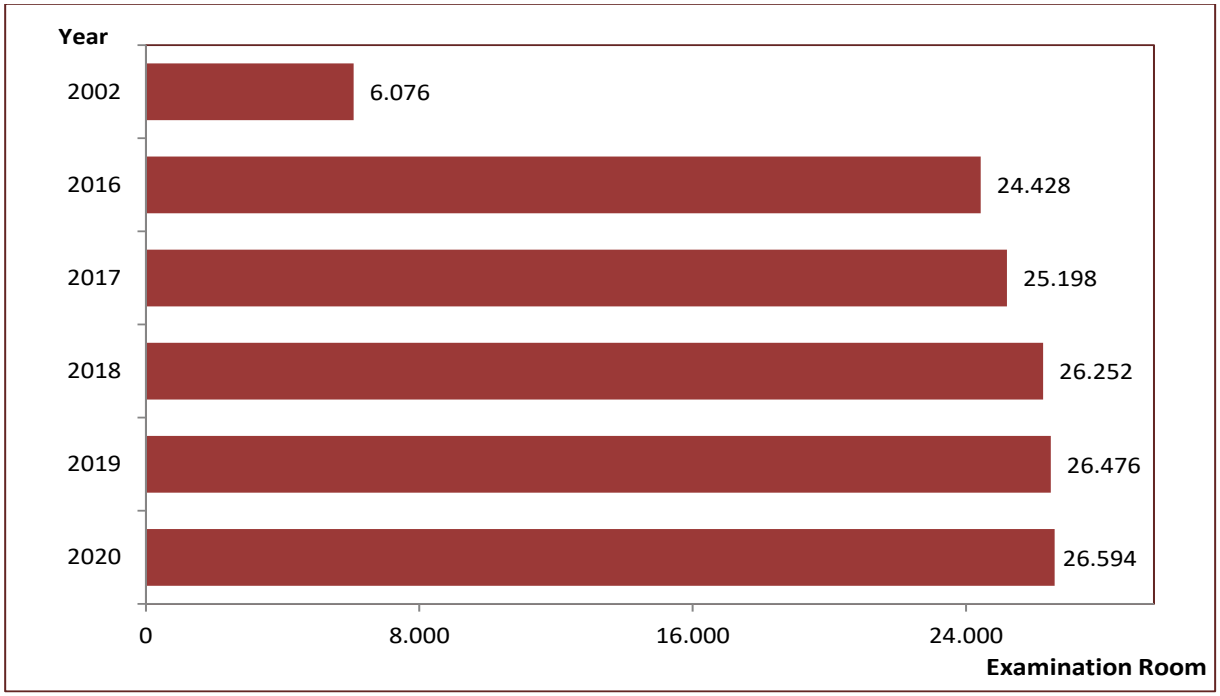
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 7.23. Population per Family Medicine Unit by NUTS-1, 2020



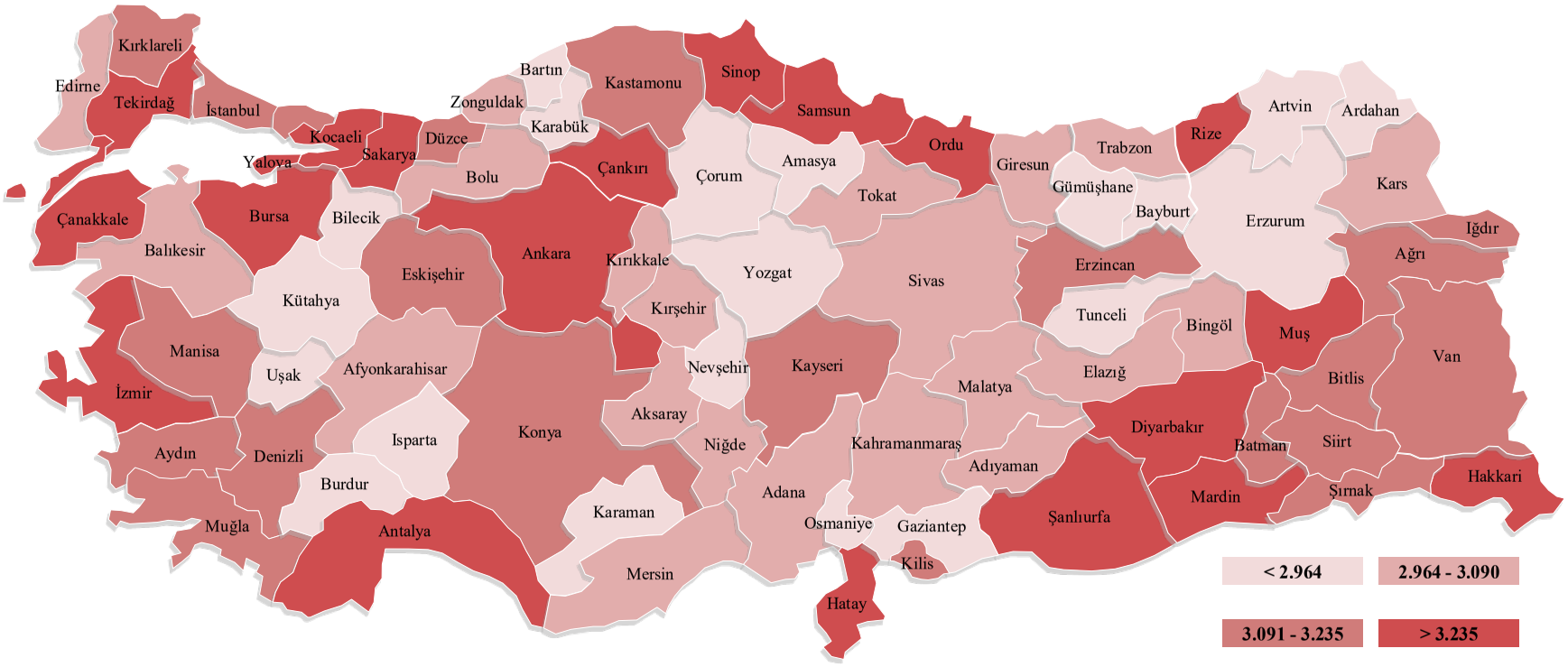
Source: General Directorate of Public Health

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



Source: General Directorate of Public Health

Map 7.9. Population per Family Medicine Unit by Provinces, 2020



Source: General Directorate of Public Health

Table 7.19. Some Health Indicators by Provinces, 2020

City	Number of Hospital	Number of Bed	Number of Hospital Bed per 10.000 Population	Number of Qualified Bed	Number of Intensive Care Unit Bed	Proportion of Qualified Bed *	Intensive Care Unit Bed per 10.000 Population	Number of Family Medicine Unit	Population per Family Medicine Unit
Adana	32	7.412	32,8	4.361	1.671	76,0	7,4	737	3.065
Adıyaman	12	1.405	22,2	919	306	83,6	4,8	212	2.983
Afyonkarahisar	22	2.317	31,4	1.589	384	82,2	5,2	244	3.020
Ağrı	9	892	16,7	740	121	96,0	2,3	167	3.206
Amasya	7	835	24,9	527	101	71,8	3,0	114	2.943
Ankara	83	19.834	35,0	12.540	3.533	76,9	6,2	1.727	3.279
Antalya	46	7.484	29,4	5.139	1.379	84,2	5,4	777	3.280
Artvin	8	363	21,4	291	42	90,7	2,5	59	2.873
Aydın	23	3.218	28,8	1.790	538	66,8	4,8	362	3.091
Balıkesir	25	3.363	27,1	2.371	546	84,2	4,4	412	3.010
Bilecik	8	583	26,7	373	110	78,9	5,0	75	2.916
Bingöl	8	756	26,8	506	67	73,4	2,4	92	3.063
Bitlis	8	988	28,1	617	168	75,2	4,8	111	3.162
Bolu	11	1.505	47,8	1.006	205	77,4	6,5	104	3.027
Burdur	8	770	28,8	496	104	74,5	3,9	92	2.903
Bursa	42	8.379	27,0	5.754	1.546	84,2	5,0	956	3.245
Çanakkale	14	1.705	31,5	1.302	231	88,3	4,3	167	3.243
Çankırı	9	465	24,2	366	41	86,3	2,1	59	3.261
Çorum	16	1.714	32,3	1.283	284	89,7	5,4	182	2.913
Denizli	23	3.237	31,1	1.781	556	66,4	5,3	335	3.107
Diyarbakır	28	4.797	26,9	2.063	1.177	57,0	6,6	536	3.327
Edirne	11	1.936	47,5	1.027	286	62,2	7,0	133	3.066
Elazığ	13	3.160	53,7	1.830	504	68,9	8,6	198	2.969
Erzincan	10	710	30,3	601	89	96,8	3,8	75	3.126
Erzurum	21	3.623	47,8	2.405	468	76,2	6,2	272	2.788
Eskişehir	15	3.756	42,3	2.735	710	89,8	8,0	281	3.163
Gaziantep	32	6.435	30,6	3.356	1.521	68,3	7,2	715	2.939
Giresun	17	1.940	43,2	1.372	297	83,5	6,6	148	3.032
Gümüşhane	6	461	32,5	84	41	20,0	2,9	50	2.834
Hakkari	4	419	14,9	349	60	97,2	2,1	82	3.421
Hatay	25	4.417	26,6	2.713	997	79,3	6,0	502	3.305
Isparta	15	2.085	47,4	1.377	459	84,7	10,4	160	2.752
Mersin	26	4.971	26,6	3.377	1.058	86,3	5,7	607	3.079
İstanbul	232	46.382	30,0	29.522	9.242	79,5	6,0	4.964	3.115
İzmir	61	12.077	27,5	6.549	2.248	66,6	5,1	1.358	3.236
Kars	8	809	28,4	627	117	90,6	4,1	96	2.968
Kastamonu	18	1.245	33,1	695	152	63,6	4,0	117	3.217
Kayseri	27	4.783	33,6	3.042	1.003	80,5	7,1	458	3.104
Kırklareli	10	1.010	27,9	814	189	99,1	5,2	116	3.118
Kırşehir	6	465	19,1	383	82	100,0	3,4	82	2.964
Kocaeli	29	4.821	24,1	3.215	1.053	85,3	5,3	583	3.426

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

Table 7.19. Some Health Indicators by Provinces, 2020 - Continued

City	Number of Hospital	Number of Bed	Number of Hospital Bed per 10.000 Population	Number of Qualified Bed	Number of Intensive Care Unit Bed	Proportion of Qualified Bed *	Intensive Care Unit Bed per 10.000 Population	Number of Family Medicine Unit	Population per Family Medicine Unit
Konya	45	8.554	38,0	5.608	1.553	80,1	6,9	701	3.210
Kütahya	13	1.889	32,8	1.168	319	74,4	5,5	196	2.942
Malatya	18	2.972	36,9	1.925	609	81,5	7,6	271	2.975
Manisa	28	4.791	33,0	3.086	951	80,4	6,6	453	3.202
Kahramanmaraş	18	2.996	25,6	1.672	852	78,0	7,3	388	3.011
Mardin	12	1.447	16,9	935	332	83,9	3,9	258	3.313
Muğla	22	2.203	22,0	1.584	325	84,3	3,2	310	3.228
Muş	7	781	19,0	587	101	86,3	2,5	126	3.263
Nevşehir	10	732	24,0	593	131	98,7	4,3	103	2.961
Niğde	8	928	25,6	598	152	77,1	4,2	122	2.968
Ordu	17	2.264	29,7	1.334	461	74,0	6,1	229	3.325
Rize	11	1.126	32,7	880	117	87,2	3,4	103	3.343
Sakarya	18	2.265	21,7	1.608	520	92,1	5,0	314	3.321
Samsun	26	5.225	38,5	3.592	946	83,9	7,0	416	3.260
Siirt	8	783	23,7	631	111	93,9	3,4	106	3.123
Sinop	7	660	30,5	498	114	91,2	5,3	65	3.330
Sivas	19	2.605	41,0	1.675	389	75,6	6,1	210	3.028
Tekirdağ	19	3.023	28,0	2.124	655	89,7	6,1	334	3.237
Tokat	15	2.299	38,5	1.850	324	93,7	5,4	199	3.004
Trabzon	22	3.417	42,1	2.149	477	73,1	5,9	268	3.029
Tunceli	6	150	18,0	124	25	99,2	3,0	29	2.877
Şanlıurfa	19	4.074	19,3	2.005	1.123	67,9	5,3	627	3.374
Uşak	8	1.235	33,4	794	178	75,1	4,8	125	2.955
Van	14	3.020	26,3	2.232	634	93,5	5,5	364	3.158
Yozgat	16	1.261	30,1	1.045	183	96,9	4,4	142	2.951
Zonguldak	12	2.291	38,8	980	371	51,0	6,3	195	3.032
Aksaray	10	841	19,9	558	153	81,1	3,6	139	3.043
Bayburt	1	200	24,4	124	39	77,0	4,8	31	2.642
Karaman	7	628	24,6	493	134	99,8	5,3	93	2.741
Kırıkkale	7	1.254	45,0	690	153	62,7	5,5	94	2.965
Batman	13	1.942	31,3	1.149	456	77,3	7,4	195	3.181
Şırnak	7	765	14,2	516	103	77,9	1,9	174	3.091
Bartın	3	432	21,7	154	78	43,5	3,9	74	2.689
Ardahan	3	215	22,4	184	26	97,4	2,7	36	2.671
Iğdır	4	313	15,5	264	48	99,6	2,4	64	3.146
Yalova	7	766	27,7	431	195	75,5	7,1	79	3.494
Karabük	6	751	30,8	577	130	92,9	5,3	86	2.833
Kilis	2	365	25,6	256	57	83,1	4,0	46	3.104
Osmaniye	10	1.348	24,6	662	358	66,9	6,5	188	2.918
Düzce	8	844	21,3	543	131	76,2	3,3	124	3.191
Türkiye	1.534	251.182	30,0	159.765	47.700	78,5	5,7	26.594	3.144

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

Explanations for Chapter 7

☑ Except for the tables regarding to the actively hospitals on 31.12.2020 (Table 7.5 and Table 7.17), the data about the institutions which served in the year (including those closed) were used in the tables, figures where the infrastructure and services of the hospitals are provided.

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

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

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

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

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

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

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

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

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

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

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

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

☑ **Qualified Bed:** It is bed with a bathroom, a toilet, and a maximum of 2 patient beds in a room. These figures are included in the total number of beds.

☑ Actively used hemodialysis center and devices have been used for calculations in the tables, figures and maps regarding to hemodialysis data.

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

☑ The 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 2016-2020.

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	2016	2017	2018	2019	2020
Health Center	69.103.517	-	-	-	-	-
Family Medicine	-	205.549.931	228.098.527	258.436.607	278.043.149	247.273.830
Tuberculosis Control Dispensary	2.012.458	1.374.153	1.391.817	1.332.580	1.256.364	769.343
CEKUS Unit*	2.980.481	525.011	646.856	366.095	309.984	153.890
Other Examinations Made by CHCs*	-	8.080.631	4.496.425	4.821.348	3.959.746	1.767.606
Private Outpatient Clinics	731.132	461.013	501.993	539.593	629.221	435.764
E2-E3 Integrated District State Hospitals	-	3.205.116	3.356.809	3.577.348	3.903.402	2.719.502
Primary Health Care Facilities Total	**74.827.588**	**219.195.855**	**238.492.427**	**269.073.571**	**288.101.866**	**253.119.935**
Specialty Medical Centers	9.824.802	22.069.610	18.912.829	19.055.722	18.298.592	14.527.627
Hospitals**	**124.313.659**	**444.443.714**	**461.519.553**	**494.385.911**	**506.503.164**	**332.613.569**
Ministry of Health	109.793.128	336.875.423	350.347.005	377.045.707	387.622.848	239.981.820
University	8.823.361	36.420.413	38.963.933	42.665.139	46.211.148	31.725.506
Private	5.697.170	71.147.878	72.208.615	74.675.065	72.669.168	60.906.243
Secondary and Tertiary Health Care Total	**134.138.461**	**466.513.324**	**480.432.382**	**513.441.633**	**524.801.756**	**347.141.196**
Total	208.966.049	685.709.179	718.924.809	782.515.204	812.903.622	600.261.131

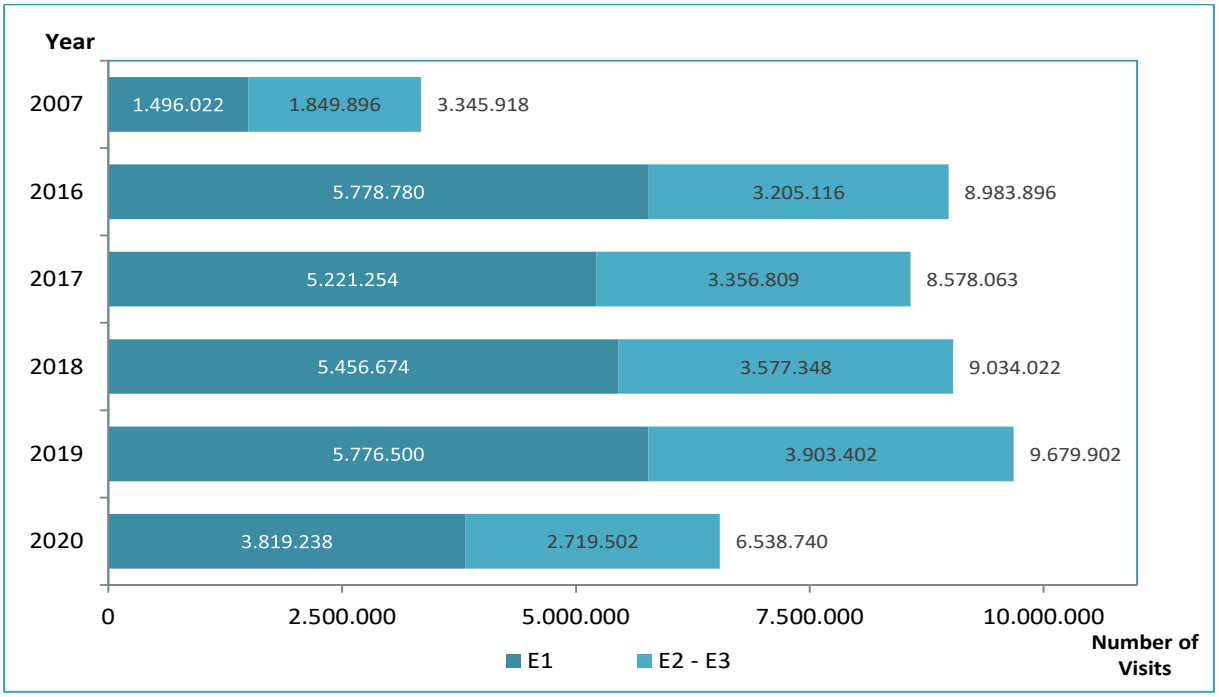
Source: General Directorate of Public Health, General Directorate of Health Services

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

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

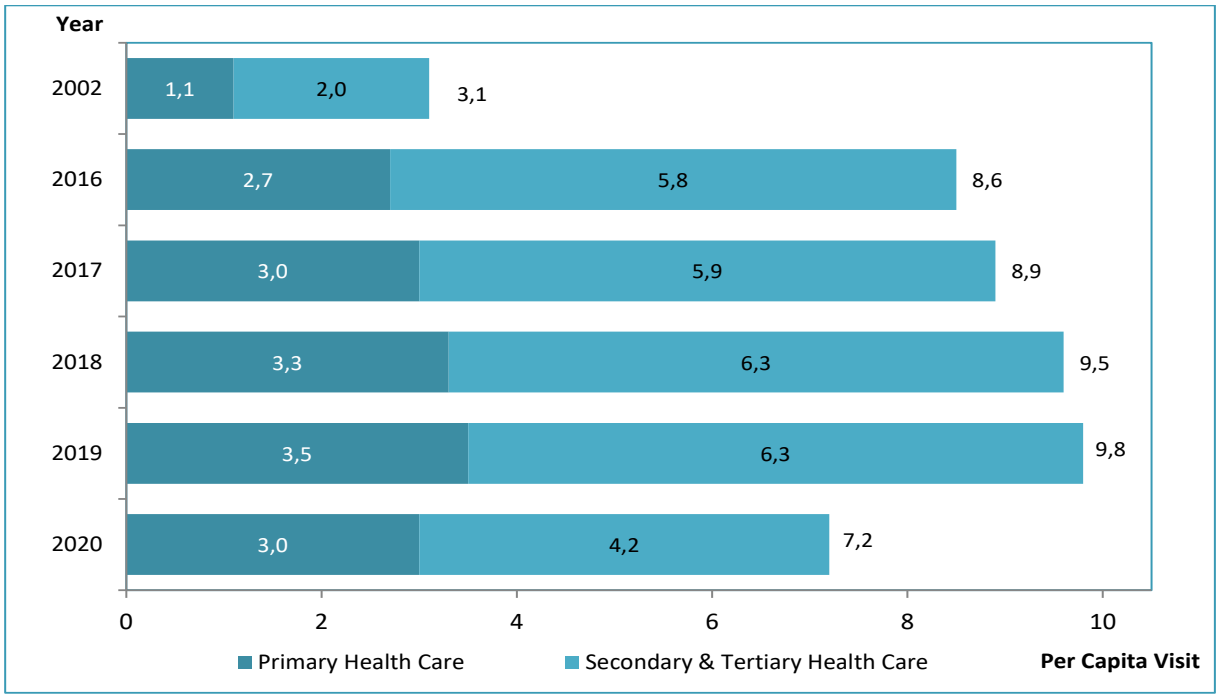
Note: The number of visits to a dentist is not included.

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



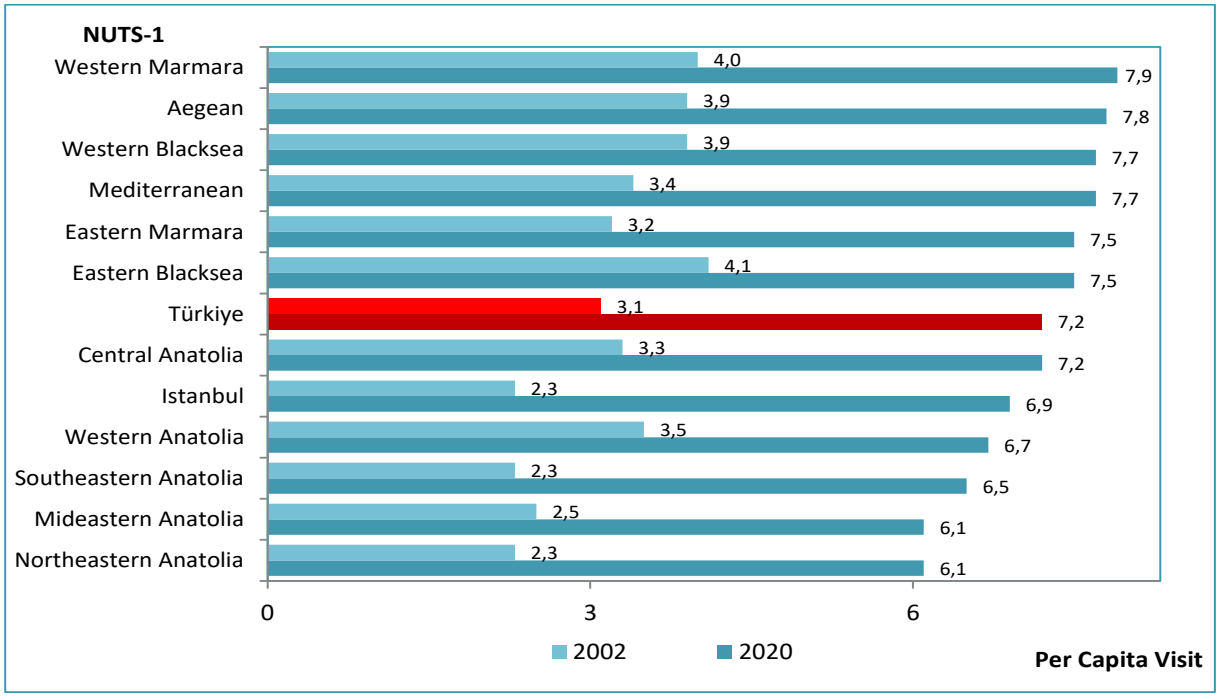
Source: General Directorate of Public Health, General Directorate of Health Services

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



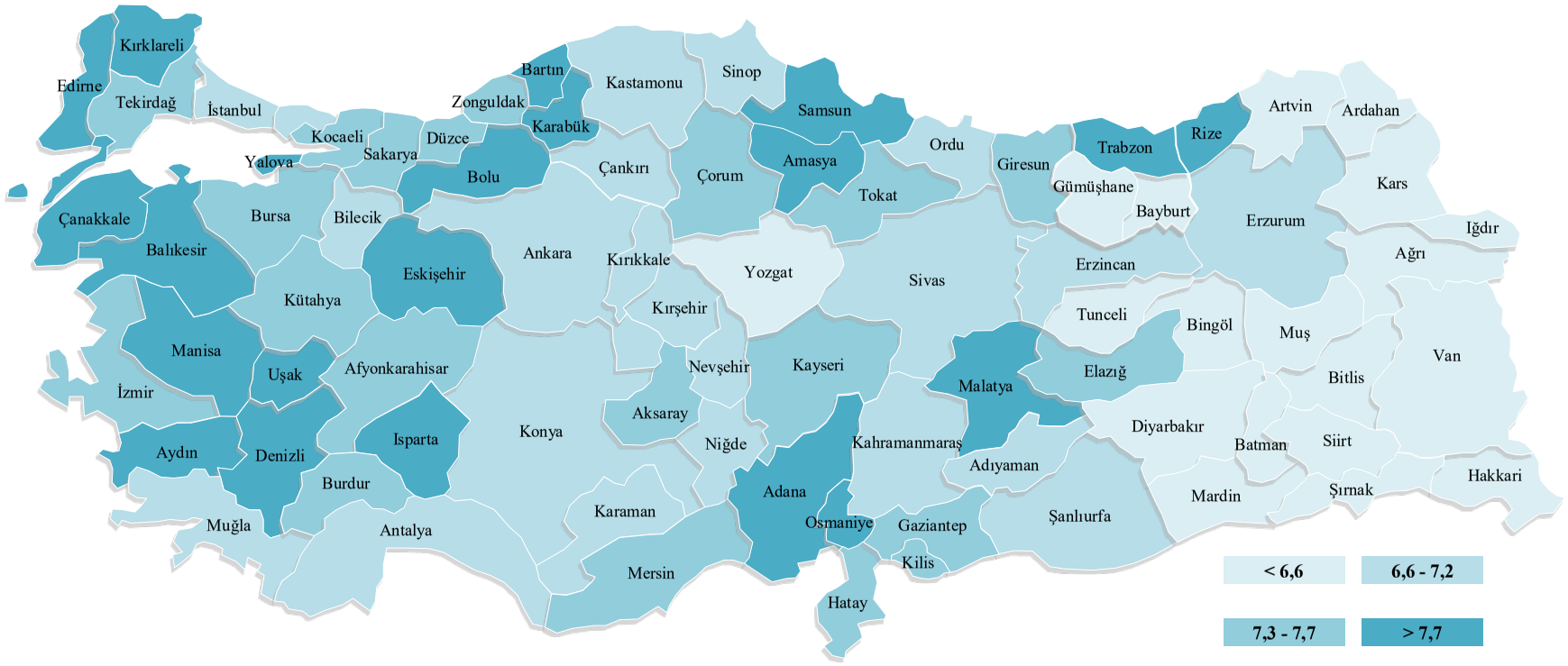
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.3. Per Capita Visits to a Physician in Health Care Facilities by NUTS-1, All Sectors, 2002, 2020



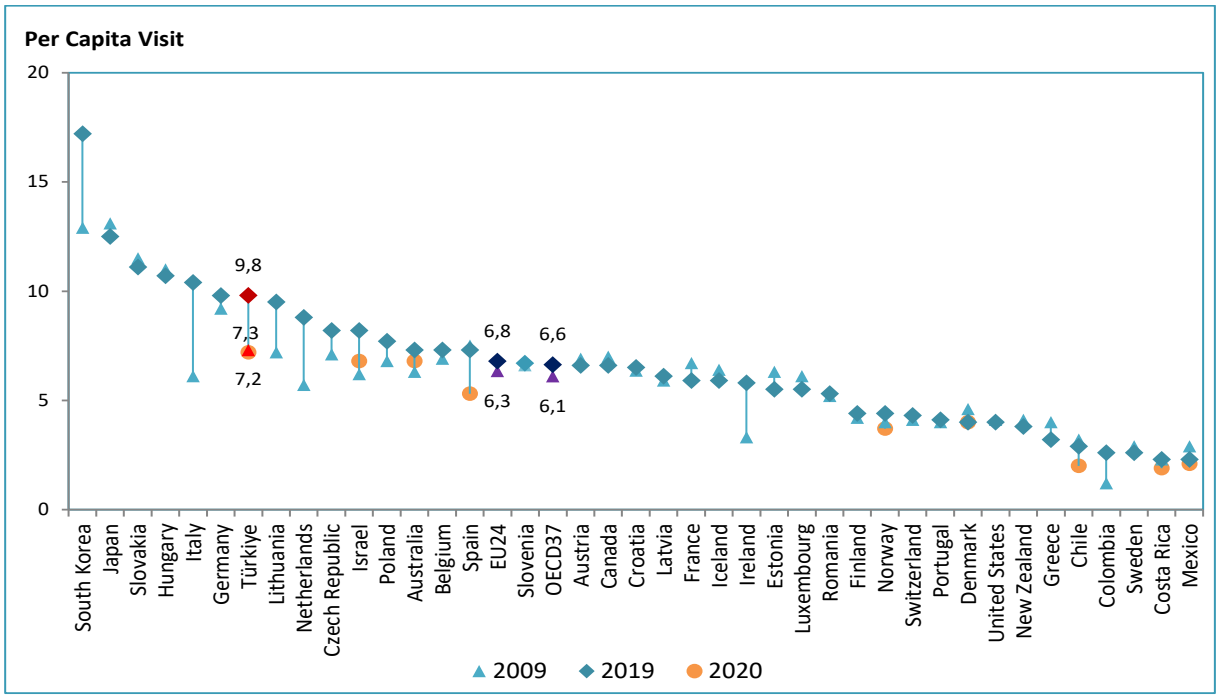
Source: General Directorate of Public Health, General Directorate of Health Services

Map 8.1. Per Capita Visits to a Physician in Health Care Facilities by Provinces, All Sectors, 2020



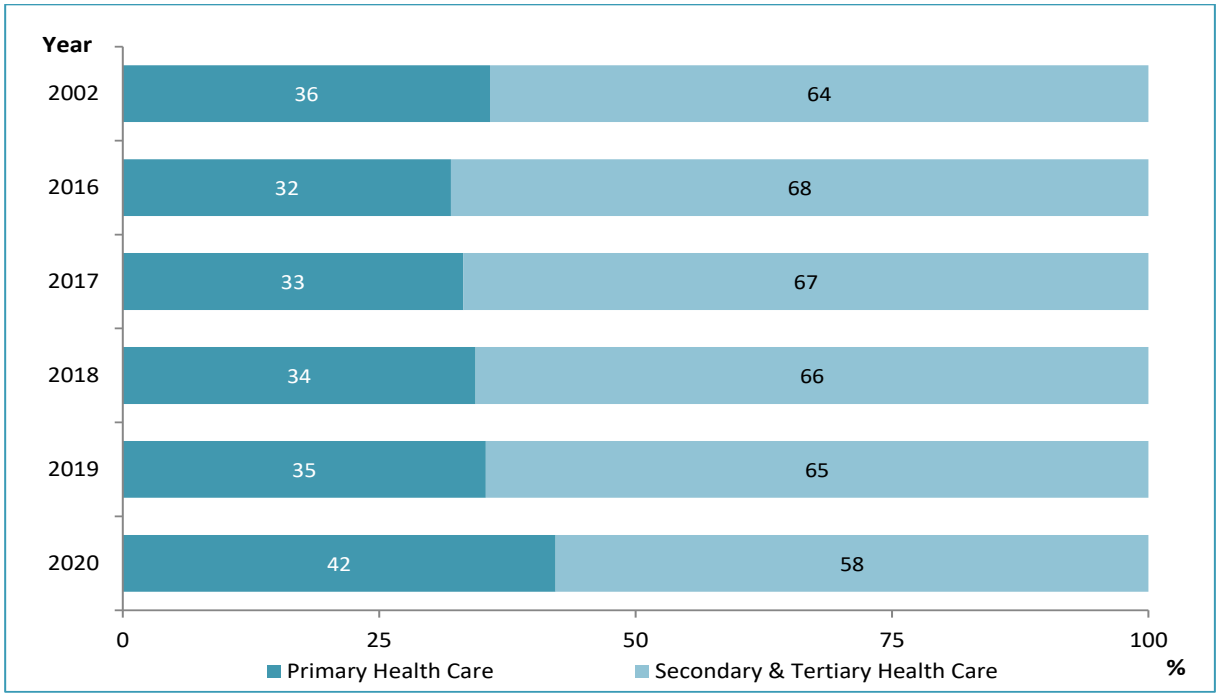
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.4. International Comparison of per Capita Visits to a Physician, 2009, 2019, 2020



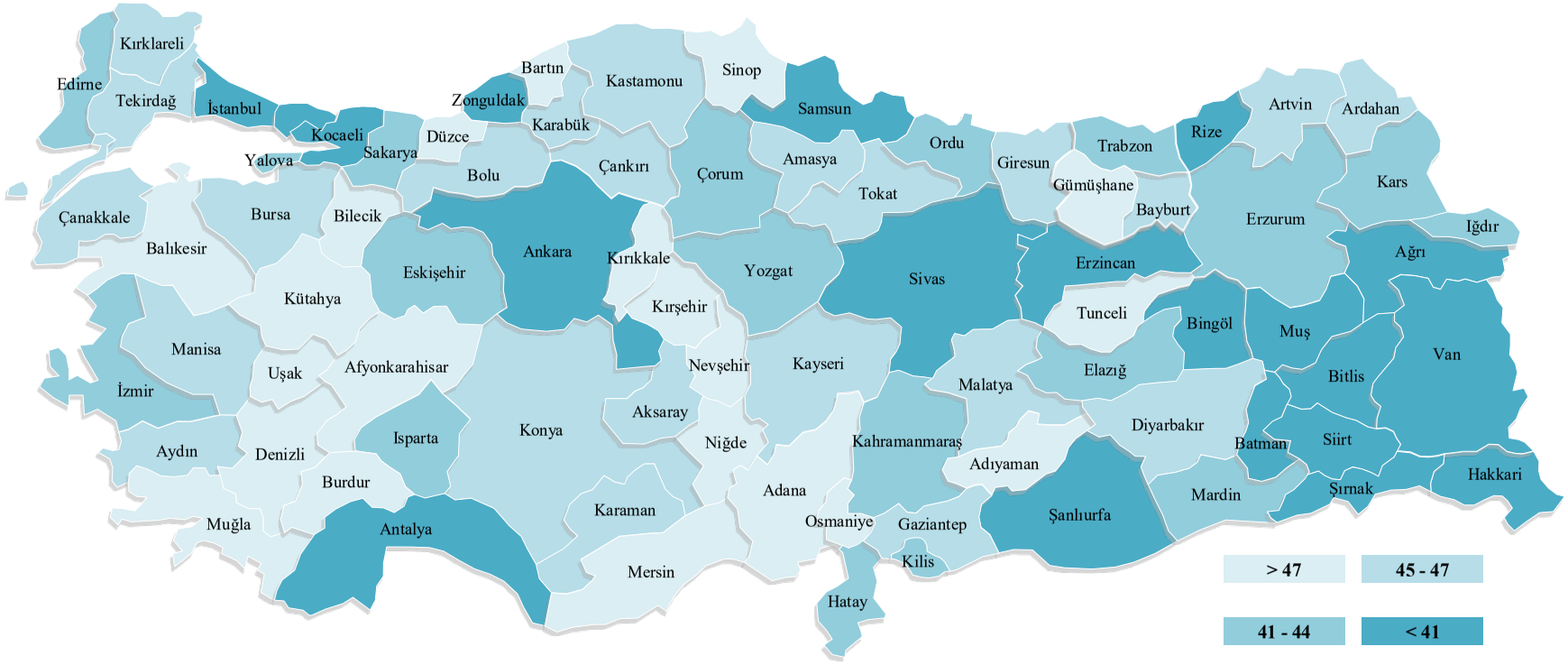
Source: General Directorate of Public Health, General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database

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



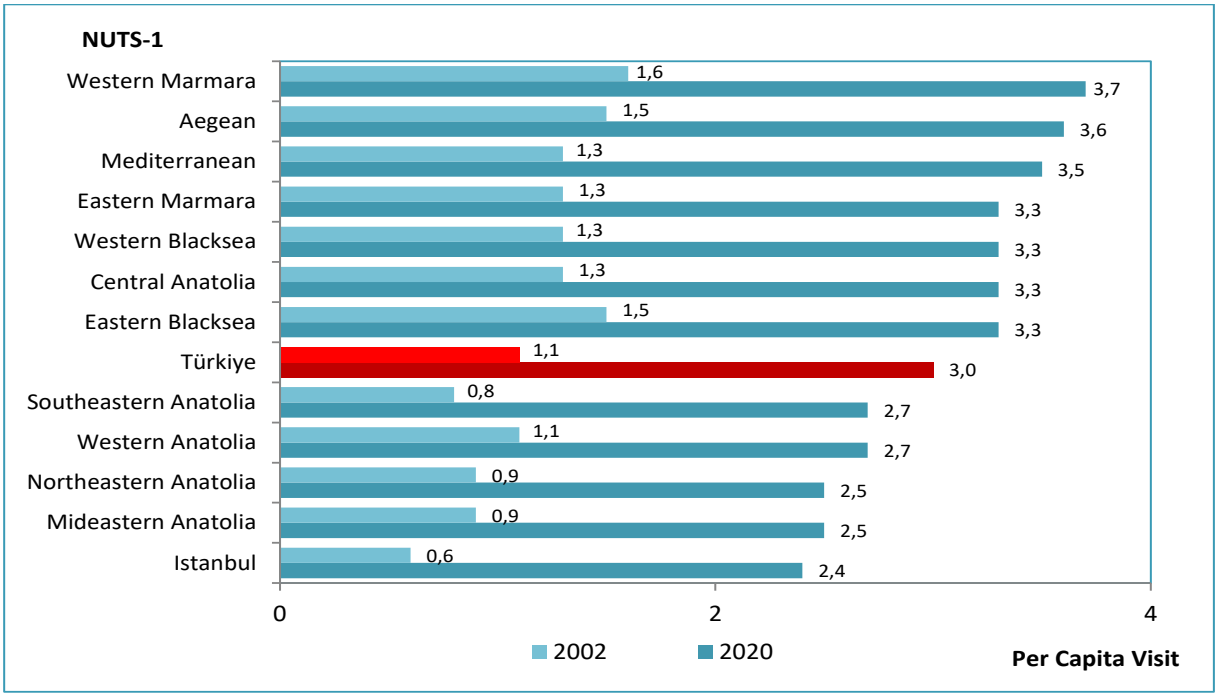
Source: General Directorate of Public Health, General Directorate of Health Services

Map 8.2. Proportion of Visits to a Physician at Primary Health Care Facilities to All Sectors by Provinces, (%), 2020



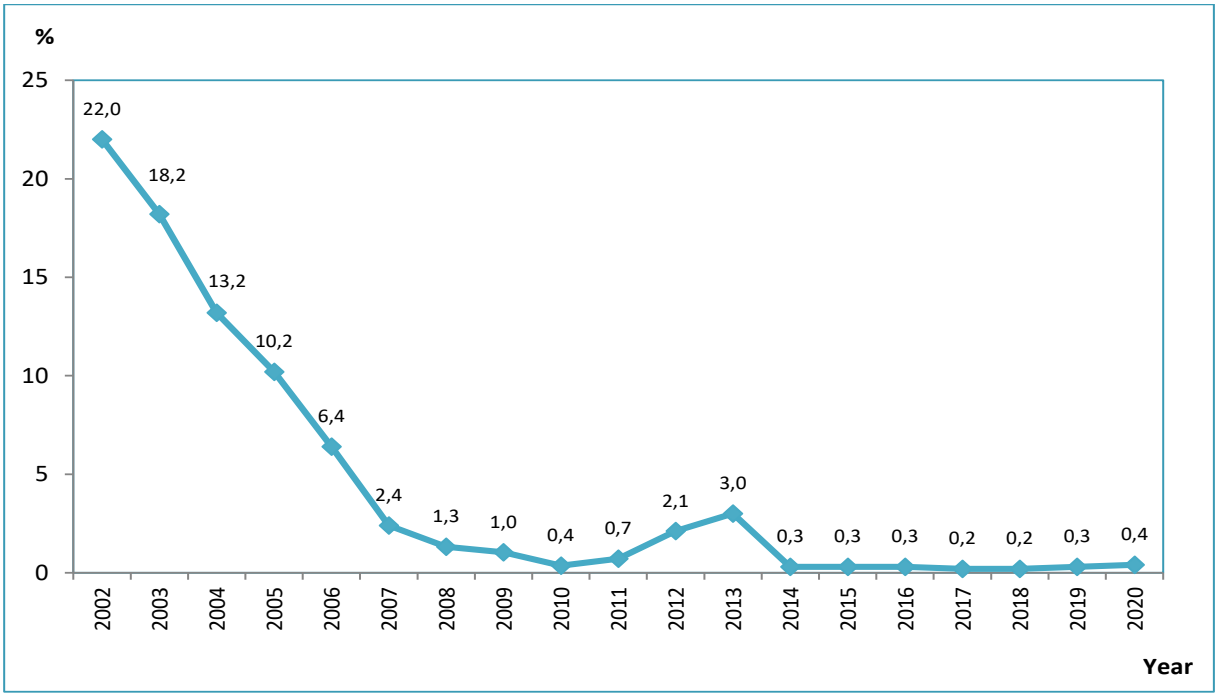
Source: General Directorate of Public Health, General Directorate of Health Services

Figure 8.6. Per Capita Visits to a Physician at Primary Health Care Facilities by NUTS-1, All Sectors, 2002, 2020



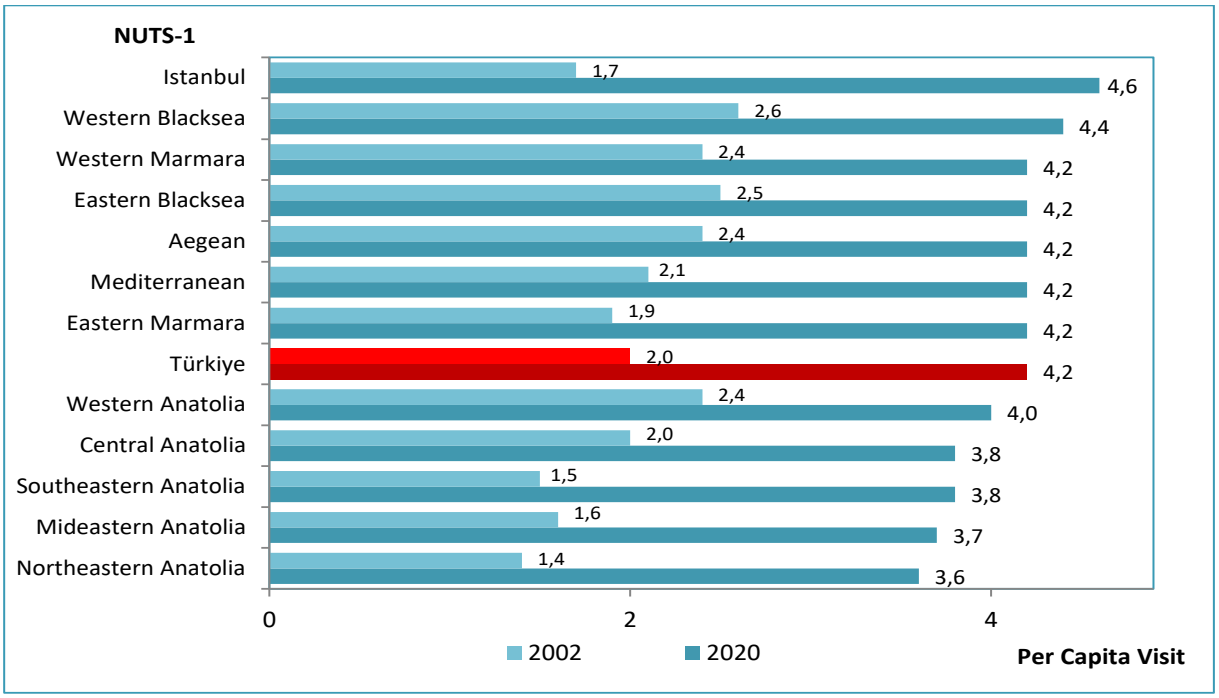
Source: General Directorate of Public Health, General Directorate of Health Services

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, 2020



Source: General Directorate of Health Services

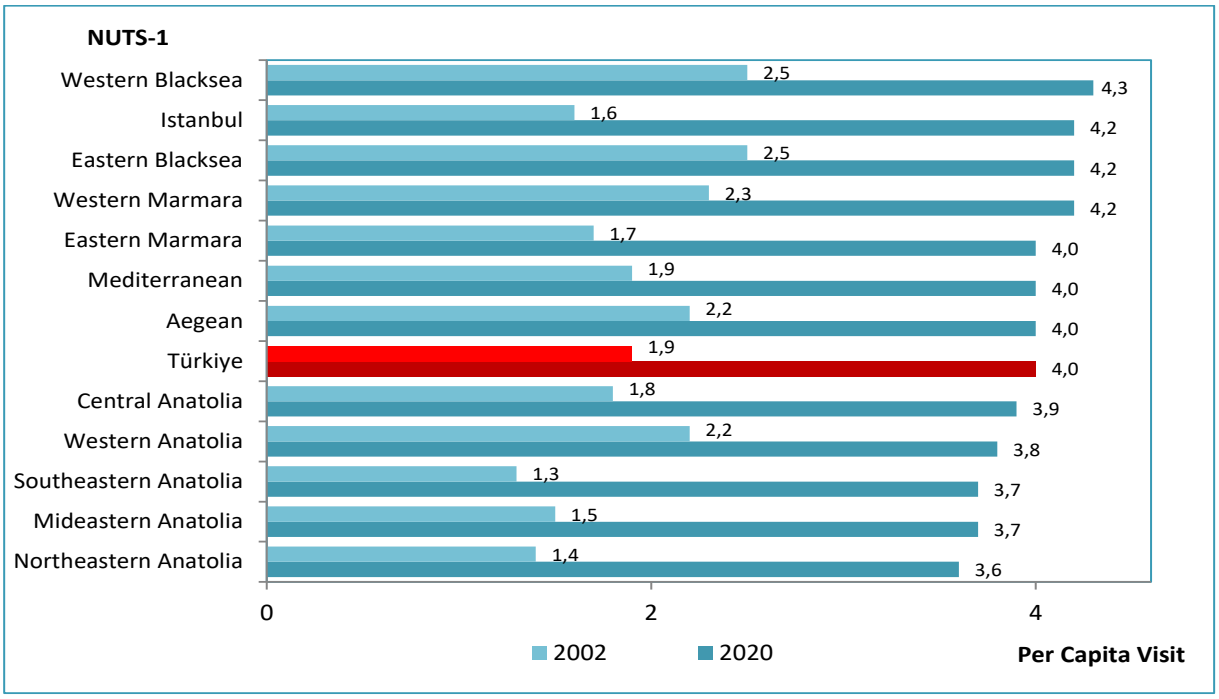
Table 8.2. Per Capita Hospital Visits by Years and Sectors

	2002	2016	2017	2018	2019	2020
Ministry of Health	1,7	4,3	4,4	4,6	4,7	2,9
University	0,1	0,5	0,5	0,5	0,6	0,4
Private	0,1	0,9	0,9	0,9	0,9	0,7
Total	1,9	5,6	5,8	6,1	6,1	4,0

Source: General Directorate of Health Services

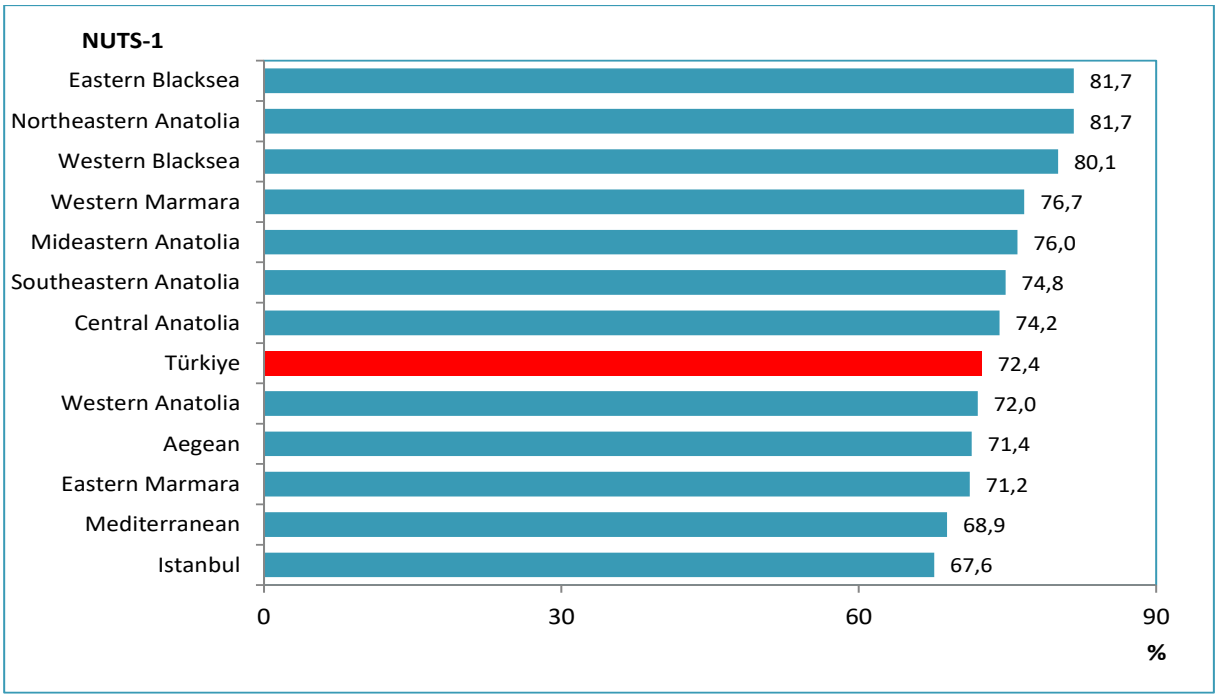
Note: The number of visits to E1, E2 and E3 Integrated District State Hospitals is included in the number of visits to a physician.

Figure 8.9. Per Capita Visits to Hospitals by NUTS-1, All Sectors, 2002, 2020



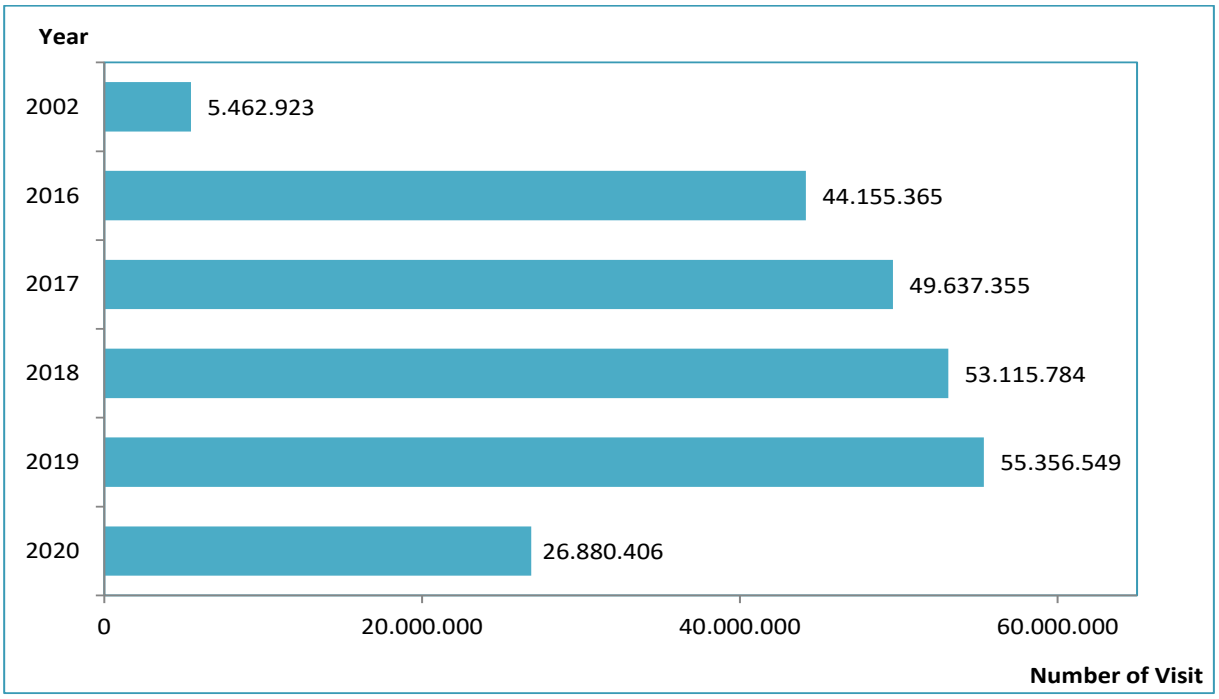
Source: General Directorate of Health Services
Note: The number of visits to E1, E2 and E3 Integrated District State Hospitals is included in the number of visits to a physician.

Figure 8.10. Proportion of Visits to MoH Hospitals to All Sectors by NUTS-1, (%), 2020



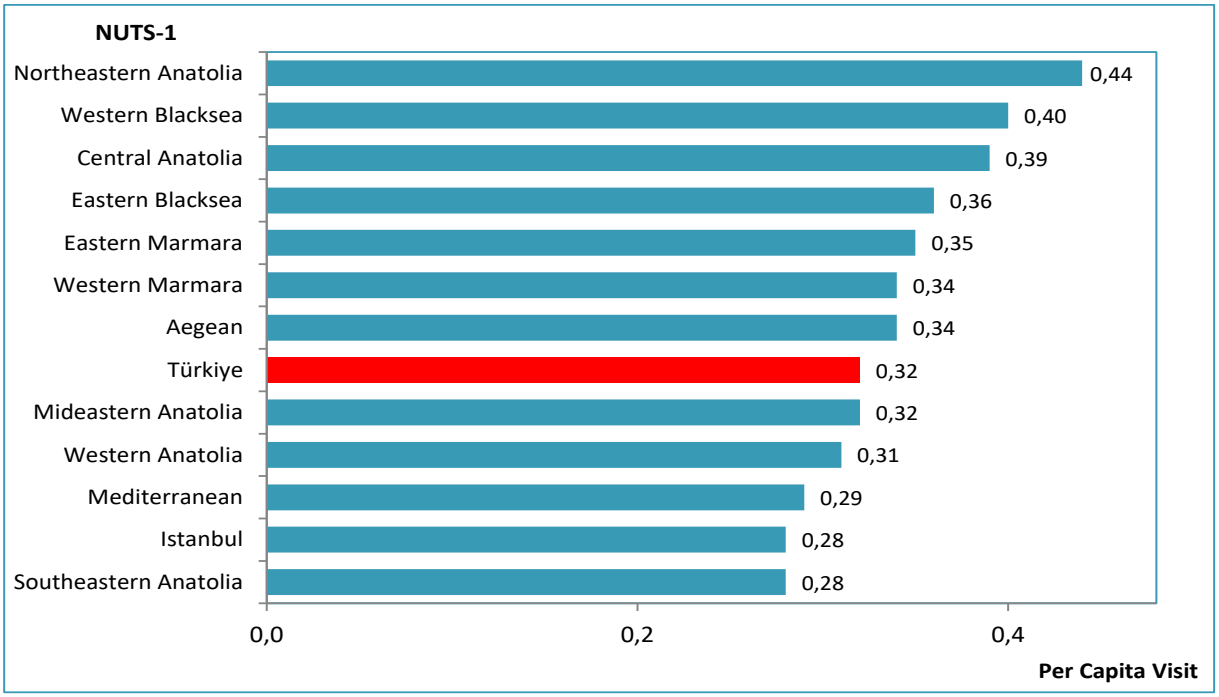
Source: General Directorate of Health Services
Note: The number of visits to E1, E2 and E3 Integrated District State Hospitals is included in the number of visits to a physician.

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



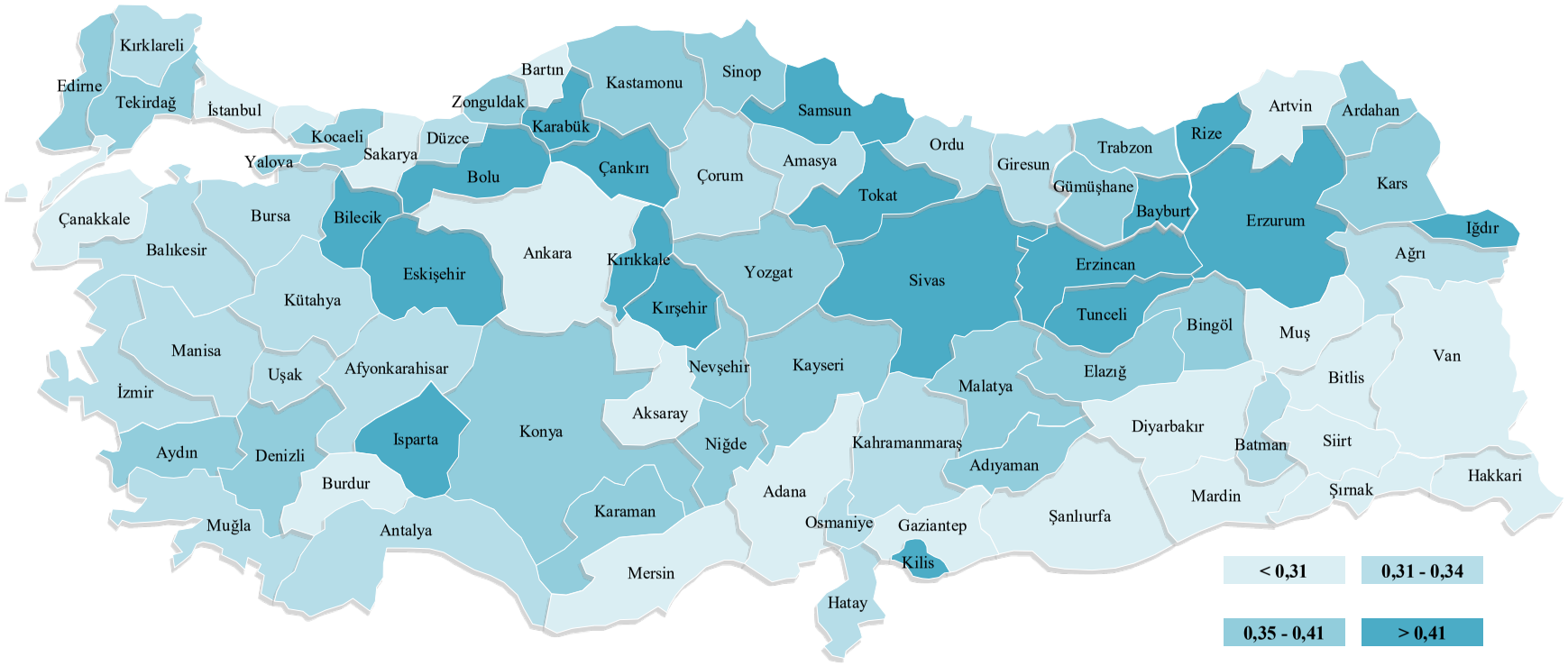
Source: General Directorate of Health Services
Note: In 2002, only the values of the Ministry of Health were published.

Figure 8.12. Per Capita Visits to a Dentist by NUTS-1, All Sectors, 2020



Source: General Directorate of Health Services

Map 8.3. Per Capita Visits to a Dentist by Provinces, All Sectors, 2020



Source: General Directorate of Health Services

Table 8.3. Number of Inpatients by Years and Sectors

	2002	2016	2017	2018	2019	2020
Ministry of Health	4.169.779	7.561.989	7.606.159	7.675.972	7.742.707	5.517.337
University	781.990	1.842.001	1.982.410	1.955.983	2.072.720	1.546.362
Private	556.494	4.048.696	4.120.734	4.019.422	3.990.922	3.556.818
Total	5.508.263	13.452.686	13.709.303	13.651.377	13.806.349	10.620.517

Source: General Directorate of Health Services

Table 8.4. Number of Inpatients in the MoH Hospitals and Its Proportion to All Sectors by NUTS-1, (%), 2020

NUTS-1	Ministry of Health	Total	Proportion of MoH (%)
Eastern Blacksea	241.859	399.956	60,5
Western Blacksea	360.588	613.167	58,8
Northeastern Anatolia	155.958	266.287	58,6
Mideastern Anatolia	289.036	508.011	56,9
Southeastern Anatolia	645.998	1.141.398	56,6
Eastern Marmara	563.554	1.050.786	53,6
Western Marmara	235.117	440.114	53,4
Central Anatolia	278.734	530.564	52,5
Türkiye	**5.517.337**	**10.620.517**	**51,9**
Western Anatolia	548.967	1.058.237	51,9
Aegean	662.471	1.304.815	50,8
Mediterranean	742.786	1.507.896	49,3
Istanbul	792.269	1.799.286	44,0

Source: General Directorate of Health Services

Table 8.5. Number of Surgical Operations by Years and Sectors

	2002	2016	2017	2018	2019	2020
Ministry of Health	1.072.417	2.473.267	2.590.538	2.766.914	2.796.484	1.613.841
University	307.108	799.133	815.076	903.002	948.936	708.994
Private	218.837	1.499.829	1.525.685	1.531.822	1.478.395	1.399.383
Total	1.598.362	4.772.229	4.931.299	5.201.738	5.223.815	3.722.218

Source: General Directorate of Health Services

Table 8.6. Number and Distribution (%) of Surgical Operations by Surgical Operation Groups and Sectors, 2020

	A		B		C		Total	
	Number	%	Number	%	Number	%	Number	%
Ministry of Health	197.114	42,6	548.792	43,1	867.935	43,7	1.613.841	43,4
University	111.680	24,1	275.013	21,6	322.301	16,2	708.994	19,0
Private	154.345	33,3	450.872	35,4	794.166	40,0	1.399.383	37,6
Total	463.139	100	1.274.677	100	1.984.402	100	3.722.218	100

Source: General Directorate of Health Services

Table 8.7. Number of Surgical Operations per 1.000 Population by NUTS-1 and Sectors, 2020

NUTS-1	Ministry of Health	University	Private	Total
Western Anatolia	20,3	16,7	15,7	52,7
Mediterranean	21,7	10,3	18,2	50,2
Aegean	19,4	9,9	18,3	47,6
Istanbul	20,2	4,8	22,5	47,5
Eastern Marmara	19,5	6,5	19,0	45,0
Türkiye	**19,3**	**8,5**	**16,7**	**44,5**
Western Blacksea	20,2	8,8	12,1	41,2
Eastern Blacksea	21,9	7,7	11,2	40,9
Western Marmara	21,6	4,9	13,0	39,5
Central Anatolia	15,7	9,7	13,6	39,0
Southeastern Anatolia	16,7	5,0	16,0	37,7
Mideastern Anatolia	13,6	10,6	7,7	31,8
Northeastern Anatolia	15,5	10,2	4,3	30,0

Source: General Directorate of Health Services

Table 8.8. Number of Surgical Operations per 1.000 Population by Surgical Operation Groups and NUTS-1, 2020

NUTS-1	A	B	C	Total
Western Anatolia	8,1	18,4	26,1	52,7
Mediterranean	5,6	17,3	27,2	50,2
Aegean	5,9	16,9	24,7	47,6
Istanbul	7,6	14,9	24,9	47,5
Eastern Marmara	5,6	16,7	22,7	45,0
Türkiye	**5,5**	**15,2**	**23,7**	**44,5**
Western Blacksea	4,8	15,2	21,2	41,2
Eastern Blacksea	4,4	15,1	21,4	40,9
Western Marmara	4,6	14,1	20,8	39,5
Central Anatolia	3,4	13,6	22,0	39,0
Southeastern Anatolia	3,1	11,7	22,9	37,7
Mideastern Anatolia	2,8	10,4	18,6	31,8
Northeastern Anatolia	2,1	10,2	17,7	30,0

Source: General Directorate of Health Services

Table 8.9. Proportion of Surgical Operations to the Number of Visits to Hospitals by NUTS-1 and Sectors, (%), 2020

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

Source: General Directorate of Health Services

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

	2002	2016	2017	2018	2019	2020
Ministry of Health	23.770.910	33.325.800	34.065.595	34.651.119	35.229.409	28.641.582
University	6.713.945	10.456.273	11.072.754	10.664.127	10.935.287	8.839.894
Private	1.730.661	10.368.845	11.032.616	11.326.789	11.336.841	10.686.986
Total	32.215.516	54.150.918	56.170.965	56.642.035	57.501.537	48.168.462

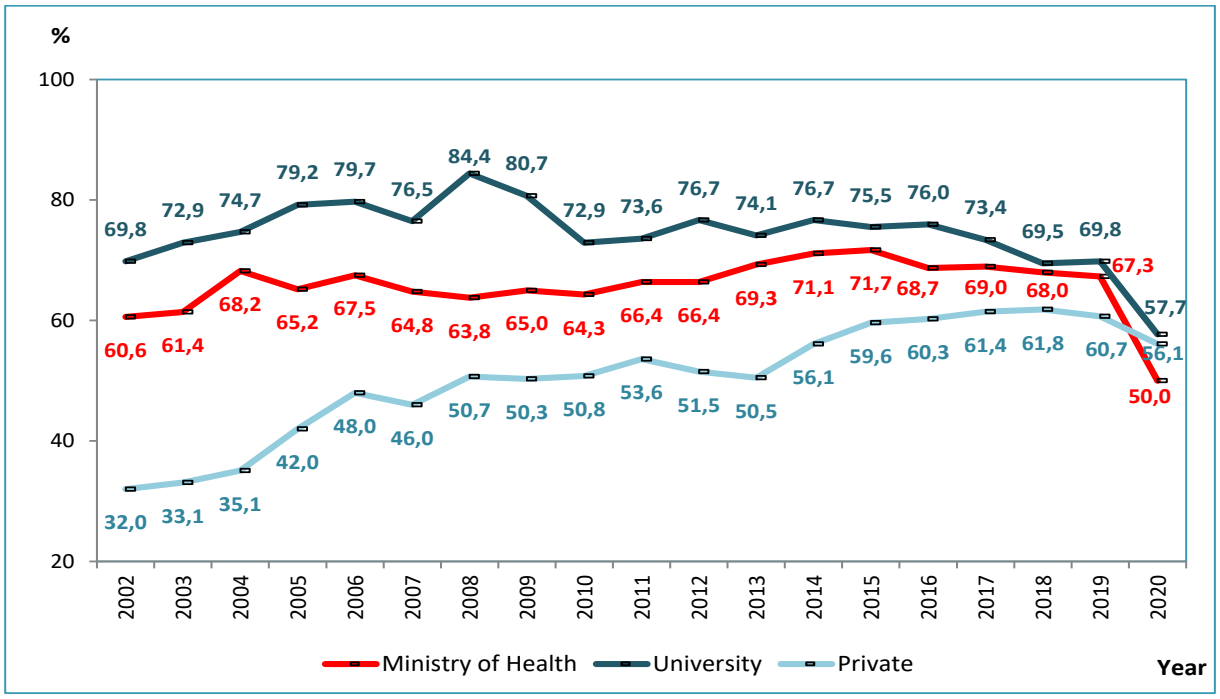
Source: General Directorate of Health Services

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

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

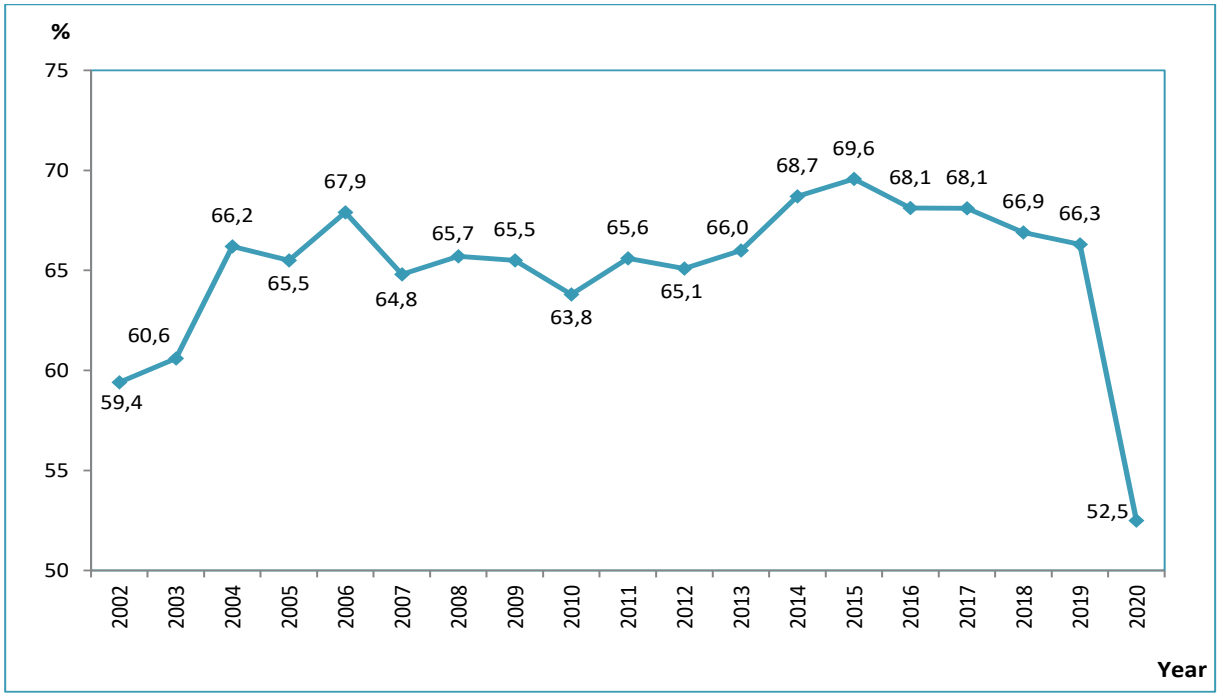
Source: General Directorate of Health Services

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



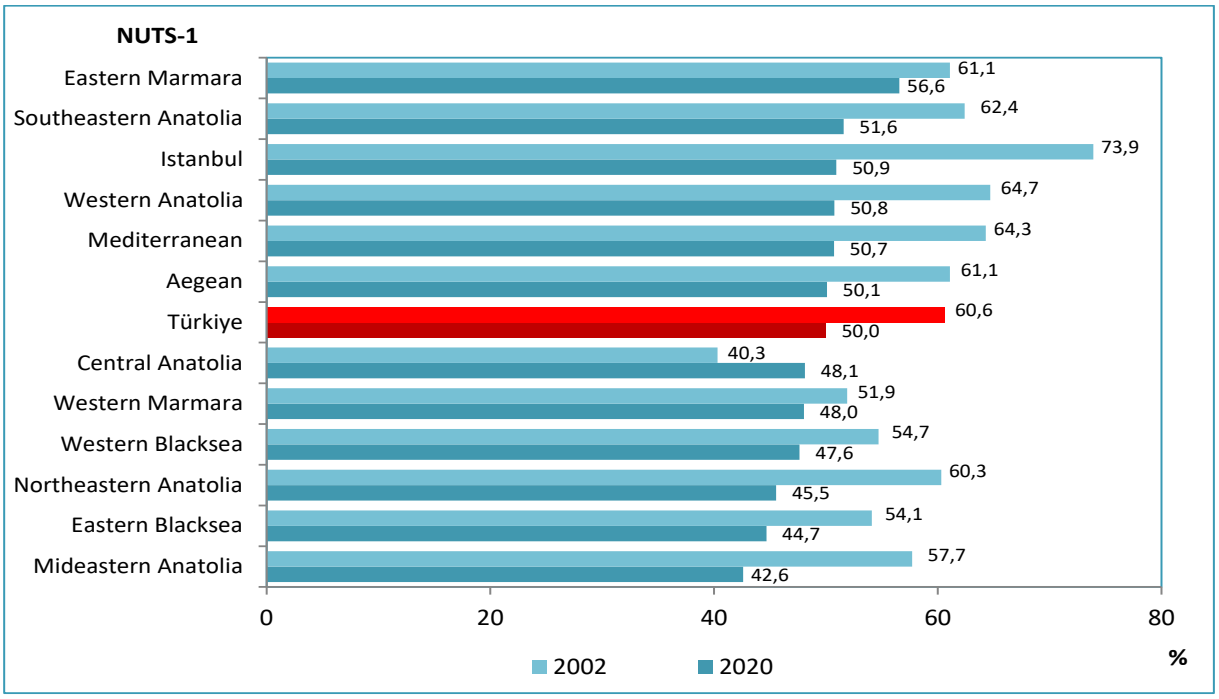
Source: General Directorate of Health Services

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



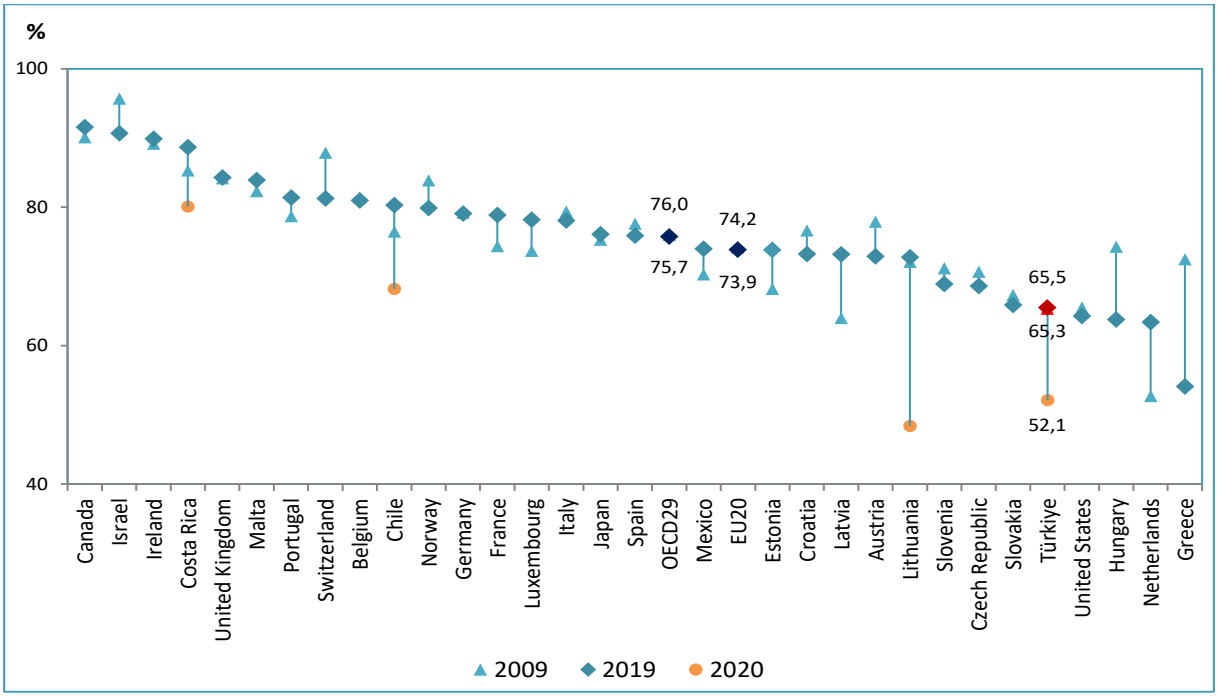
Source: General Directorate of Health Services

Figure 8.15. Bed Occupancy Rate in Hospitals by NUTS-1, Ministry of Health, (%), 2002, 2020



Source: General Directorate of Health Services

Figure 8.16. International Comparison of Acute Bed Occupancy Rate in Hospitals, 2009, 2019, 2020

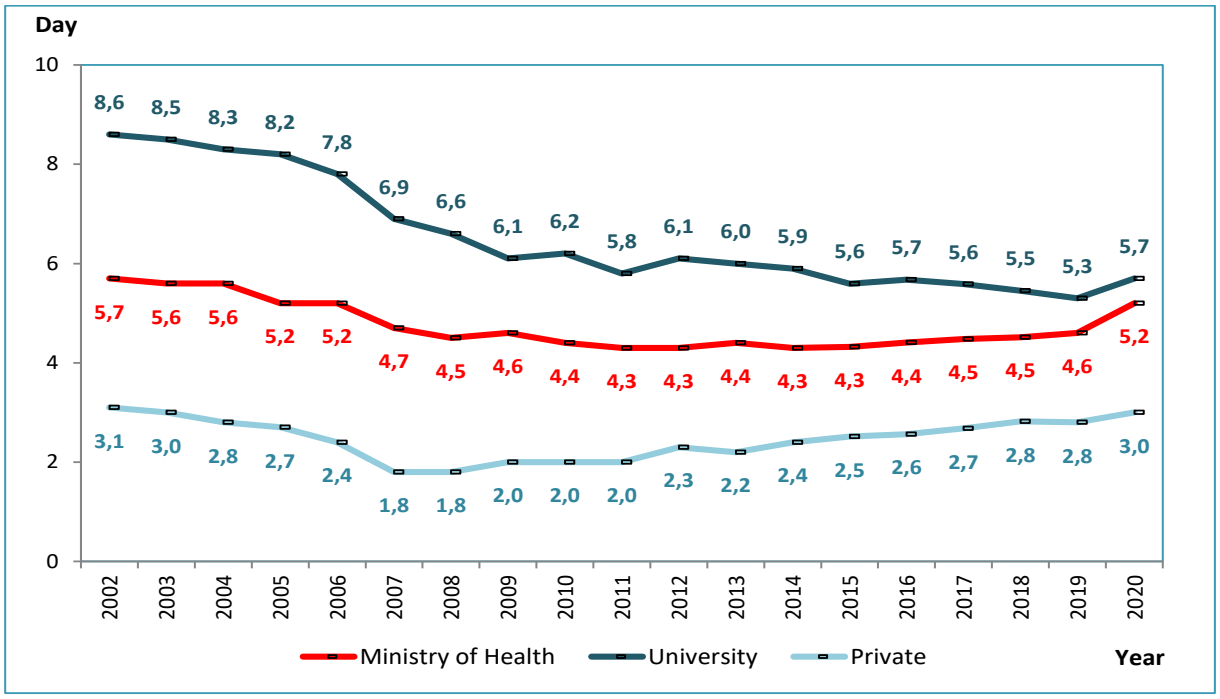


Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database

Map 8.4. Bed Occupancy Rate in Hospitals by Provinces, All Sectors, (%), 2020

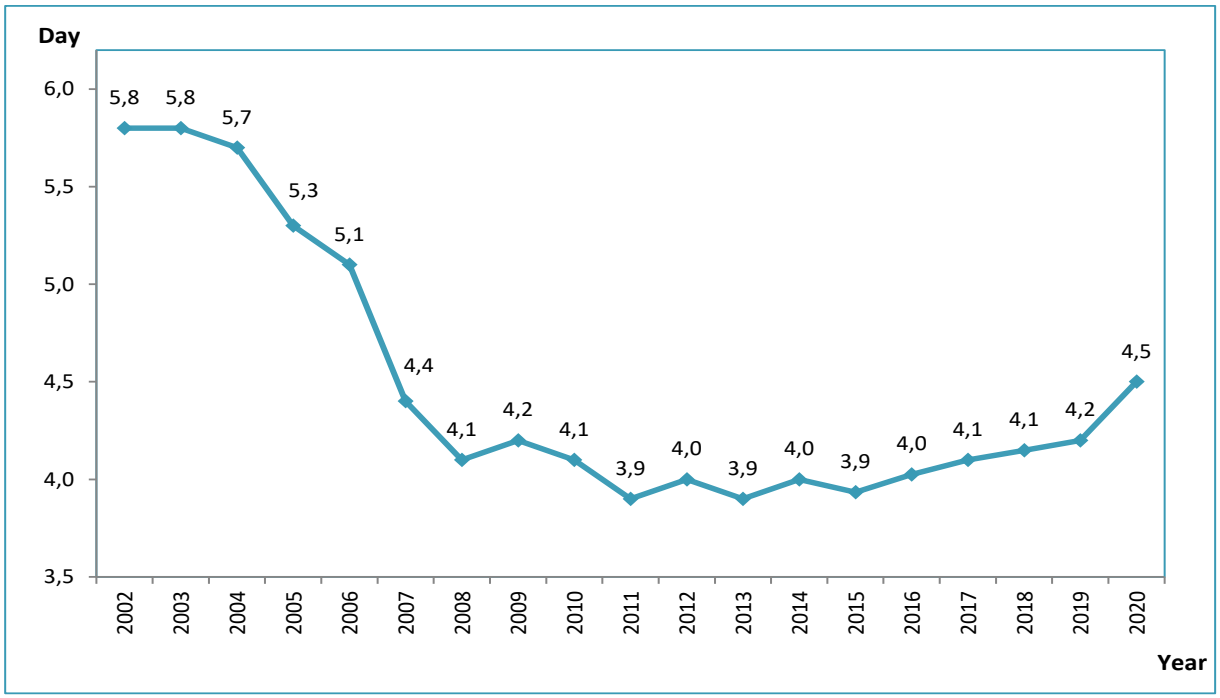
Source: General Directorate of Health Services

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



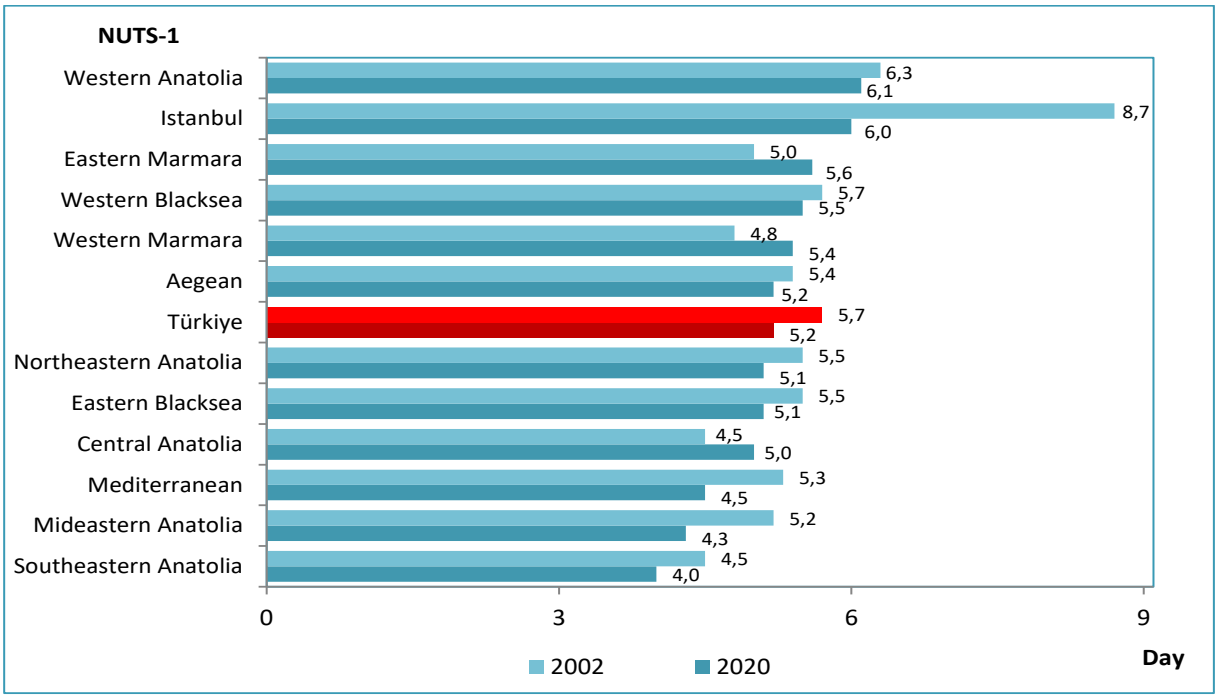
Source: General Directorate of Health Services

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



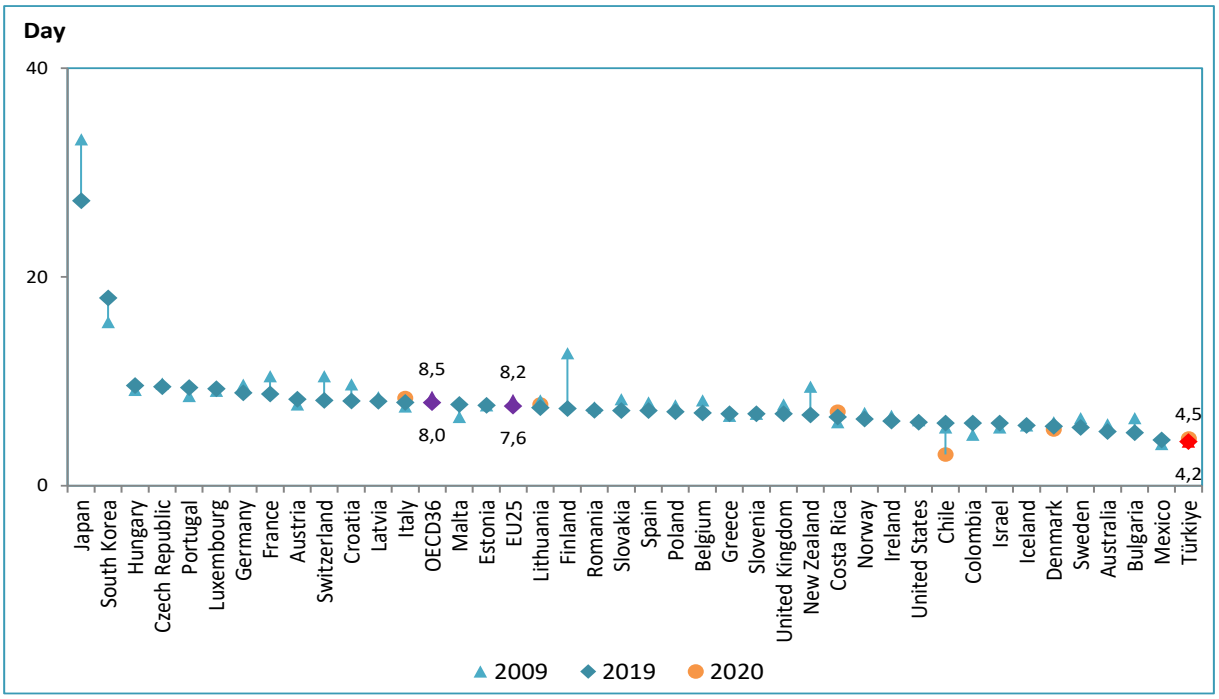
Source: General Directorate of Health Services

Figure 8.19. Average Length of Stay in Hospitals by NUTS-1, MoH, (Day), 2002, 2020



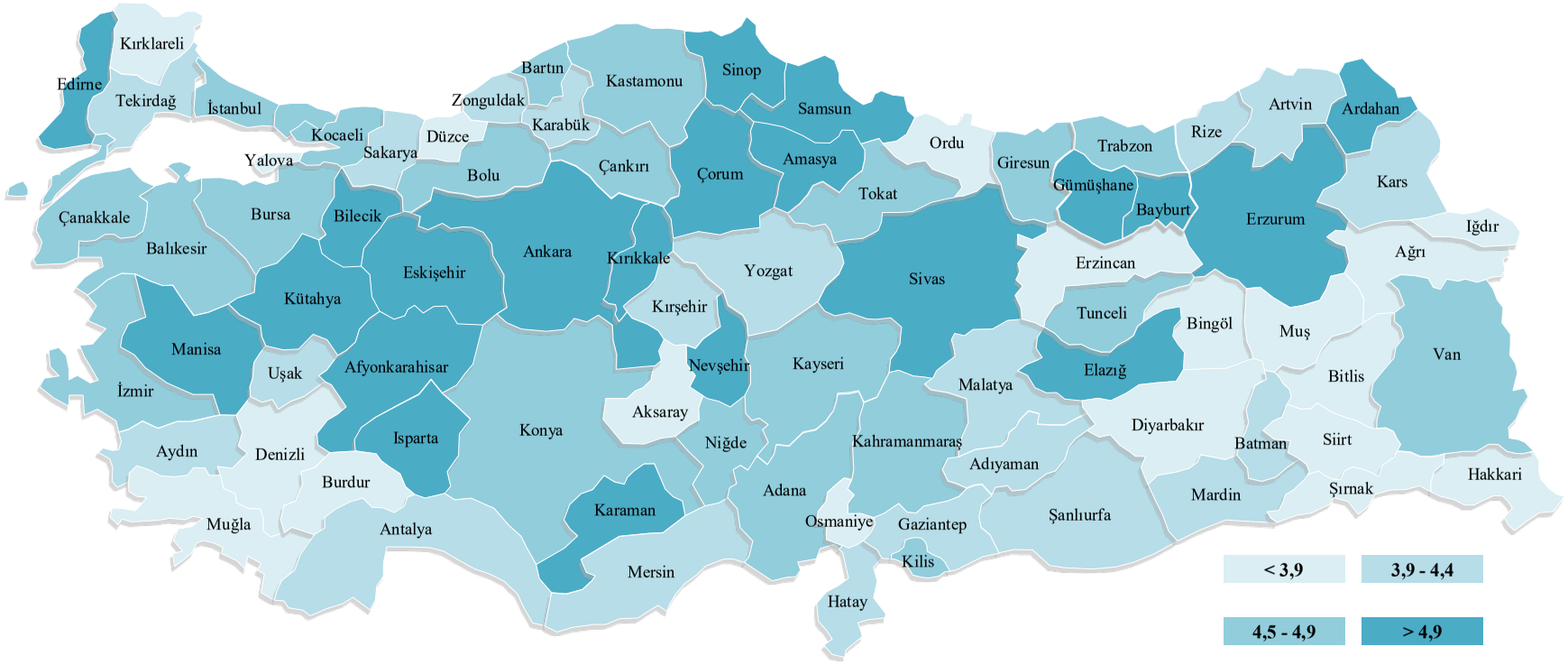
Source: General Directorate of Health Services

Figure 8.20. International Comparison of Average Length of Stay in Hospitals, (Day), 2009, 2019, 2020



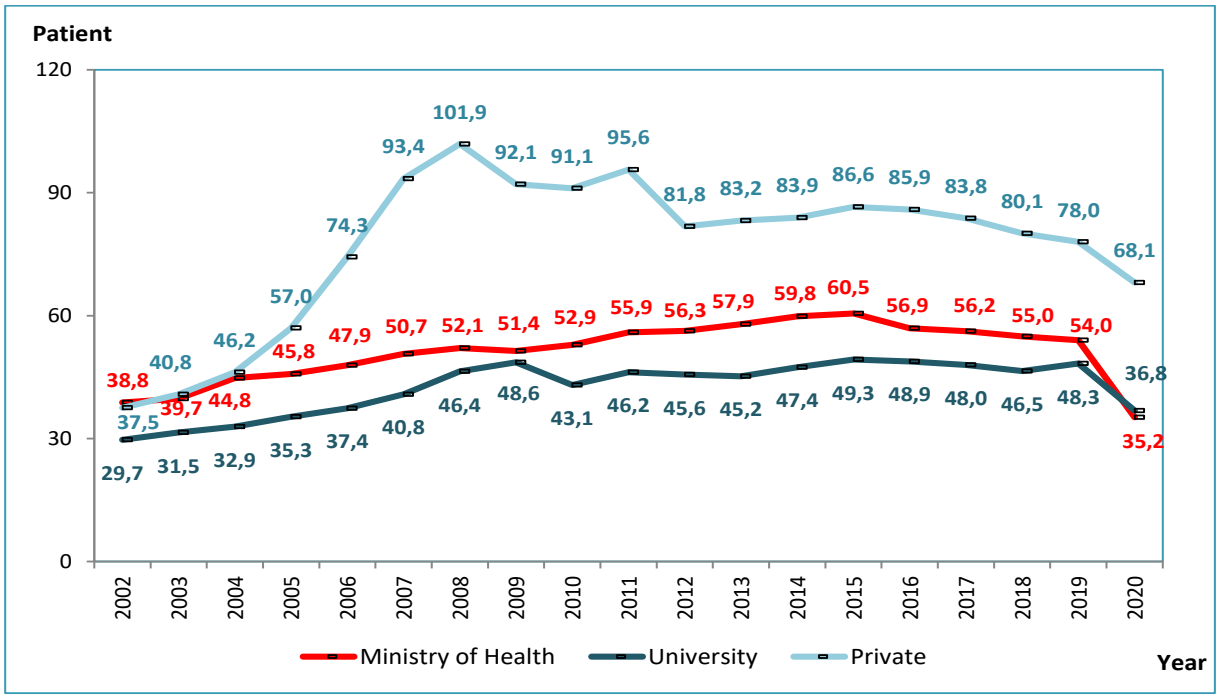
Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data for the year 2009 and 2019 are both 4,2.

Map 8.5. Average Length of Stay in Hospitals by Provinces, (Day), All Sectors, 2020



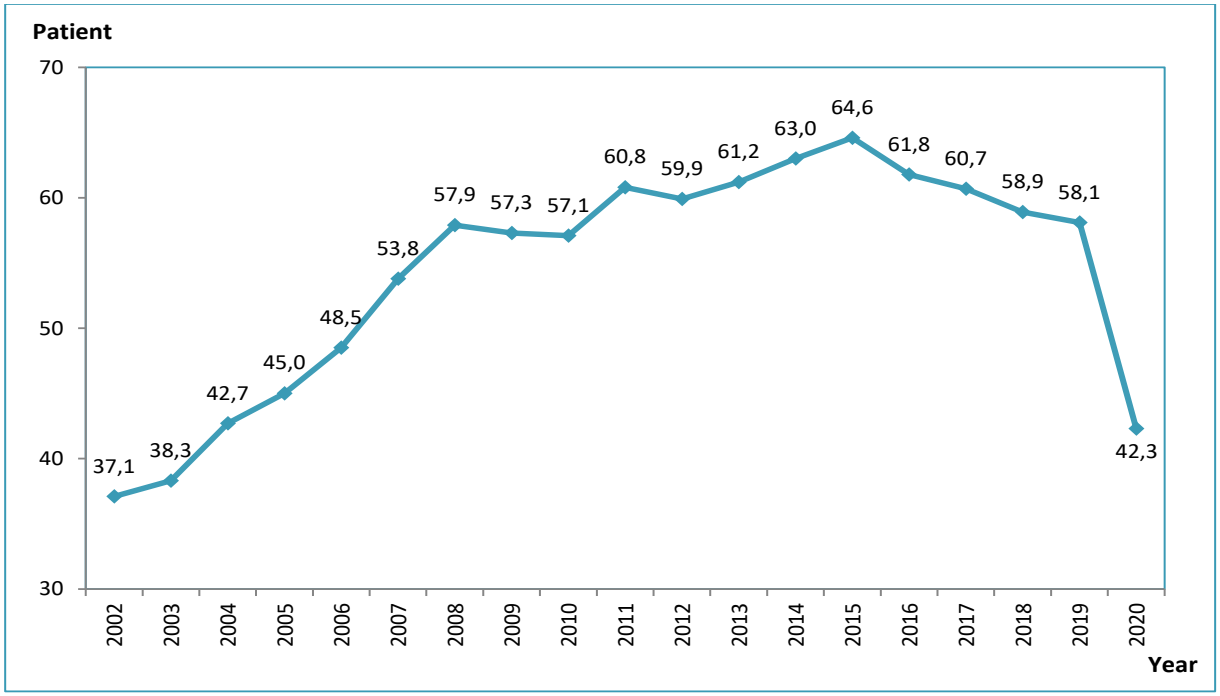
Source: General Directorate of Health Services

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



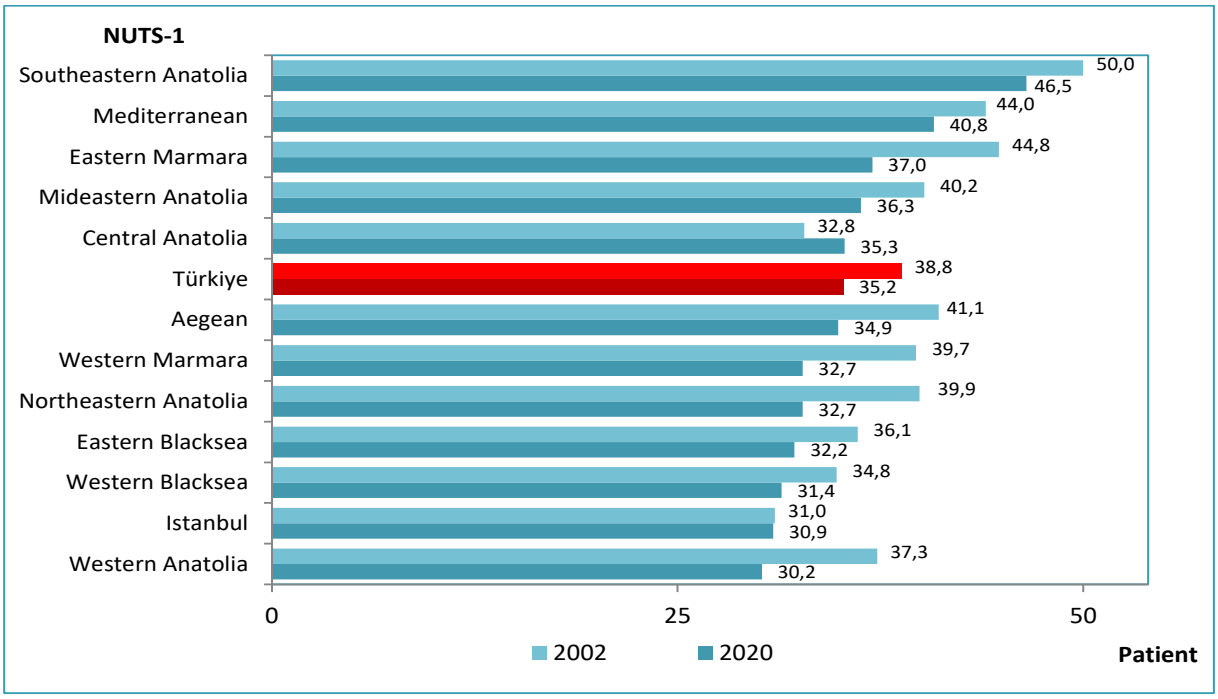
Source: General Directorate of Health Services

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



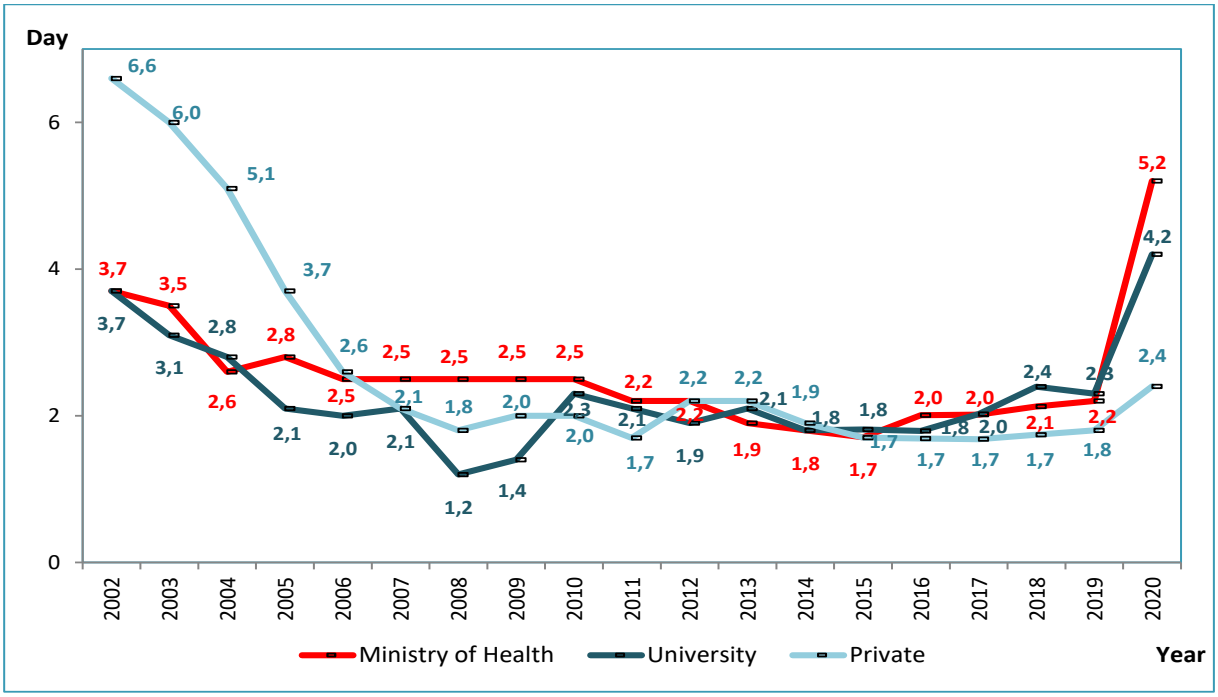
Source: General Directorate of Health Services

Figure 8.23. Bed Turnover Rate in Hospitals by NUTS-1, (Patient), MoH, 2002, 2020



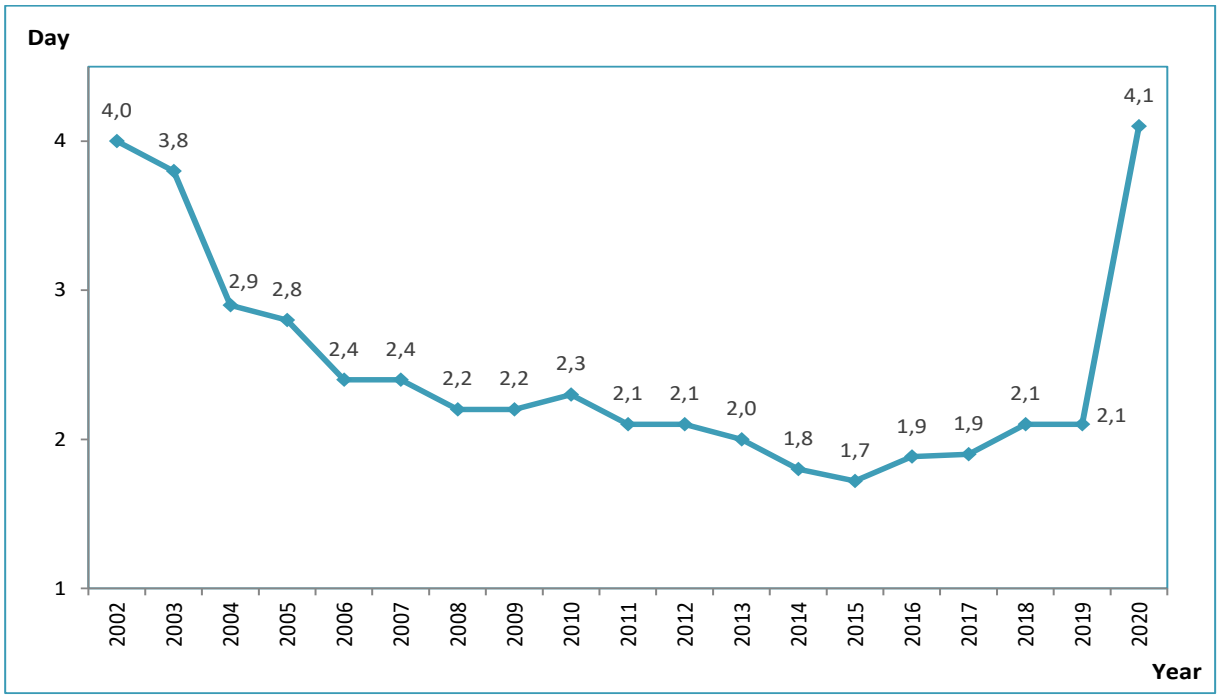
Source: General Directorate of Health Services

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



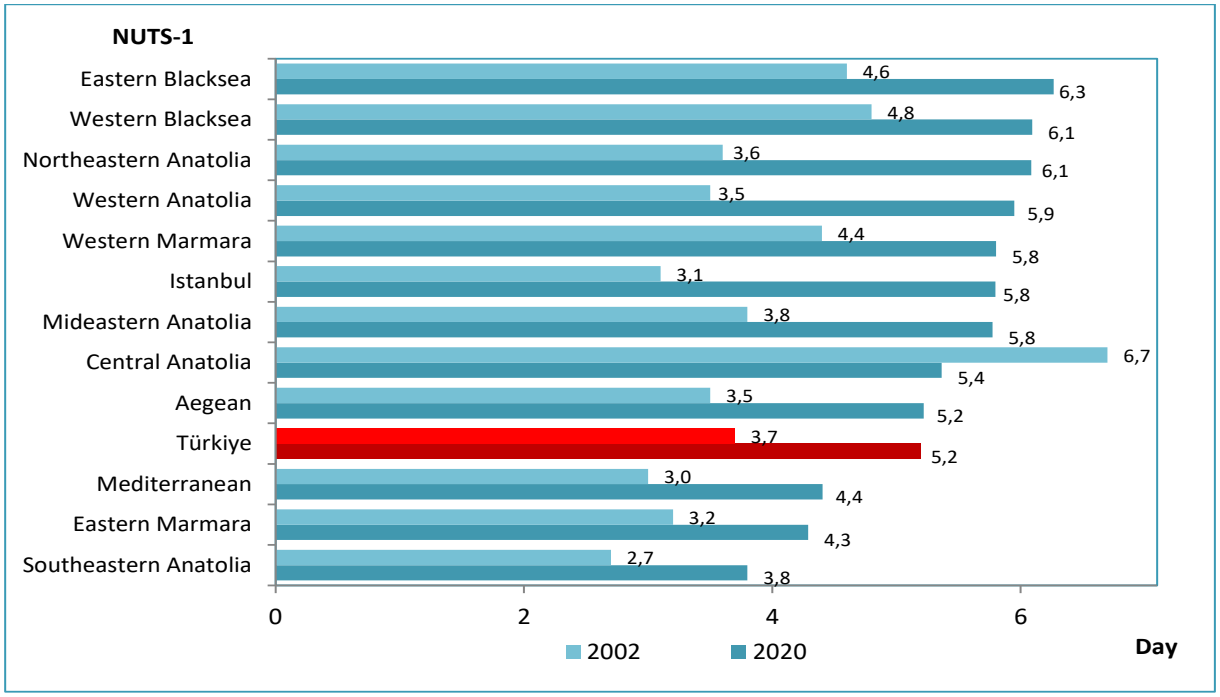
Source: General Directorate of Health Services

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, 2020



Source: General Directorate of Health Services

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

	2002	2016	2017	2018	2019	2020
Kidney	550	3.418	3.341	3.866	3.863	2.494
Liver	159	1.396	1.446	1.588	1.776	1.317
Heart	20	69	77	91	84	21
Heart Valve	15	0	0	0	0	0
Lung	0	22	42	43	33	11
Heart-Lung	0	0	0	0	0	0
Pancreas	0	6	0	4	3	1
Small Intestine	1	5	2	0	4	2
Cornea	-	3.037	3.586	4.137	3.790	1.734
Stem Cell	-	3.819	4.431	4.858	5.198	4.938
Total	745	11.772	12.925	14.587	14.751	10.518

Source: General Directorate of Health Services

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

	2016	2017	2018	2019	2020
Kidney	21.905	21.917	22.540	22.935	22.138
Liver	2.204	2.095	2.141	2.260	2.199
Heart	747	956	1.094	1.163	1.215
Heart Valve	0	1	0	0	0
Lung	66	64	89	89	152
Heart-Lung	0	0	0	0	0
Pancreas	276	283	286	297	285
Small Intestine	2	6	3	1	1
Cornea	2.996	2.350	1.506	1.723	2.230
Stem Cell	438	659	1.179	2.817	2.803
Total	28.634	28.331	28.838	31.285	31.023

Source: General Directorate of Health Services

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

	2016	2017	2018	2019	2020
Kidney	75	76	72	74	78
Liver	47	48	48	46	49
Heart	19	17	19	17	15
Heart Valve	1	1	2	2	0
Lung	4	4	5	5	4
Heart-Lung	4	4	5	5	0
Pancreas	7	7	8	8	8
Small Intestine	1	2	2	1	2
Cornea	516	536	581	588	559
Stem Cell	81	83	85	93	100
Total	755	778	827	839	815

Source: General Directorate of Health Services

Table 8.15. Number of Exams of Imaging Devices in Hospitals by Sectors, 2020

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	7.293.718	16.103.574	9.882.049	11.486.866	3.896.291	781.975
University	1.685.449	2.914.855	1.752.577	876.180	695.342	201.307
Private	2.722.694	3.590.494	5.268.553	2.070.422	1.349.840	278.382
Total	11.701.861	22.608.923	16.903.179	14.433.468	5.941.473	1.261.664

Source: General Directorate of Health Service

Table 8.16. Number of Exams of Imaging Devices in Hospitals per Scanner by Sectors, 2020

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	19.766	28.252	3.868	2.680	2.257	1.898
University	14.915	20.242	1.853	1.490	2.236	2.684
Private	5.958	6.724	2.043	1.244	1.717	562
Total	12.462	18.116	2.780	2.208	2.105	1.285

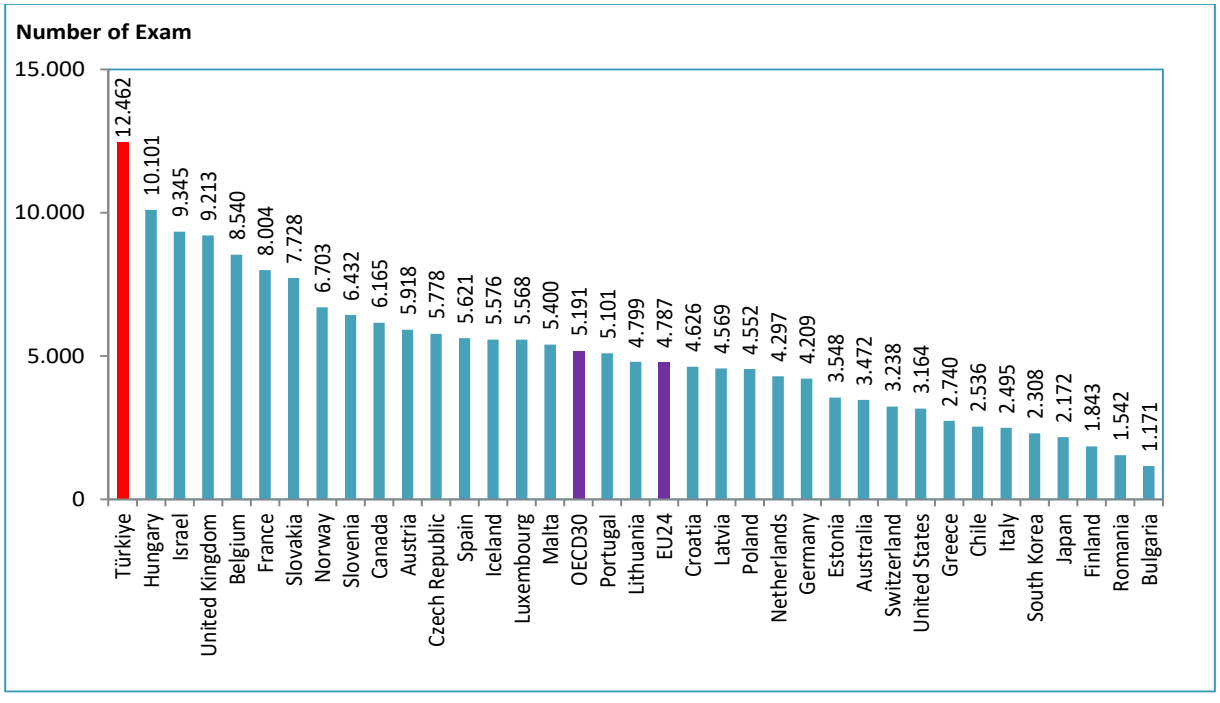
Source: General Directorate of Health Services

Table 8.17. Number of Exams of Imaging Devices in Hospitals per 1.000 Population by Sectors, 2020

	MRI	CT	Ultrasound	Doppler Ultrasound	ECHO	Mammography
Ministry of Health	87	193	118	137	47	9
University	20	35	21	10	8	2
Private	33	43	63	25	16	3
Total	140	270	202	173	71	15

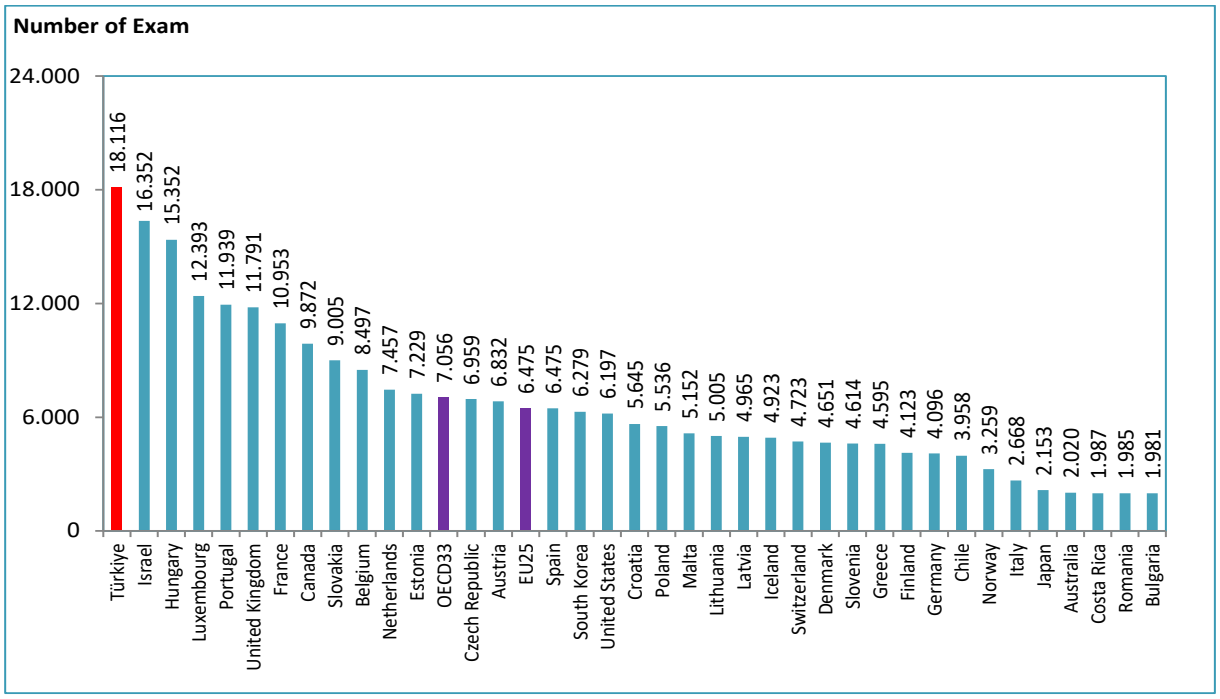
Source: General Directorate of Health Services

Figure 8.27. International Comparison of Number of Exams per MRI Scanner, 2019



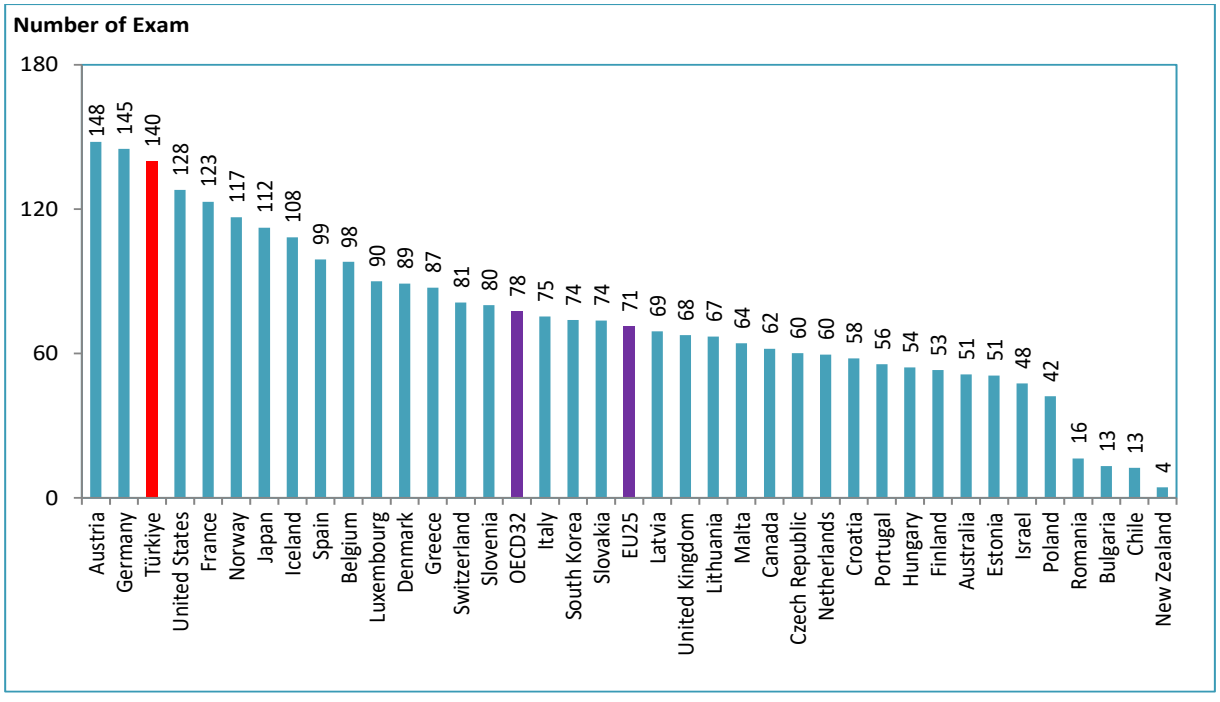
Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belongs to the year 2020. Countries' data belong to the year 2019 or nearest.

Figure 8.28. International Comparison of Number of Exams per CT Scanner, 2019



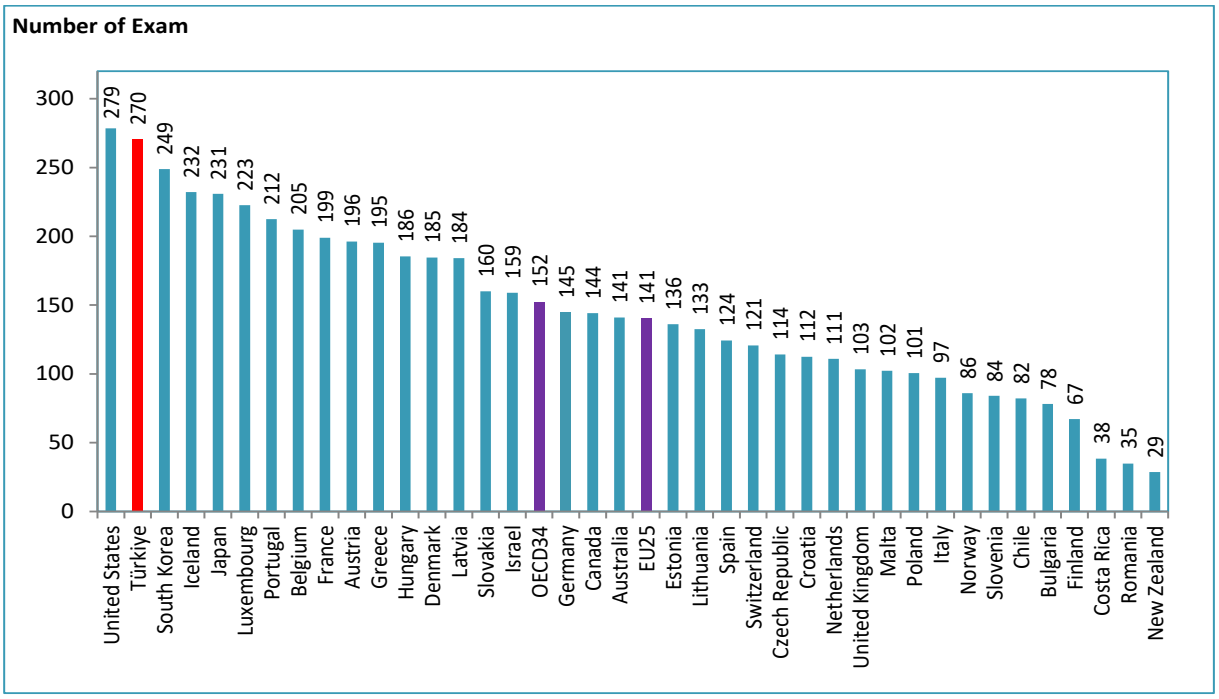
Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belongs to the year 2020. Countries' data belong to the year 2019 or nearest.

Figure 8.29. International Comparison of Number of MRI Exams per 1.000 Population, 2019



Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belongs to the year 2020. Countries' data belong to the year 2019 or nearest.

Figure 8.30. International Comparison of Number of CT Exams per 1.000 Population, 2019



Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belongs to the year 2020. Countries' data belong to the year 2019 or nearest.

Table 8.18. Number of MRI Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2020

NUTS-1	Ministry of Health	University	Private	Total
Southeastern Anatolia	20,9	32,3	50,5	27,3
Central Anatolia	25,6	62,2	44,6	32,4
Aegean	30,6	39,7	44,0	33,9
Western Blacksea	25,8	86,6	55,9	34,0
Eastern Marmara	29,3	37,4	49,8	34,2
Mediterranean	30,3	48,6	41,9	34,6
Türkiye	**30,1**	**53,1**	**44,7**	**34,9**
Western Marmara	26,9	81,5	54,8	35,6
Mideastern Anatolia	27,7	78,9	48,5	36,1
Northeastern Anatolia	26,0	108,1	49,5	37,1
Western Anatolia	32,3	55,3	49,8	38,0
Istanbul	38,1	45,0	35,6	38,1
Eastern Blacksea	33,2	76,0	54,5	38,2

Source: General Directorate of Health Services

Table 8.19. Number of CT Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2020

NUTS-1	Ministry of Health	University	Private	Total
Western Marmara	51,2	119,2	52,2	56,9
Southeastern Anatolia	53,7	56,4	79,7	58,9
Eastern Blacksea	61,4	91,4	57,9	62,4
Aegean	63,5	93,9	50,0	64,4
Central Anatolia	60,9	124,0	45,4	65,3
Mediterranean	65,5	82,5	62,1	66,5
Mideastern Anatolia	55,4	158,5	56,9	67,1
Türkiye	**66,4**	**91,9**	**59,0**	**67,4**
Northeastern Anatolia	59,9	135,8	56,8	68,5
Western Anatolia	67,1	91,0	58,4	69,4
Eastern Marmara	74,3	89,8	50,7	70,6
Istanbul	79,0	63,0	56,5	72,3
Western Blacksea	73,5	122,8	80,1	77,9

Source: General Directorate of Health Services

Table 8.20. Number of Ultrasound Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2020

NUTS-1	Ministry of Health	University	Private	Total
Eastern Blacksea	21,9	65,8	93,7	33,7
Western Marmara	27,0	65,2	76,9	37,7
Eastern Marmara	35,6	24,2	71,0	42,0
Western Blacksea	38,7	22,3	75,6	42,2
Istanbul	29,2	46,5	90,9	45,2
Western Anatolia	39,2	66,2	87,8	49,7
Türkiye	**40,7**	**55,2**	**86,5**	**50,4**
Aegean	41,6	44,6	91,4	50,8
Mediterranean	41,6	65,4	81,3	52,4
Mideastern Anatolia	51,8	85,0	74,3	58,4
Central Anatolia	54,5	60,9	77,8	58,7
Northeastern Anatolia	53,8	111,4	84,4	62,6
Southeastern Anatolia	64,6	61,0	106,1	72,4

Source: General Directorate of Health Services

Table 8.21. Number of Doppler Ultrasound Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2020

NUTS-1	Ministry of Health	University	Private	Total
Northeastern Anatolia	29,3	35,9	13,8	29,0
Central Anatolia	29,4	66,4	38,8	34,8
Western Blacksea	30,6	60,6	48,1	35,0
Aegean	39,2	23,2	41,5	37,9
Western Marmara	42,6	14,5	35,9	39,3
Mediterranean	49,7	16,1	24,6	41,0
Southeastern Anatolia	44,8	13,4	38,7	41,8
Türkiye	**47,3**	**27,6**	**34,0**	**43,0**
Eastern Marmara	47,9	39,7	33,0	44,1
Eastern Blacksea	50,7	8,8	17,6	44,2
Istanbul	55,1	16,5	30,7	45,9
Mideastern Anatolia	48,4	20,1	76,8	48,9
Western Anatolia	69,2	38,5	24,4	58,7

Source: General Directorate of Health Services

Table 8.22. Number of ECHO Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2020

NUTS-1	Ministry of Health	University	Private	Total
Southeastern Anatolia	15,5	22,1	15,5	15,9
Istanbul	14,5	19,4	19,6	16,1
Northeastern Anatolia	14,7	32,2	6,1	16,2
Mideastern Anatolia	16,7	13,8	18,5	16,6
Western Blacksea	13,7	22,3	38,6	17,5
Western Marmara	16,4	22,2	20,2	17,5
Eastern Marmara	16,2	18,2	22,1	17,6
Türkiye	**16,1**	**21,9**	**22,2**	**17,7**
Eastern Blacksea	16,9	27,7	21,5	18,0
Mediterranean	16,4	26,9	20,2	18,3
Central Anatolia	16,4	25,2	23,1	18,4
Aegean	17,9	14,6	29,7	19,6
Western Anatolia	17,5	28,8	27,3	20,5

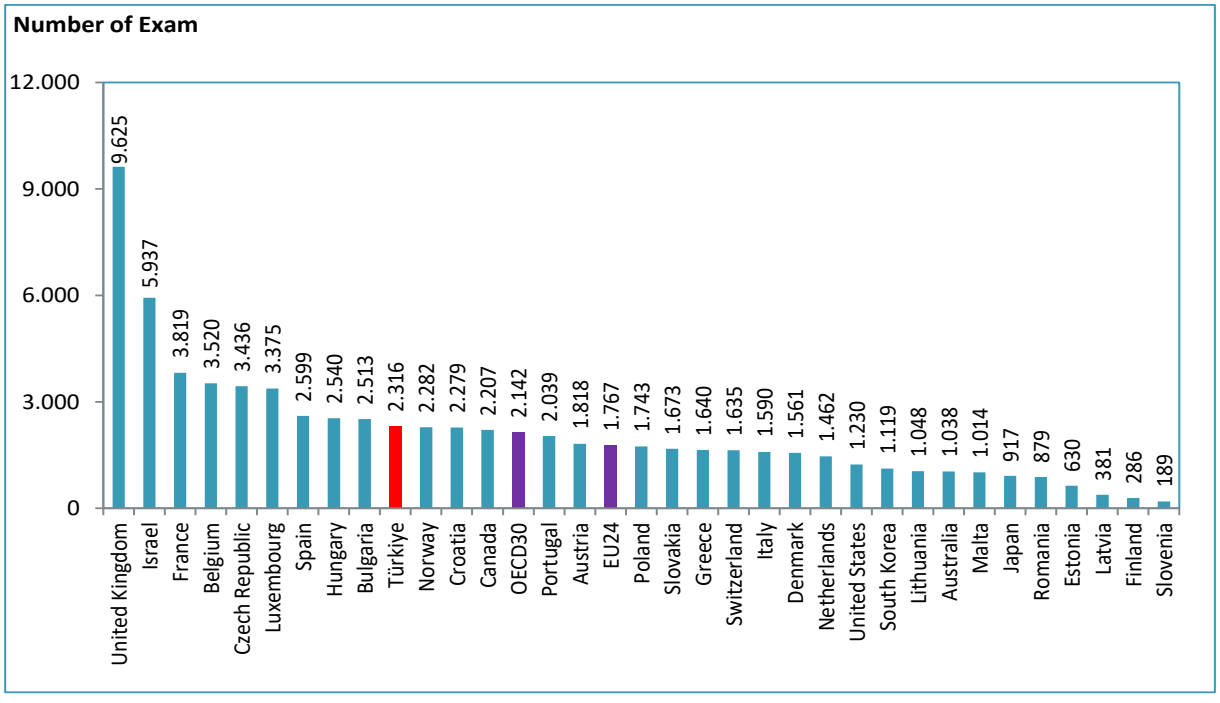
Source: General Directorate of Health Services

Table 8.23. Number of Mammography Exams in Hospitals per 1.000 Consultation by NUTS-1 and Sectors, 2020

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

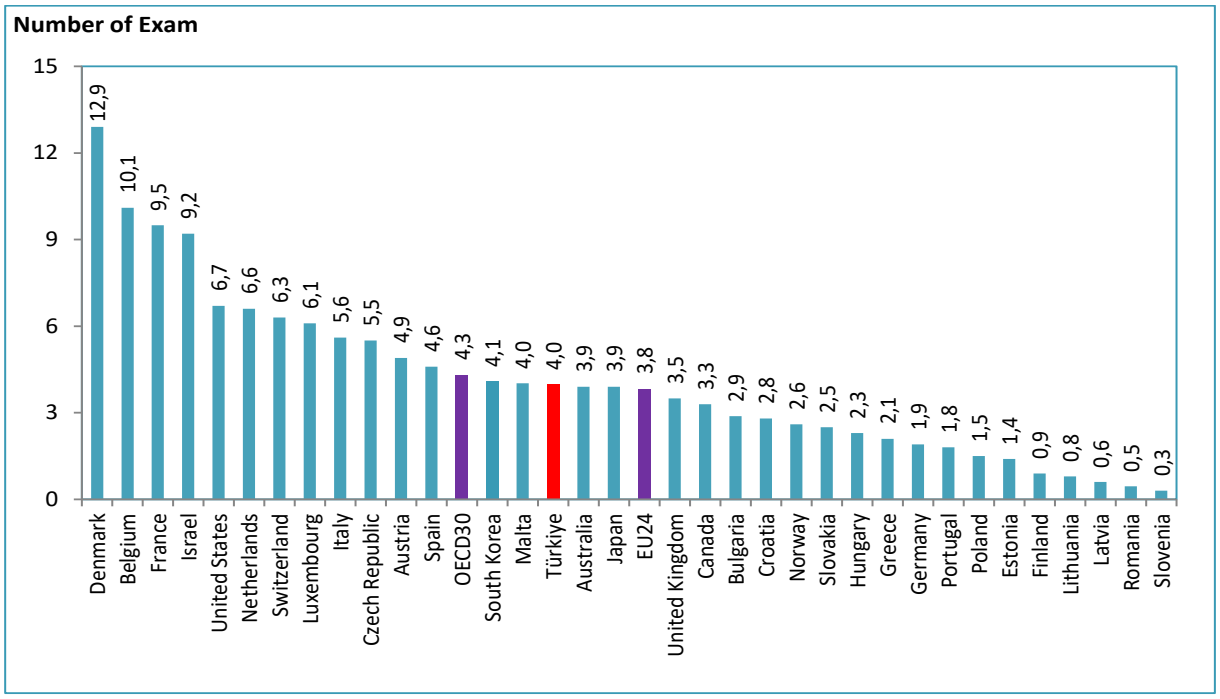
Source: General Directorate of Health Services

Figure 8.31. International Comparison of Number of Exams per PET Scanner, 2019



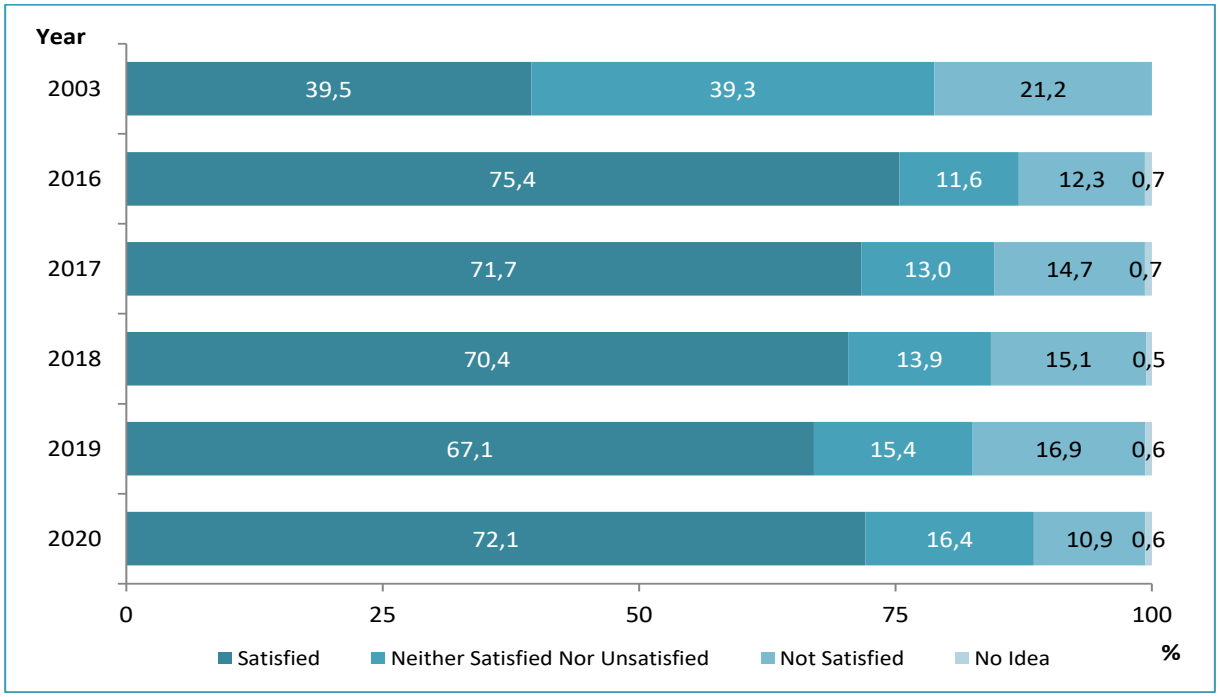
Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belongs to the year 2020. Countries' data belong to the year 2019 or nearest.

Figure 8.32. International Comparison of Number of PET Exams per 1.000 Population, 2019



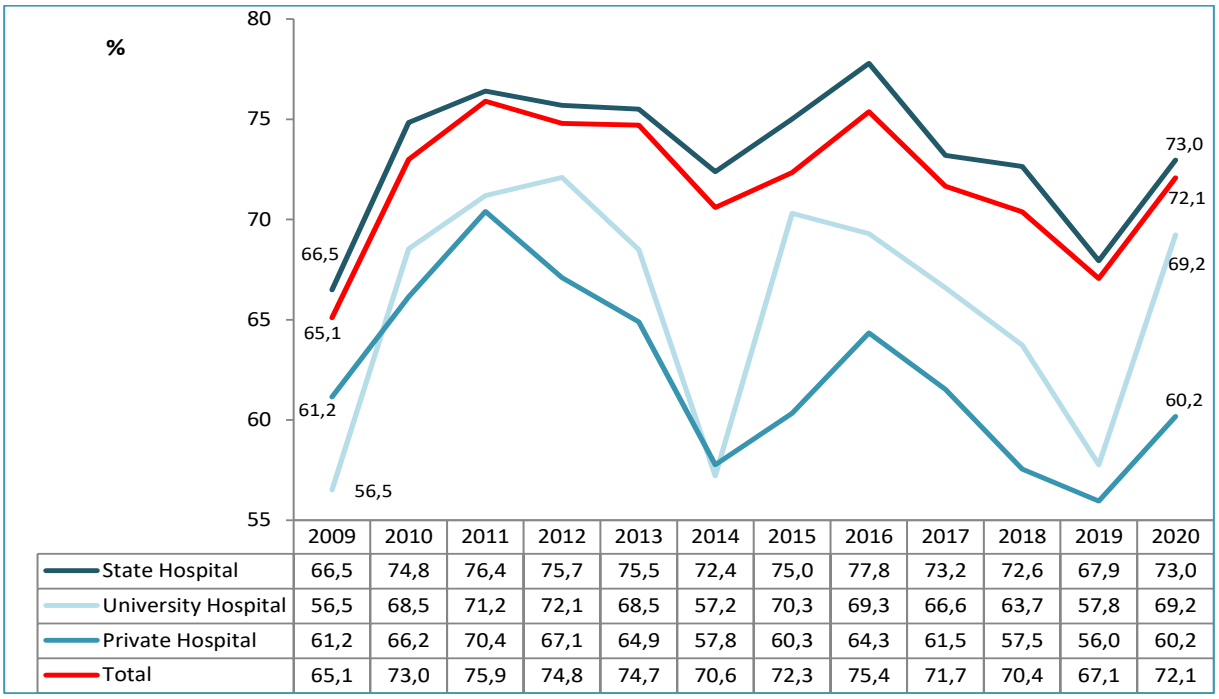
Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belongs to the year 2020. Countries' data belong to the year 2019 or nearest.

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



Source: TURKSTAT, Life Satisfaction Survey 2003-2020

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



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

Source: TURKSTAT, Life Satisfaction Survey 2009-2020

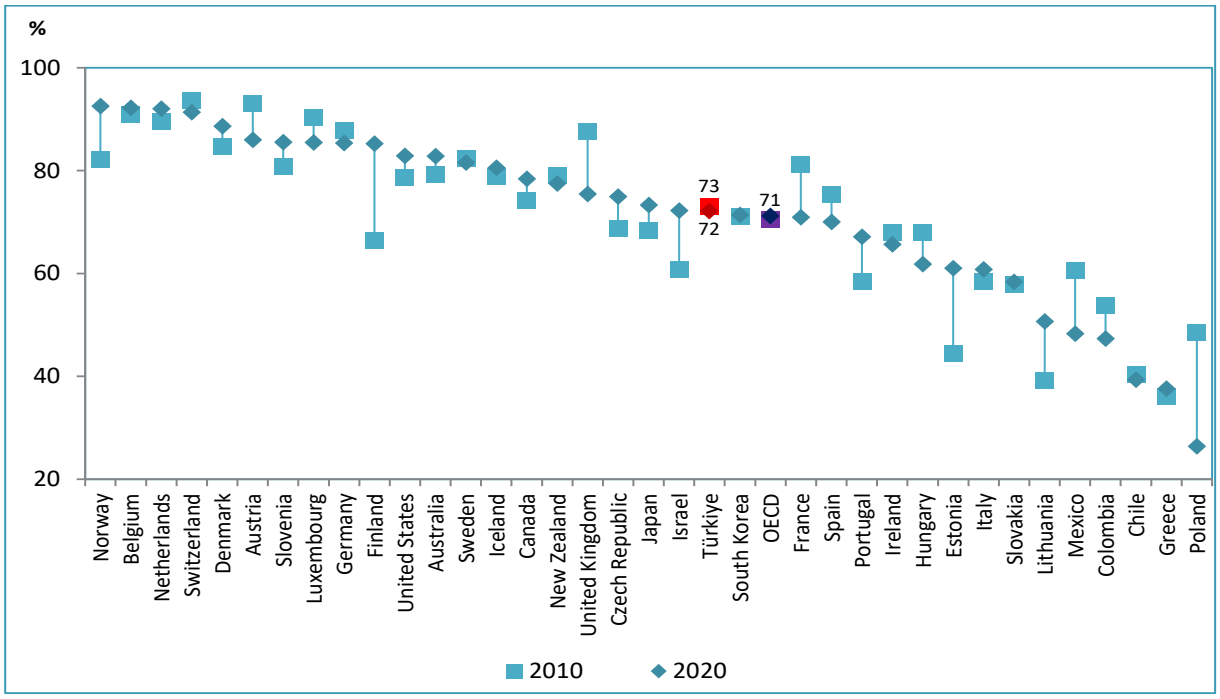
Note: "Total" data refers to the satisfaction ratio with healthcare services of all healthcare facilities.

Table 8.24. Satisfaction Ratio with Healthcare Services, (%), 2020

	Satisfied	Neither Satisfied Nor Unsatisfied	Not Satisfied	No Idea
Hospitals				
State	73,0	15,5	10,9	0,6
University	69,2	19,0	11,2	0,5
Private	60,2	22,3	16,6	0,9
Family Health Center	74,7	15,7	9,1	0,6
Private Policlinic	45,5	27,2	27,3	0,0
Organization's Doctor	70,6	14,5	14,9	0,0
Private Medical Centers	77,7	11,1	11,3	0,0

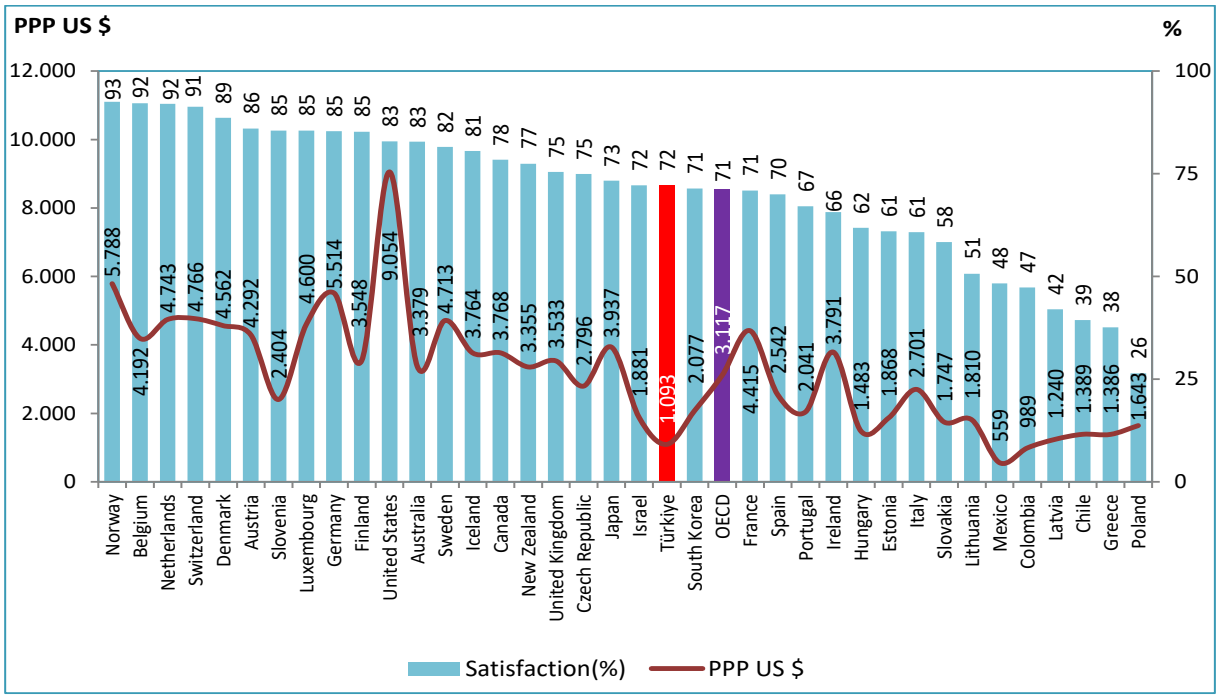
Source: TURKSTAT, Life Satisfaction Survey 2020

Figure 8.35. International Comparison of Satisfaction Ratio with Healthcare Services, (%), 2010, 2020



Source: TURKSTAT Life Satisfaction Survey 2020, OECD Health Data 2021

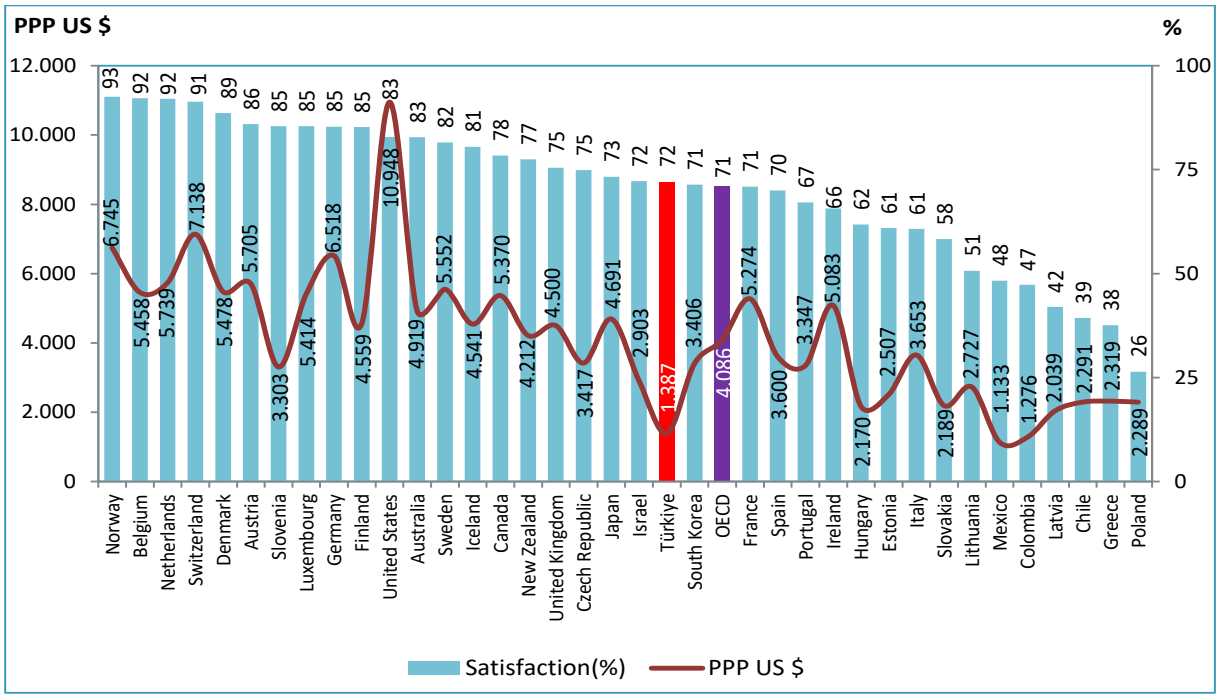
Figure 8.36. Satisfaction with Health Care Services, (%), 2020 and Public Current Health Expenditure per Capita, (PPP US $), 2019



Source: TURKSTAT, OECD Health Data 2021

Note: The country values of satisfaction belong to the year 2020 and values of expenditure belong to the year 2019. Türkiye expenditure data belongs to the year 2020.

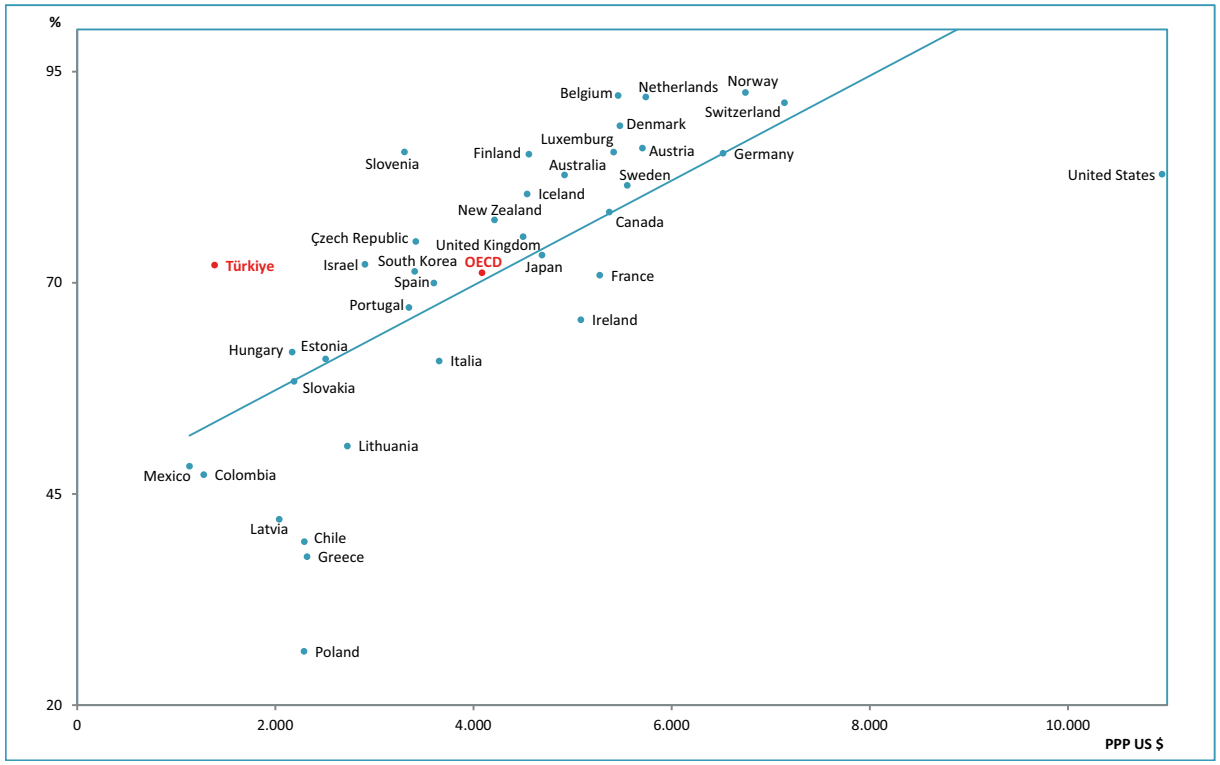
Figure 8.37. Satisfaction with Health Care Services, (%), 2020 and Total Current Health Expenditure per Capita, (PPP US $), 2019



Source: TURKSTAT, OECD Health Data 2021

Note: The country values of satisfaction belong to the year 2020 and values of expenditure belong to the year 2019. Türkiye expenditure data belongs to the year 2020.

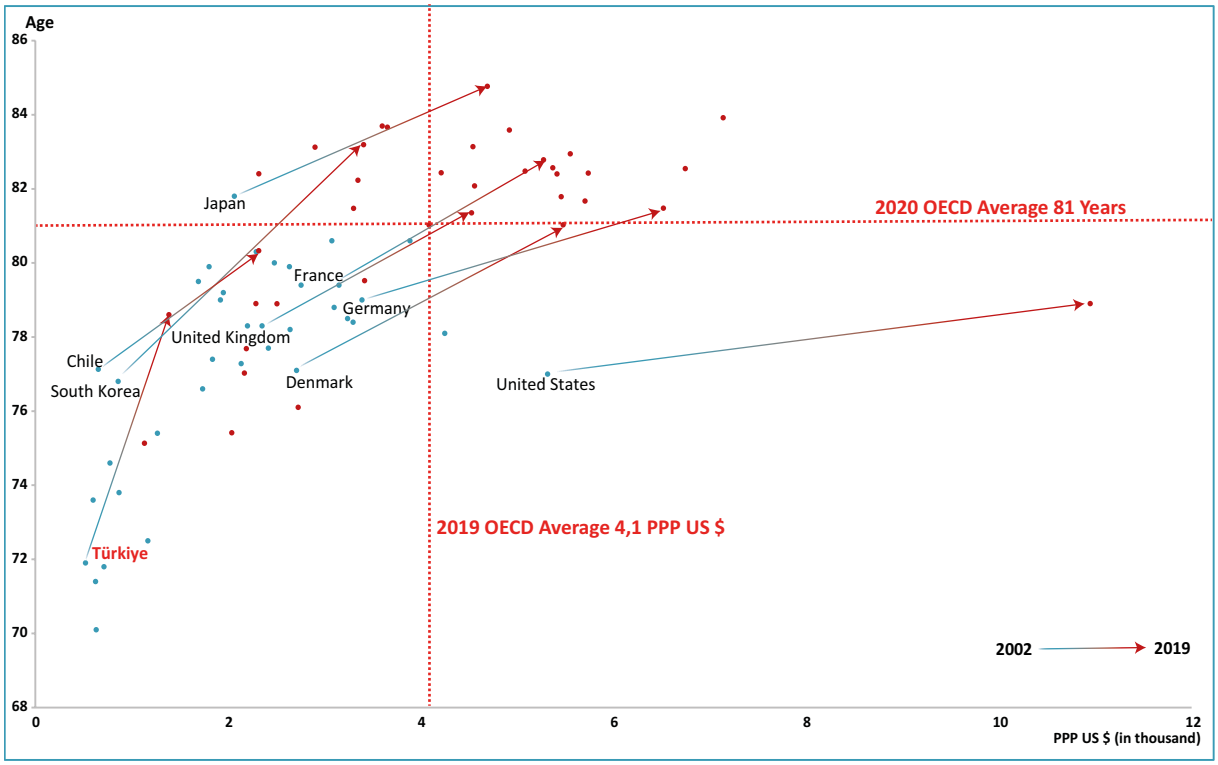
Figure 8.38. Satisfaction with Health Care Services (%), 2020 and Total Current Health Expenditure per Capita, (PPP US $), 2019



Source: TURKSTAT, OECD Health Data 2021

Note: The country values of satisfaction belong to the year of 2020 and values of expenditure belong to the year of 2019. Türkiye expenditure data belongs to the year of 2020.

Figure 8.39. Life Expectancy at Birth, (Age) and Total Current Health Expenditure per Capita, (PPP US $), 2002, 2019



Source: TURKSTAT, UNPD, OECD Health Data 2021

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

Table 8.25. Some Health Indicators by Provinces, 2020

City	Primary Health Care Facilities Visits	Secondary and Tertiary Health Care Visits	Per Capita Physician Visits	Number of Dentist Visits	Per Capita Dentist Visits
Adana	9.384.581	10.305.514	8,7	571.357	0,25
Adıyaman	2.171.721	2.342.254	7,1	254.645	0,40
Afyonkarahisar	2.792.788	2.682.561	7,4	240.817	0,33
Ağrı	1.017.459	1.754.878	5,2	175.543	0,33
Amasya	1.301.901	1.441.115	8,2	109.394	0,33
Ankara	14.199.216	23.442.614	6,6	1.663.132	0,29
Antalya	6.932.410	10.785.174	7,0	795.588	0,31
Artvin	511.700	584.323	6,5	47.486	0,28
Aydın	4.376.137	5.144.644	8,5	402.831	0,36
Balıkesir	4.853.369	5.128.649	8,0	402.724	0,32
Bilecik	808.235	682.255	6,8	106.702	0,49
Bingöl	558.535	944.402	5,3	108.657	0,39
Bitlis	557.227	1.309.641	5,3	98.812	0,28
Bolu	1.232.868	1.465.238	8,6	176.681	0,56
Burdur	981.221	969.709	7,3	79.720	0,30
Bursa	10.819.975	12.102.050	7,4	947.635	0,31
Çanakkale	2.043.429	2.274.689	8,0	157.681	0,29
Çankırı	581.123	687.555	6,6	80.226	0,42
Çorum	1.695.547	2.159.962	7,3	181.790	0,34
Denizli	4.647.281	4.480.449	8,8	367.989	0,35
Diyarbakır	4.799.443	5.839.124	6,0	461.753	0,26
Edirne	1.531.198	2.000.302	8,7	149.124	0,37
Elazığ	1.834.218	2.514.298	7,4	211.640	0,36
Erzincan	638.247	956.813	6,8	124.072	0,53
Erzurum	2.191.571	3.038.841	6,9	395.468	0,52
Eskişehir	2.886.635	4.059.142	7,8	386.498	0,43
Gaziantep	6.976.441	8.611.980	7,4	636.243	0,30
Giresun	1.587.439	1.756.743	7,5	140.338	0,31
Gümüşhane	398.457	397.766	5,6	56.351	0,40
Hakkari	360.497	758.162	4,0	54.355	0,19
Hatay	5.189.580	6.990.654	7,3	525.352	0,32
Isparta	1.650.505	2.301.853	9,0	228.844	0,52
Mersin	7.406.638	6.886.555	7,6	390.088	0,21
İstanbul	36.687.924	70.620.698	6,9	4.286.756	0,28
İzmir	13.715.245	19.291.460	7,5	1.499.128	0,34
Kars	716.296	904.841	5,7	102.828	0,36
Kastamonu	1.160.784	1.337.010	6,6	132.493	0,35
Kayseri	4.918.254	5.695.993	7,5	524.648	0,37
Kırklareli	1.305.337	1.551.194	7,9	124.111	0,34
Kırşehir	892.699	796.875	7,0	102.698	0,42
Kocaeli	5.919.810	8.803.972	7,4	758.852	0,38

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

Table 8.25. Some Health Indicators by Provinces, 2020 - Continued

City	Primary Health Care Facilities Visits	Secondary and Tertiary Health Care Visits	Per Capita Physician Visits	Number of Dentist Visits	Per Capita Dentist Visits
Konya	6.843.432	8.426.174	6,8	801.998	0,36
Kütahya	2.390.749	2.076.485	7,7	197.122	0,34
Malatya	2.883.010	3.438.252	7,8	323.912	0,40
Manisa	5.261.680	6.244.488	7,9	448.521	0,31
Kahramanmaraş	3.656.172	4.602.181	7,1	373.829	0,32
Mardin	2.224.372	3.089.214	6,2	219.738	0,26
Muğla	3.537.569	3.535.310	7,1	315.698	0,32
Muş	770.088	1.441.959	5,4	120.052	0,29
Nevşehir	1.099.576	1.092.495	7,2	112.364	0,37
Niğde	1.258.436	1.238.199	6,9	143.261	0,40
Ordu	2.337.047	3.081.210	7,1	239.240	0,31
Rize	1.083.611	1.664.361	8,0	183.890	0,53
Sakarya	3.389.235	4.272.120	7,3	305.839	0,29
Samsun	4.535.846	6.735.503	8,3	563.473	0,42
Siirt	644.383	1.237.328	5,7	95.500	0,29
Sinop	747.747	738.576	6,9	86.372	0,40
Sivas	1.805.707	2.689.857	7,1	306.504	0,48
Tekirdağ	3.680.597	4.368.900	7,4	396.281	0,37
Tokat	1.962.662	2.441.723	7,4	306.847	0,51
Trabzon	2.920.628	3.752.793	8,2	294.160	0,36
Tunceli	307.384	199.398	6,1	37.359	0,45
Şanlıurfa	5.082.305	8.847.025	6,6	434.502	0,21
Uşak	1.578.714	1.372.305	8,0	123.657	0,33
Van	2.470.995	3.935.790	5,6	314.639	0,27
Yozgat	1.204.536	1.517.173	6,5	145.861	0,35
Zonguldak	1.608.064	2.936.434	7,7	228.458	0,39
Aksaray	1.470.405	1.687.159	7,5	124.970	0,30
Bayburt	211.629	253.542	5,7	43.795	0,53
Karaman	779.183	921.835	6,7	88.358	0,35
Kırıkkale	939.346	991.270	6,9	136.607	0,49
Batman	1.336.092	2.419.197	6,1	213.051	0,34
Şırnak	1.023.475	1.508.220	4,7	118.797	0,22
Bartın	1.001.353	765.833	8,9	60.404	0,30
Ardahan	274.719	309.398	6,1	38.936	0,40
Iğdır	494.435	699.040	5,9	90.229	0,45
Yalova	984.807	1.335.611	8,4	100.631	0,36
Karabük	857.906	1.047.795	7,8	103.414	0,42
Kilis	483.445	609.084	7,7	75.646	0,53
Osmaniye	2.280.072	2.216.847	8,2	183.455	0,33
Düzce	1.464.582	1.599.160	7,7	121.986	0,31
Türkiye	253.119.935	347.141.196	7,2	26.880.406	0,32

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

Table 8.25. Some Health Indicators by Provinces, 2020 - Continued

City	Number of Inpatients	Number of Bed Days	Number of Surgical Operation	Bed Occupancy Rate	Average Length of Stay	Bed Turnover Rate	Bed Turnover Interval
Adana	352.735	1.631.071	132.576	60,3	4,6	47,6	3,0
Adıyaman	67.173	280.111	11.727	54,6	4,2	47,8	3,5
Afyonkarahisar	80.190	397.490	28.854	47,0	5,0	34,6	5,6
Ağrı	46.989	175.044	7.039	53,8	3,7	52,7	3,2
Amasya	28.923	148.284	9.187	48,7	5,1	34,6	5,4
Ankara	706.600	3.817.283	294.487	52,7	5,4	35,6	4,8
Antalya	345.459	1.405.824	129.273	51,5	4,1	46,2	3,8
Artvin	15.114	62.867	2.659	47,4	4,2	41,6	4,6
Aydın	160.118	662.990	53.842	56,4	4,1	49,8	3,2
Balıkesir	132.356	650.159	50.211	53,0	4,9	39,4	4,4
Bilecik	12.264	71.296	5.540	33,5	5,8	21,0	11,5
Bingöl	27.857	103.570	6.572	37,5	3,7	36,8	6,2
Bitlis	46.284	174.102	9.554	48,3	3,8	46,8	4,0
Bolu	57.345	269.574	14.954	49,1	4,7	38,1	4,9
Burdur	29.070	104.723	6.850	37,3	3,6	37,8	6,1
Bursa	395.290	1.881.782	134.484	61,5	4,8	47,2	3,0
Çanakkale	55.998	259.789	22.175	41,7	4,6	32,8	6,5
Çankırı	15.205	70.902	5.591	41,8	4,7	32,7	6,5
Çorum	70.481	358.248	16.029	57,3	5,1	41,1	3,8
Denizli	167.880	599.256	68.136	50,7	3,6	51,9	3,5
Diyarbakır	216.662	765.693	68.233	43,7	3,5	45,2	4,5
Edirne	63.513	320.195	17.621	45,3	5,0	32,8	6,1
Elazığ	105.827	549.254	26.962	47,6	5,2	33,5	5,7
Erzincan	34.830	133.503	7.143	51,5	3,8	49,1	3,6
Erzurum	120.692	725.154	39.783	54,8	6,0	33,3	4,9
Eskişehir	154.199	765.325	58.583	55,8	5,0	41,1	3,9
Gaziantep	343.056	1.323.245	118.125	56,3	3,9	53,3	3,0
Giresun	64.882	300.130	15.553	42,4	4,6	33,4	6,3
Gümüşhane	7.510	40.017	1.659	23,8	5,3	16,3	17,1
Hakkari	23.111	69.123	3.416	45,2	3,0	55,2	3,6
Hatay	251.885	992.851	82.415	61,6	3,9	57,0	2,5
Isparta	79.879	418.677	41.192	55,0	5,2	38,3	4,3
Mersin	230.319	977.815	74.069	53,9	4,2	46,3	3,6
İstanbul	1.799.286	8.387.645	734.688	49,5	4,7	38,8	4,7
İzmir	500.761	2.363.230	241.922	53,6	4,7	41,5	4,1
Kars	24.540	98.521	5.821	33,4	4,0	30,3	8,0
Kastamonu	34.231	155.354	9.263	34,2	4,5	27,5	8,7
Kayseri	236.191	1.055.344	76.275	60,5	4,5	49,4	2,9
Kırklareli	43.266	162.319	9.942	44,0	3,8	42,8	4,8
Kırşehir	19.416	75.129	3.484	44,3	3,9	41,8	4,9
Kocaeli	237.309	1.099.829	93.971	62,5	4,6	49,2	2,8

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

Table 8.25. Some Health Indicators by Provinces, 2020 - Continued

City	Number of Inpatients	Number of Bed Days	Number of Surgical Operation	Bed Occupancy Rate	Average Length of Stay	Bed Turnover Rate	Bed Turnover Interval
Konya	326.870	1.585.948	126.216	50,8	4,9	38,2	4,7
Kütahya	57.199	350.286	14.733	50,8	6,1	30,3	5,9
Malatya	134.384	554.381	35.269	51,1	4,1	45,2	3,9
Manisa	182.495	926.577	55.461	53,0	5,1	38,1	4,5
Kahramanmaraş	136.195	649.609	47.747	59,4	4,8	45,5	3,3
Mardin	83.493	339.674	21.869	64,3	4,1	57,7	2,3
Muğla	103.905	394.277	32.895	49,0	3,8	47,2	3,9
Muş	36.908	124.748	6.237	43,8	3,4	47,3	4,3
Nevşehir	28.598	150.147	10.701	56,2	5,3	39,1	4,1
Niğde	34.699	159.066	5.714	47,0	4,6	37,4	5,2
Ordu	118.436	418.098	29.060	50,6	3,5	52,3	3,4
Rize	46.209	205.568	9.879	50,0	4,4	41,0	4,4
Sakarya	102.233	452.261	39.768	54,7	4,4	45,1	3,7
Samsun	214.605	1.174.155	78.167	61,6	5,5	41,1	3,4
Siirt	41.580	153.667	13.449	53,8	3,7	53,1	3,2
Sinop	21.299	112.420	5.722	46,7	5,3	32,3	6,0
Sivas	82.723	444.327	25.847	46,7	5,4	31,8	6,1
Tekirdağ	144.981	592.167	43.484	53,7	4,1	48,0	3,5
Tokat	87.132	413.108	25.725	49,2	4,7	37,9	4,9
Trabzon	147.805	658.592	50.664	52,8	4,5	43,3	4,0
Tunceli	3.300	15.294	693	27,9	4,6	22,0	12,0
Şanlıurfa	250.776	1.026.011	68.977	69,0	4,1	61,6	1,8
Uşak	52.267	202.143	12.534	44,8	3,9	42,3	4,8
Van	130.340	583.246	37.093	52,9	4,5	43,2	4,0
Yozgat	48.519	200.422	11.079	43,5	4,1	38,5	5,4
Zonguldak	87.640	383.166	29.824	45,8	4,4	38,3	5,2
Aksaray	45.846	144.265	15.361	47,0	3,1	54,5	3,5
Bayburt	7.395	37.837	666	51,8	5,1	37,0	4,8
Karaman	24.767	127.462	9.513	55,6	5,1	39,4	4,1
Kırıkkale	34.572	192.347	11.099	42,0	5,6	27,6	7,7
Batman	75.744	311.856	24.010	44,0	4,1	39,0	5,2
Şırnak	41.839	156.971	11.902	56,2	3,8	54,7	2,9
Bartın	16.160	76.357	2.975	48,4	4,7	37,4	5,0
Ardahan	8.820	47.355	1.792	60,3	5,4	41,0	3,5
Iğdır	23.021	63.852	3.556	55,9	2,8	73,5	2,2
Yalova	46.408	162.055	9.423	58,0	3,5	60,6	2,5
Karabük	37.491	159.744	8.548	58,3	4,3	49,9	3,1
Kilis	21.075	93.935	5.329	70,5	4,5	57,7	1,9
Osmaniye	82.354	267.243	25.792	54,3	3,2	61,1	2,7
Düzce	45.738	155.107	13.585	50,3	3,4	54,2	3,3
Türkiye	10.620.517	48.168.462	3.722.218	52,5	4,5	42,3	4,1

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

Explanations for Chapter 8

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

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

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

☑ The services of the other public institutions were included in the private sector to be comparable.

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

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

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

☑ According to the Circular "Staging Health Service Providers" published by the Ministry of Health, General Directorate of Health Services on 31/05/2019, E2-E3 Integrated District State Hospitals were defined as primary health care institutions and E1 Integrated District State Hospitals as secondary health institutions. Prior year data was revised due to categorize of integrated district state hospitals in 2019.

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

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

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

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

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

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

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

☑ **Number of Inpatient:** The number of hospitalizations (Discharged + Deceased) in a given year.

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

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

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

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

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

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

☑ The number of patients waiting for transplantation is cumulative. It is calculated as: the number of people waiting in the previous year +the number of patients added to the list in the year-patients who became transplantation, died, recovered or left the waiting list for any reason in the year.

☑ All transplantation centers are included in the hospitals. Private licenses are given to the centers that meet the conditions under legislation.

☑ **Current Health Expenditure:** It is calculated by subtracting investment health expenditure from total health expenditure.

CHAPTER 9

Pharmaceutical Statistics

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

ATC-1 Group	2015	2016	2017	2018	2019	2020
Alimentary T. & Metabolism	324,1	346,1	374,8	398,7	406,3	401,0
Nervous System	271,1	287,7	298,4	308,0	313,2	320,2
Respiratory System	289,5	307,6	317,2	329,8	335,0	276,9
Cardiovascular System	203,7	212,8	225,9	238,3	251,4	273,6
Musculo-Skeletal System	244,4	253,9	258,1	259,7	261,3	229,9
Systemic Anti-Infectives	280,6	284,0	257,3	262,7	265,8	205,7
Blood & Blood Forming Organs	88,7	93,2	99,4	107,0	107,1	117,1
Dermatologicals	104,0	110,1	115,8	118,6	123,1	115,2
Hospital Solutions	91,4	90,3	99,2	92,6	100,5	86,9
G.U.System & Sex Hormones	69,8	71,5	74,1	77,6	78,7	73,0
Sensory Organs	64,0	66,1	68,1	71,2	73,2	63,2
Systemic Hormonal Preparations (Excl. Sex Hormones and Insulins)	45,6	48,4	54,3	59,7	65,6	61,2
Antineoplastic & Immunomodul Agents	10,0	9,8	10,2	11,3	12,6	13,7
Various (Other)	4,4	5,2	6,1	6,3	7,1	12,9
Antiparasitic Products, Insecticides and Repellents	5,5	5,1	5,1	5,4	5,7	5,3
Diagnostic Agents	4,1	4,3	4,5	4,3	4,7	3,9
Total	2.100,9	2.196,1	2.268,5	2.351,2	2.411,3	2.259,6

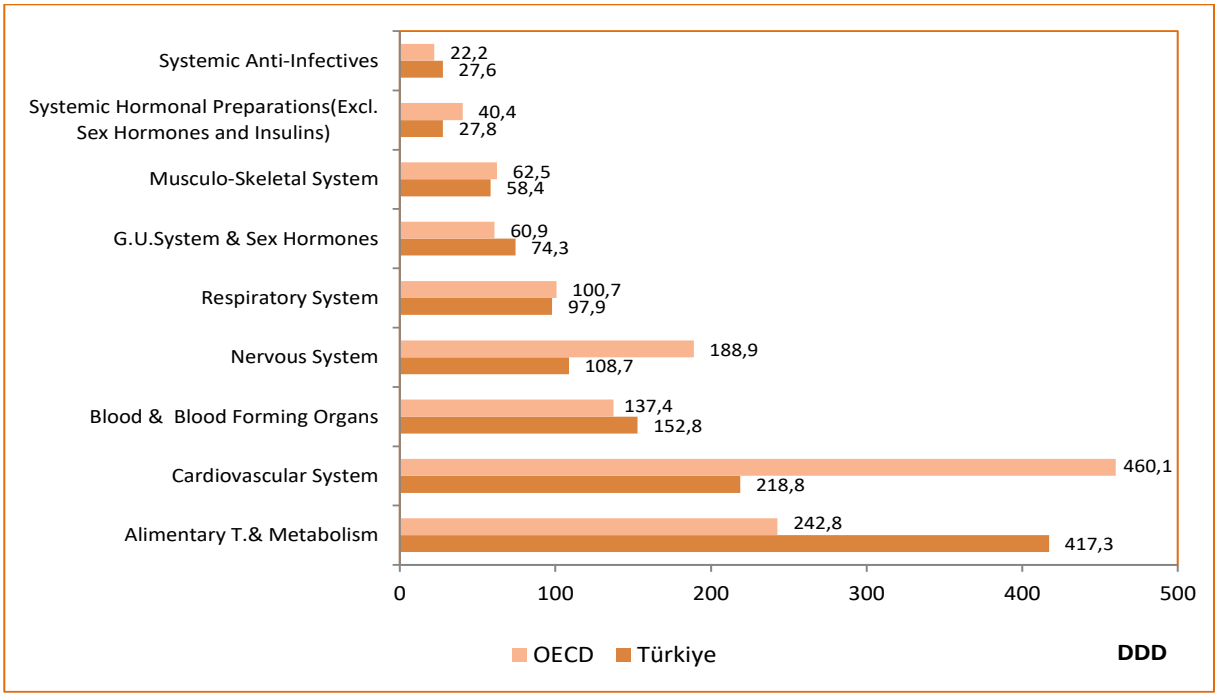
Source: Turkish Medicines and Medical Devices Agency

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

ATC-1 Group	2015	2016	2017	2018	2019	2020
Alimentary T.& Metabolism	286,2	332,7	340,6	387,4	392,4	417,3
Cardiovascular System	165,4	167,4	176,4	187,7	195,1	218,8
Blood & Blood Forming Organs	124,4	134,6	144,4	169,3	170,2	152,8
Nervous System	91,2	93,8	98,4	101,1	101,5	108,7
Respiratory System	94,3	96,4	99,9	109,0	111,2	97,9
G.U.System & Sex Hormones	56,4	53,5	68,5	69,9	73,7	74,3
Musculo-Skeletal System	61,6	64,7	62,0	61,6	64,8	58,4
Systemic Hormonal Preparations(Excl. Sex Hormones and Insulins)	19,9	21,3	21,9	24,2	25,7	27,8
Systemic Anti-Infectives	41,9	42,1	37,3	33,3	34,6	27,6

Source: Turkish Medicines and Medical Devices Agency

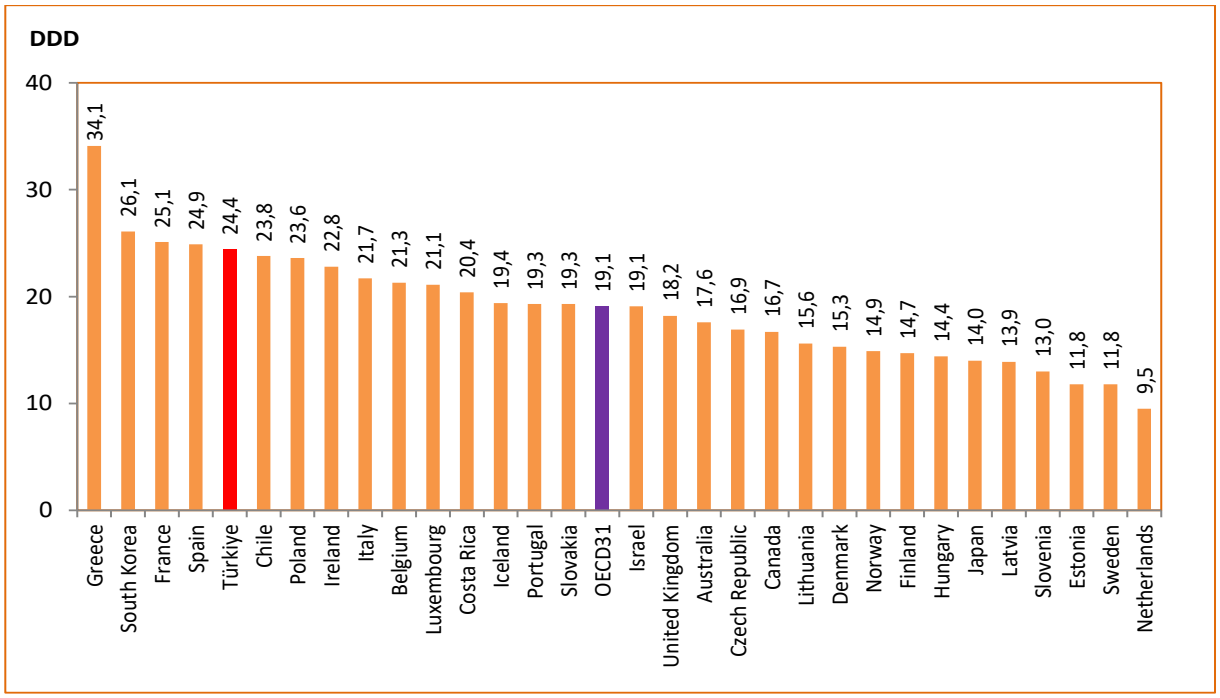
Figure 9.1. International Comparison of Pharmaceutical Consumption per 1.000 Population by Selected ATC-1 Groups, DDD, 2019



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2021

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

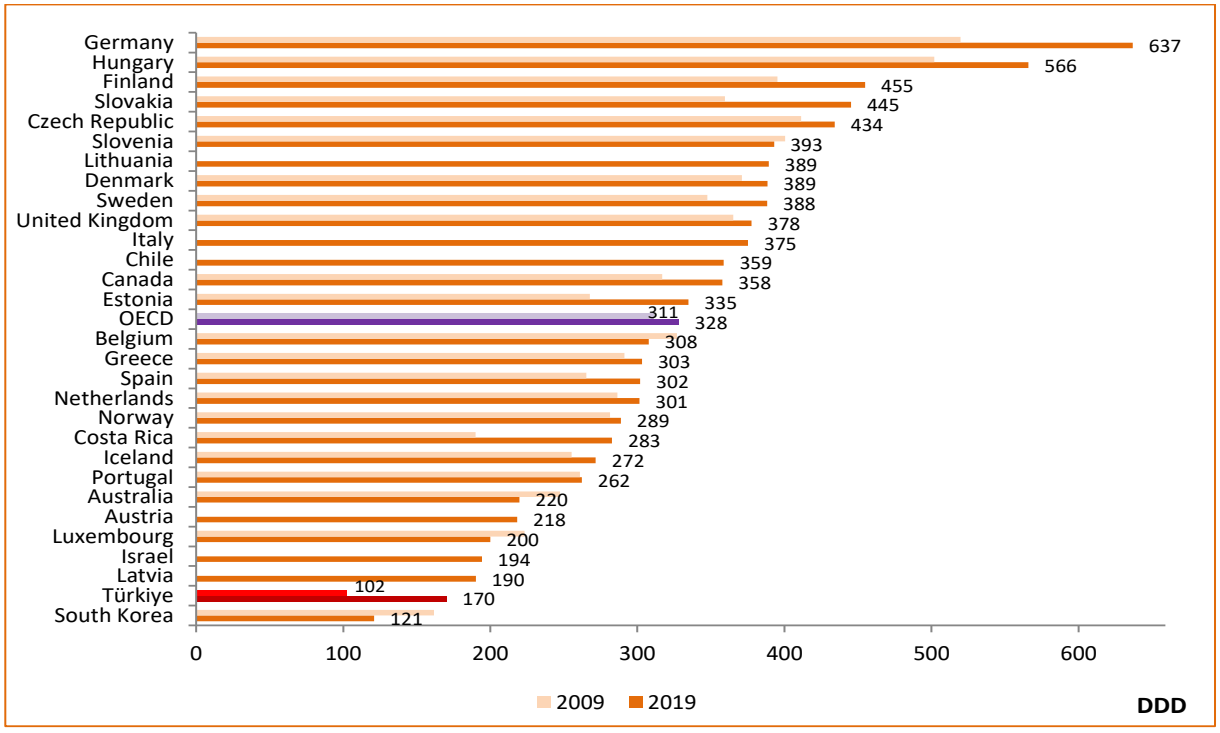
Figure 9.2. International Comparison of Antibiotic (ATC-J01) Consumption per 1.000 Population, DDD, 2019



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2021

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

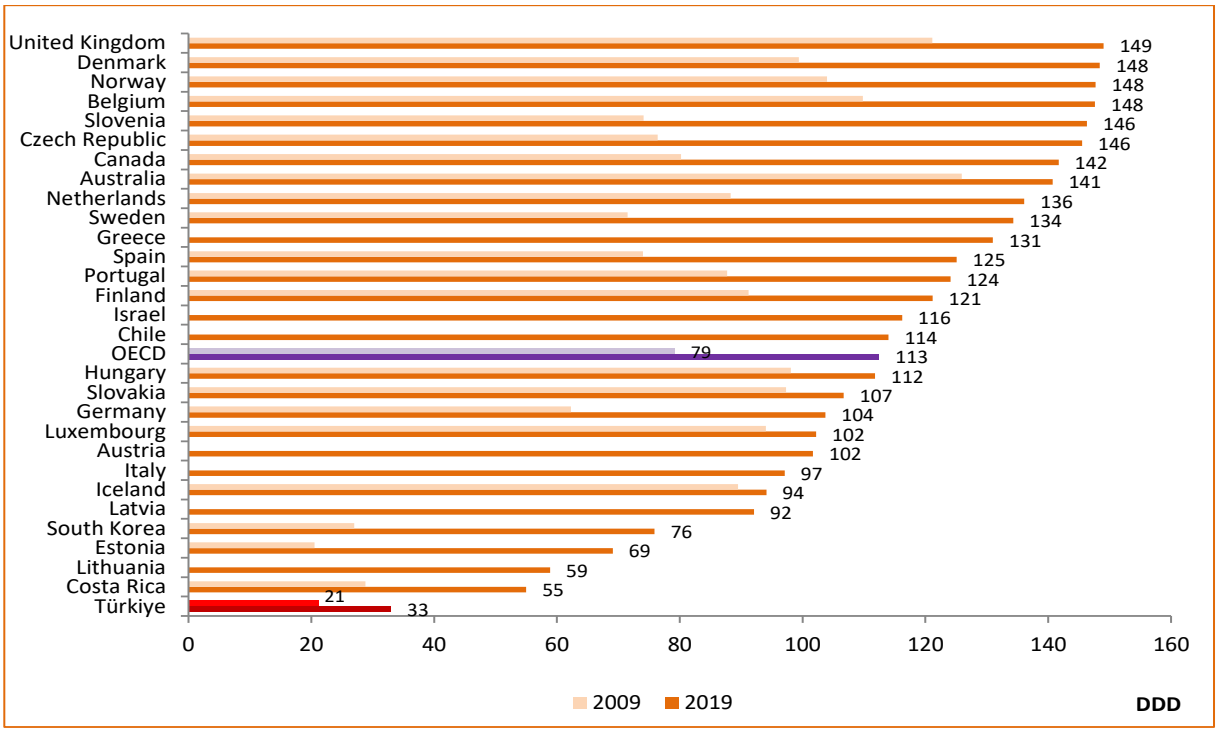
Figure 9.3. International Comparison of Antihypertensive Drug Consumption per 1.000 Population, DDD, 2009, 2019



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2021

Note: Türkiye's data belong to the year 2009 and 2020. Countries' data belong to the year 2009 and 2019 or nearest. Data includes ATC codes C02, C03, C07, C08, C09.

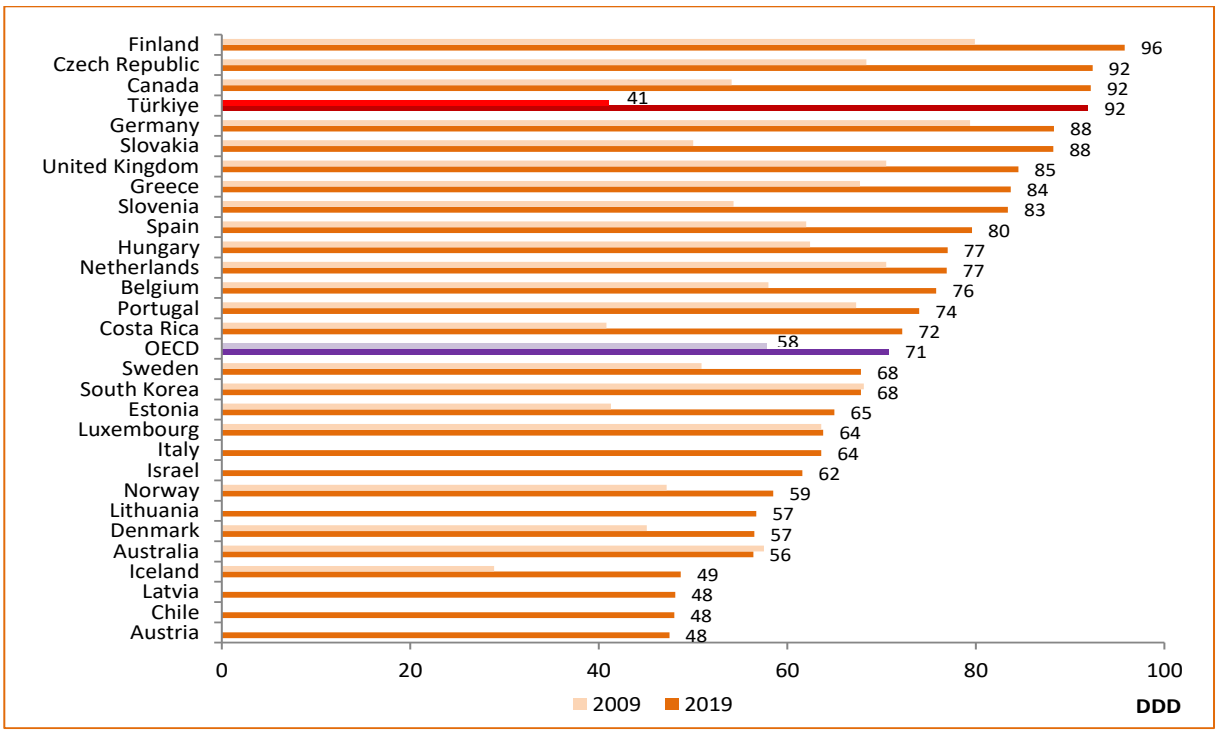
Figure 9.4. International Comparison of Cholesterol-Lowering Drug (ATC-C10) Consumption per 1.000 Population, DDD, 2009, 2019



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2021

Note: Türkiye's data belong to the year 2009 and 2020. Countries' data belong to the year 2009 and 2019 or nearest.

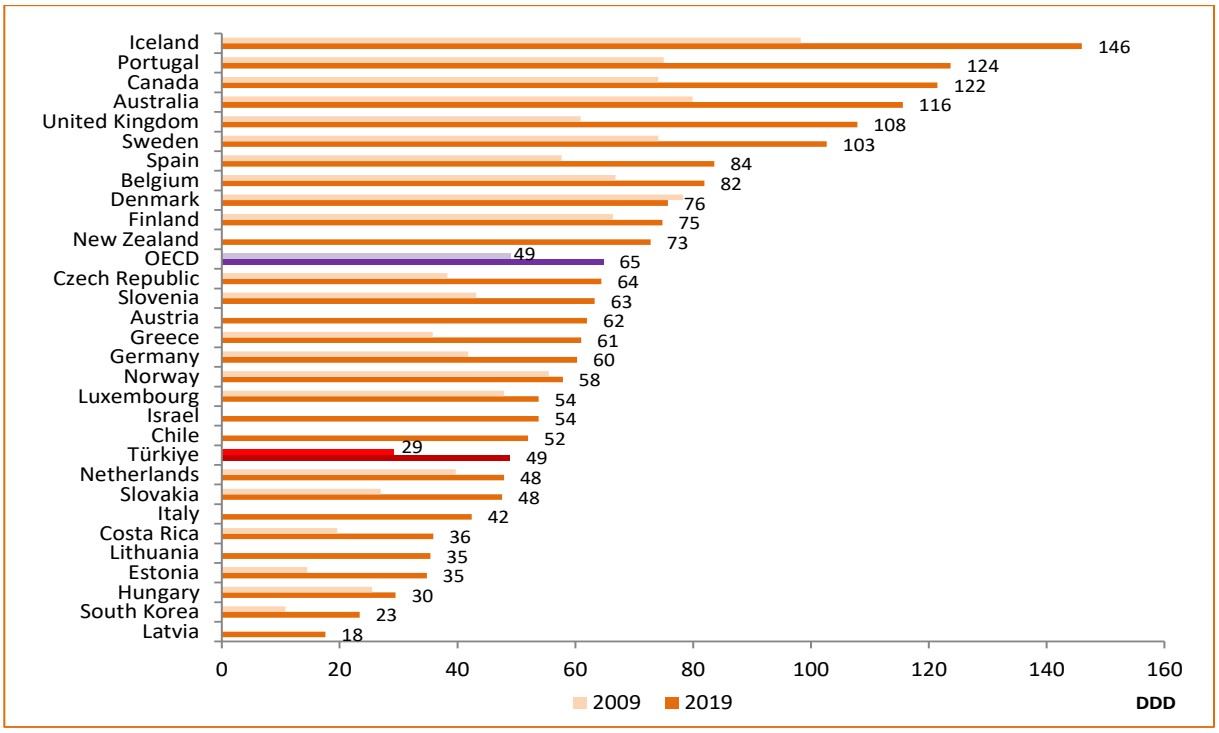
Figure 9.5. International Comparison of Antidiabetic Drug (ATC-A10) Consumption per 1.000 Population, DDD, 2009, 2019



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2021

Note: Türkiye's data belong to the year 2009 and 2020. Countries' data belong to the year 2009 and 2019 or nearest.

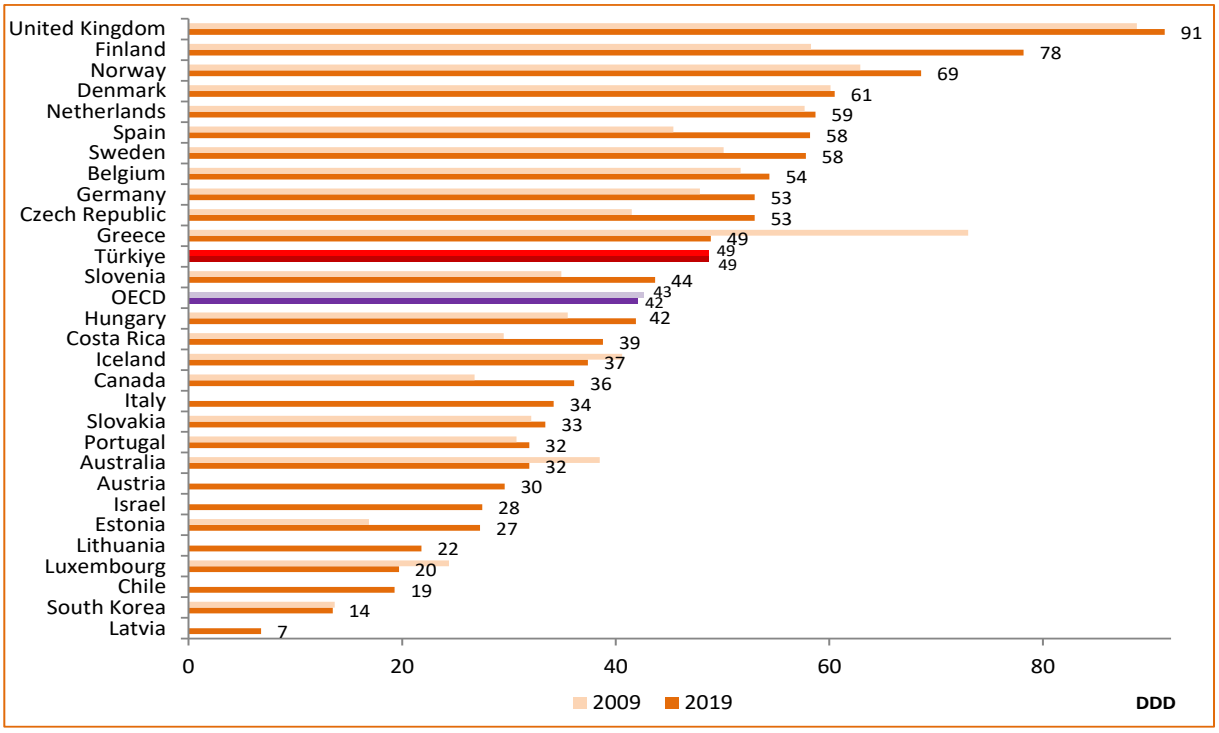
Figure 9.6. International Comparison of Antidepressant Drug (ATC-N06A) Consumption per 1.000 Population, DDD, 2009, 2019



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2021

Note: Türkiye's data belong to the year 2009 and 2020. Countries' data belong to the year 2009 and 2019 or nearest.

Figure 9.7. International Comparison of Drugs for Obstructive Airway Disease (ATC-R03) Consumption per 1.000 Population, DDD, 2009, 2019



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2021

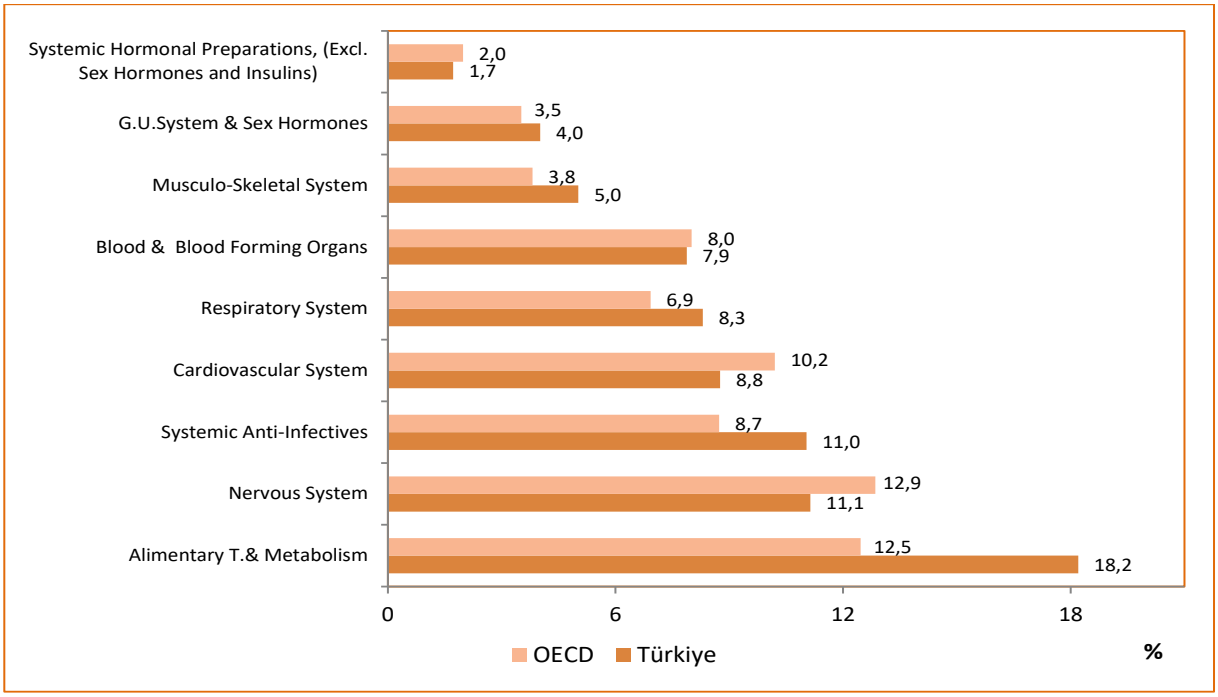
Note: Türkiye's data belong to the year 2009 and 2020. Countries' data belong to the year 2009 and 2019 or nearest.

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

ATC-1 Group	2015	2016	2017	2018	2019	2020
Alimentary T. & Metabolism	2.779,4	3.361,1	4.163,1	5.223,5	6.893,8	9.117,7
Antineoplastic & Immunomodul Agents	2.357,8	2.440,2	3.038,3	4.179,2	5.691,7	7.391,5
Nervous System	1.972,0	2.299,1	2.995,9	3.607,3	4.659,9	5.563,4
Systemic Anti-Infectives	2.341,6	2.699,3	3.002,4	3.895,8	5.252,0	5.511,5
Cardiovascular System	1.541,6	1.744,0	2.133,3	2.608,9	3.441,1	4.375,4
Respiratory System	1.685,7	2.002,8	2.431,2	3.019,9	3.906,6	4.172,0
Blood & Blood Forming Organs	1.179,0	1.411,0	1.773,1	2.309,3	3.114,7	3.935,0
Musculo-Skeletal System	1.082,8	1.295,4	1.578,9	1.915,1	2.441,3	2.509,3
G.U.System & Sex Hormones	840,7	984,6	1.193,9	1.485,5	1.897,9	2.006,2
Dermatologicals	635,9	694,0	825,0	983,0	1.264,9	1.385,5
Sensory Organs	671,8	783,3	877,8	1.073,2	1.230,7	1.259,7
Systemic Hormonal Preparations, (Excl. Sex Hormones and Insulins)	352,6	411,4	476,7	614,3	753,3	861,1
Various (Other)	174,0	226,8	273,3	314,7	419,4	788,6
Hospital Solutions	329,5	364,0	463,5	550,0	671,9	691,3
Diagnostic Agents	156,8	183,3	213,8	267,7	382,7	338,6
Antiparasitic Products, Insecticides and Repellents	19,8	22,1	26,6	34,4	48,6	58,4
Total	18.121,0	20.922,4	25.466,7	32.081,8	42.070,4	49.965,3

Source: Turkish Medicines and Medical Devices Agency

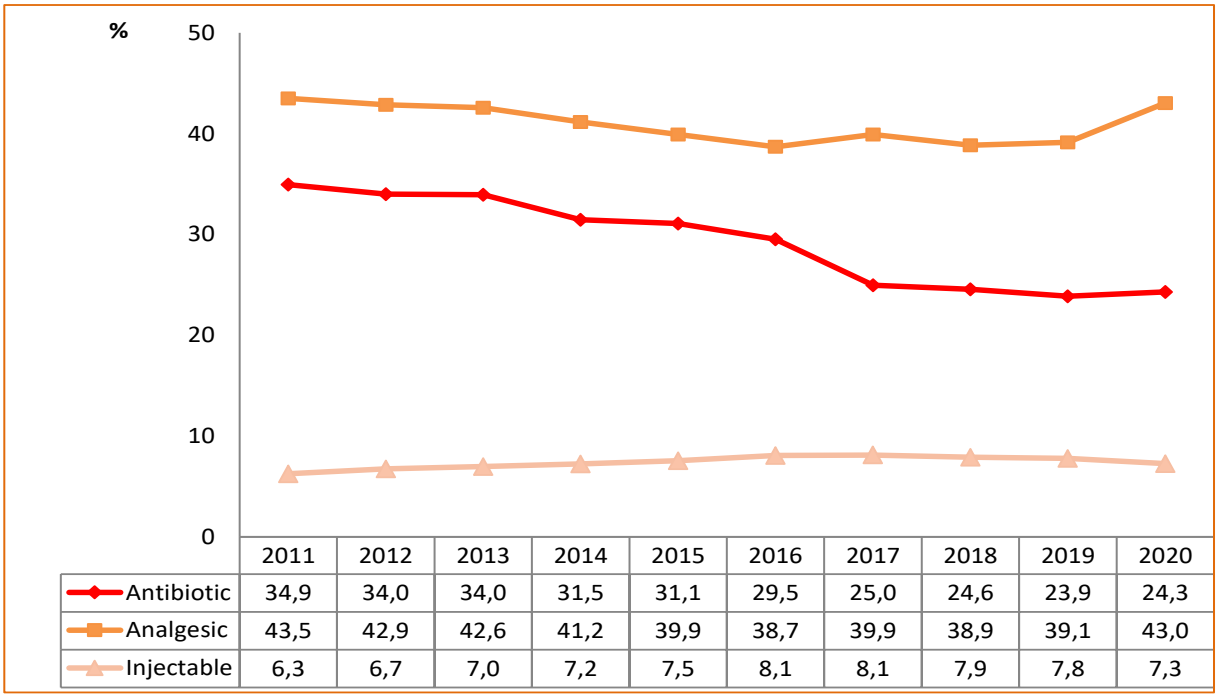
Figure 9.8. International Comparison of Pharmaceutical Sales Amounts (National Currency) by Selected ATC-1 Groups, (%), 2019



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2021

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

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



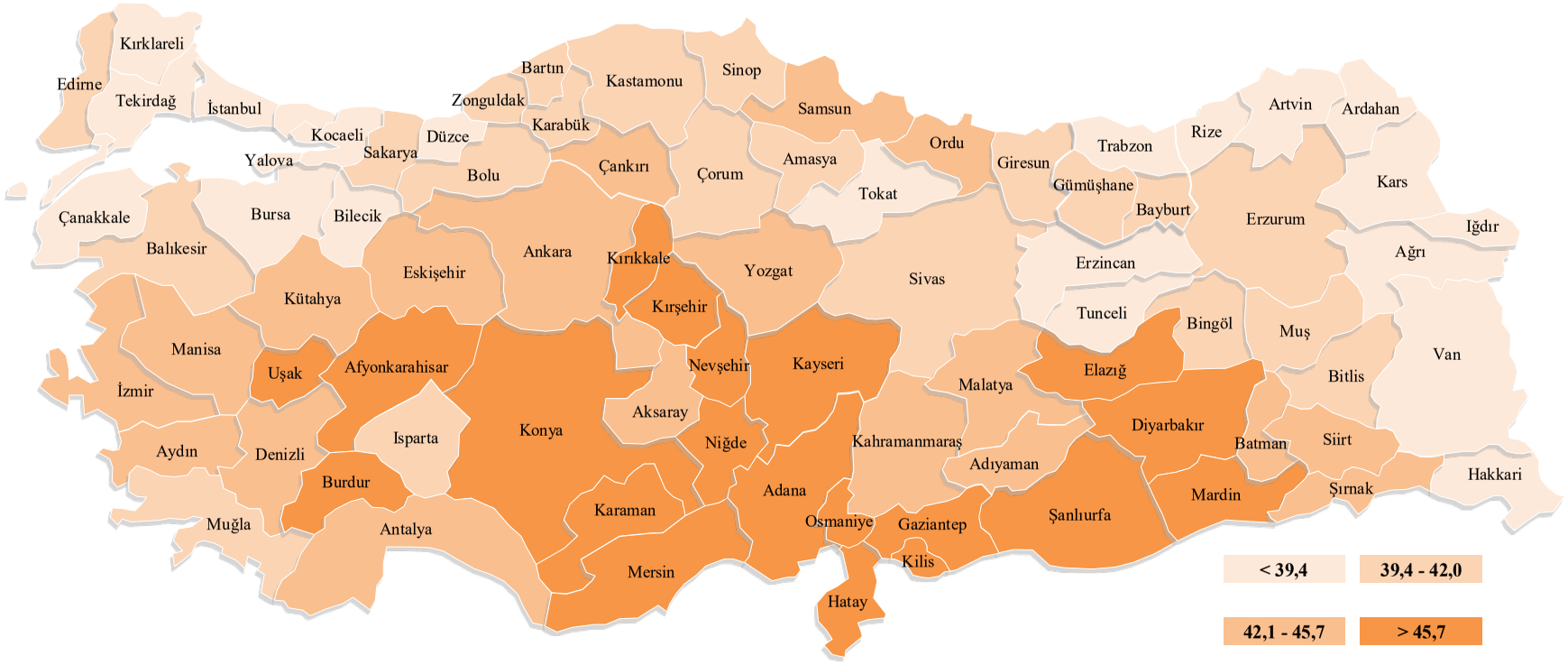
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Antibiotic	34,9	34,0	34,0	31,5	31,1	29,5	25,0	24,6	23,9	24,3
Analgesic	43,5	42,9	42,6	41,2	39,9	38,7	39,9	38,9	39,1	43,0
Injectable	6,3	6,7	7,0	7,2	7,5	8,1	8,1	7,9	7,8	7,3

Source: Turkish Medicines and Medical Devices Agency

Map 9.1. Ratio of Prescriptions Including Antibiotic Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2020

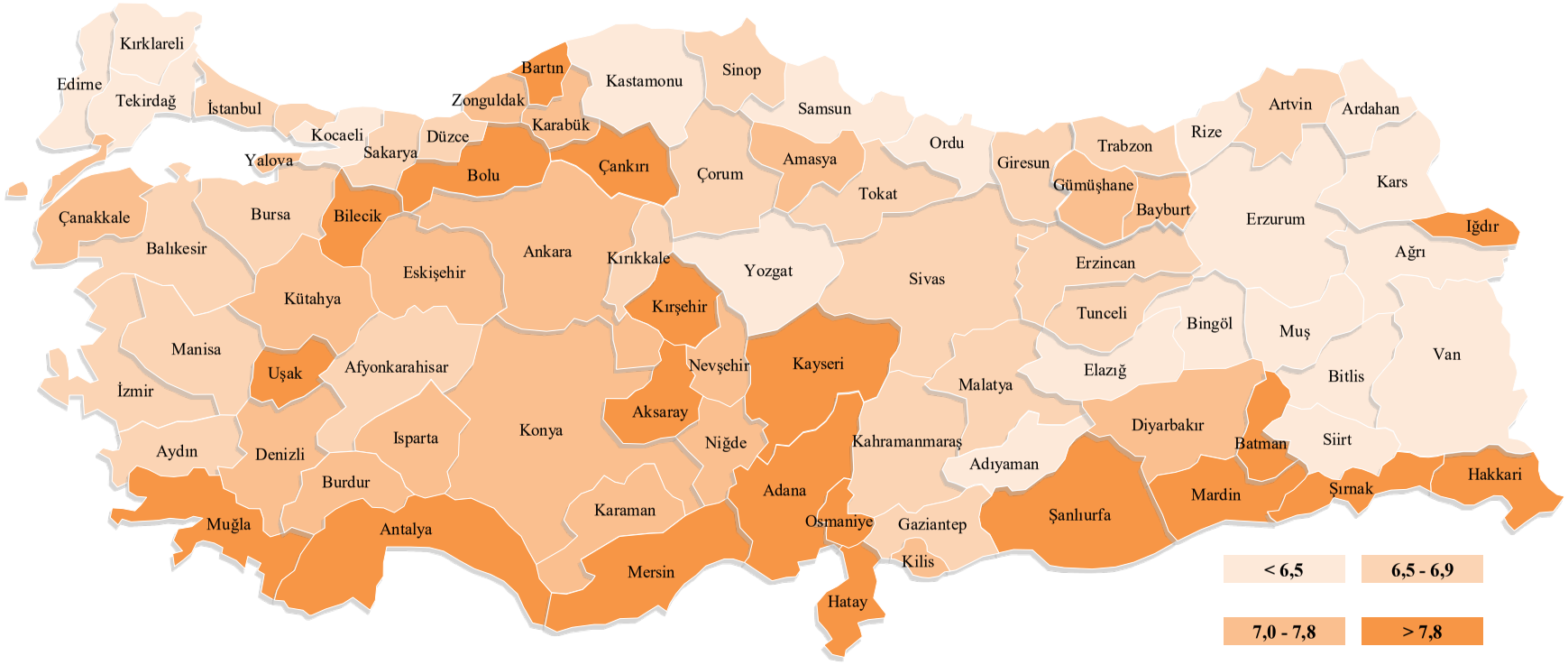
Source: Turkish Medicines and Medical Devices Agency

Map 9.2. Ratio of Prescriptions Including Analgesic Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2020



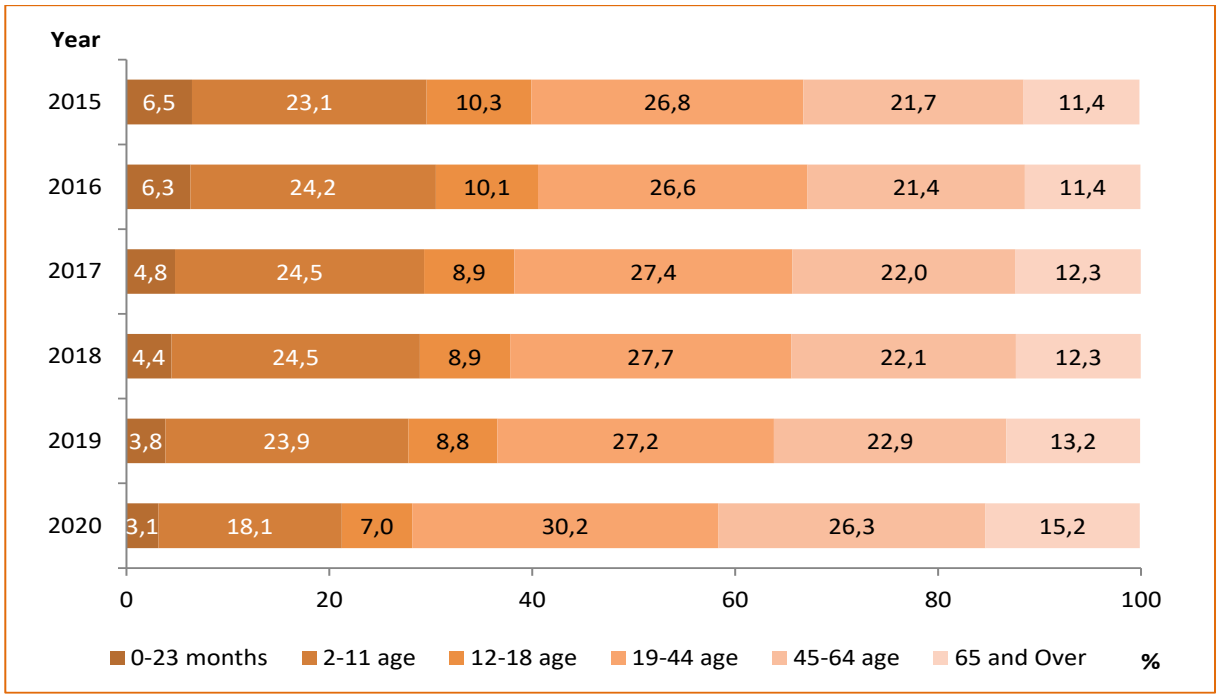
Source: Turkish Medicines and Medical Devices Agency

Map 9.3. Ratio of Prescriptions Including Injectable Drug Among All Prescriptions Written Out by Family Physicians by Provinces, (%), 2020



Source: Turkish Medicines and Medical Devices Agency

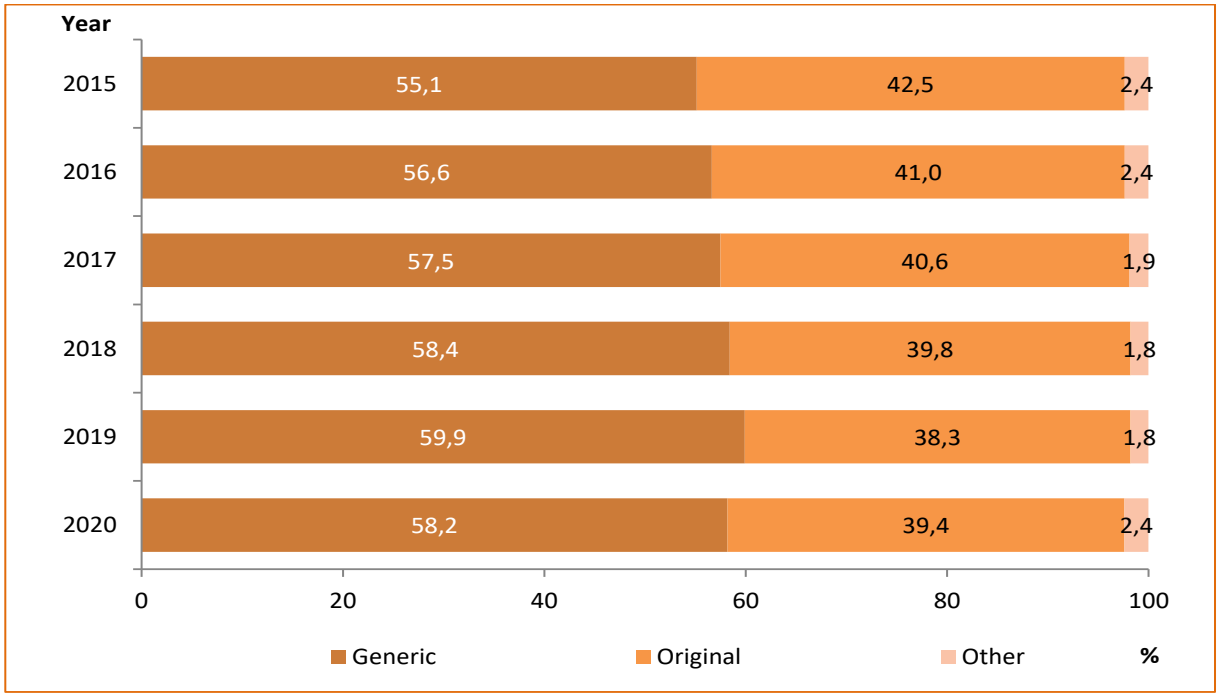
Figure 9.10. Distribution of Prescriptions Including Antibiotic Written Out by Family Physicians by Years and Age Groups, (%)



Source: Turkish Medicines and Medical Devices Agency

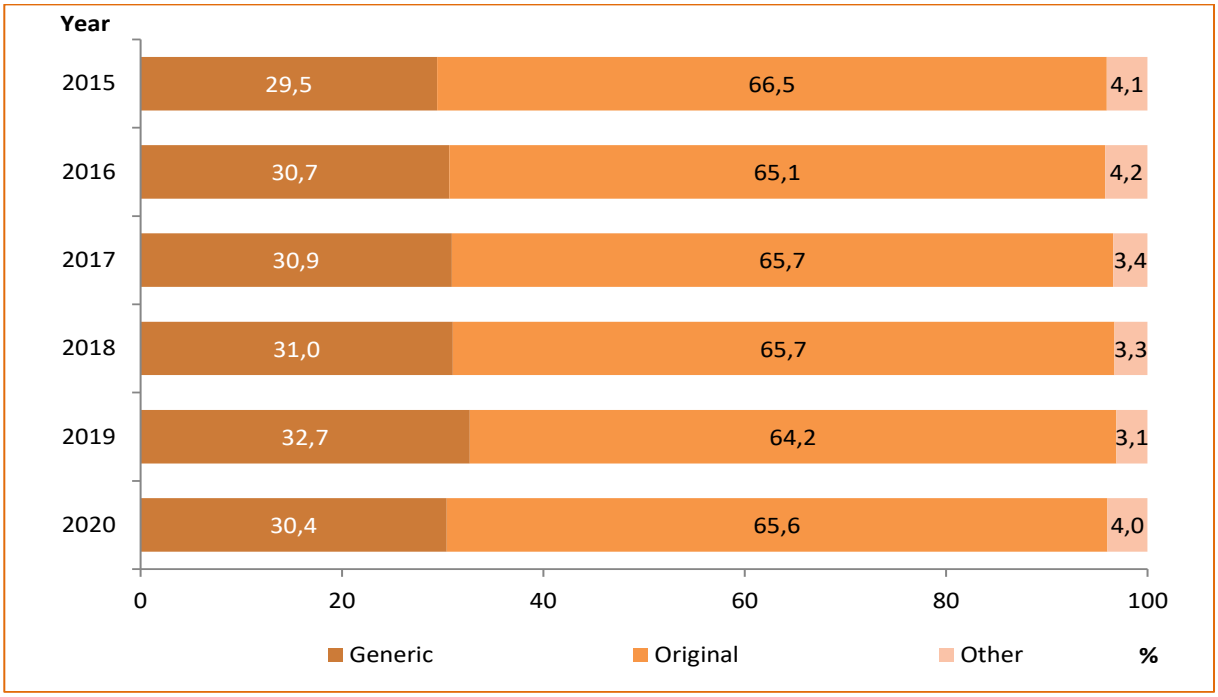
Note: In years when 100% is not completed, the age group of prescription data is unknown.

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



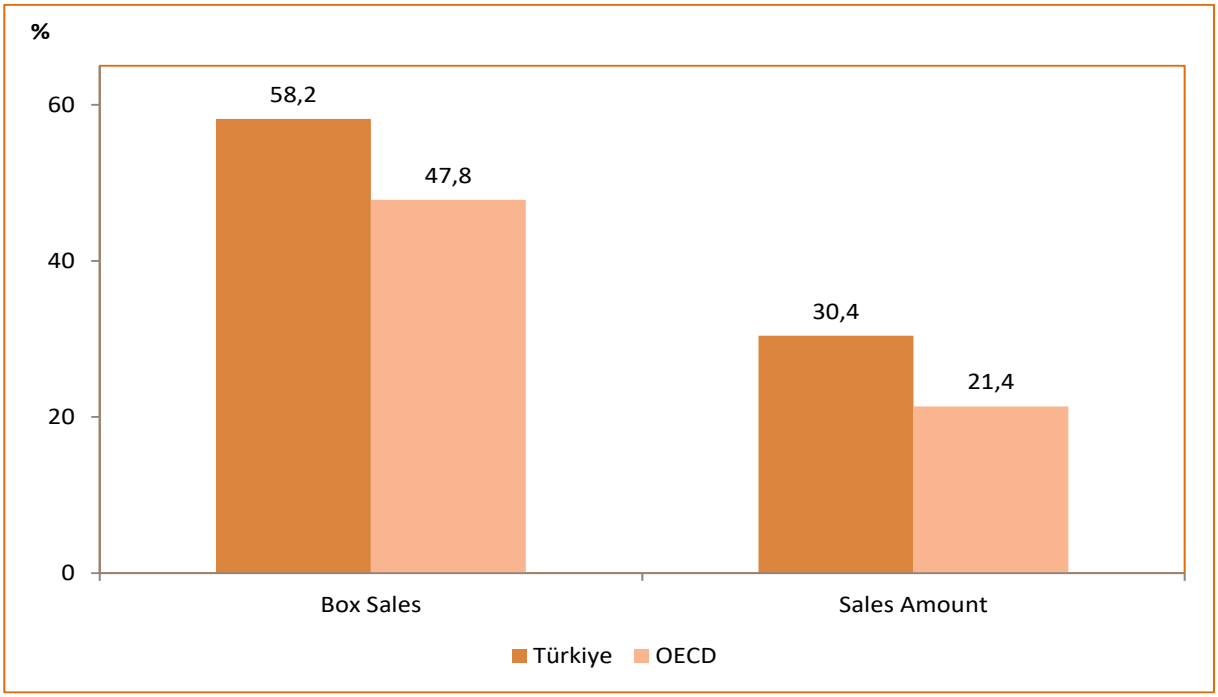
Source: Turkish Medicines and Medical Devices Agency

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



Source: Turkish Medicines and Medical Devices Agency

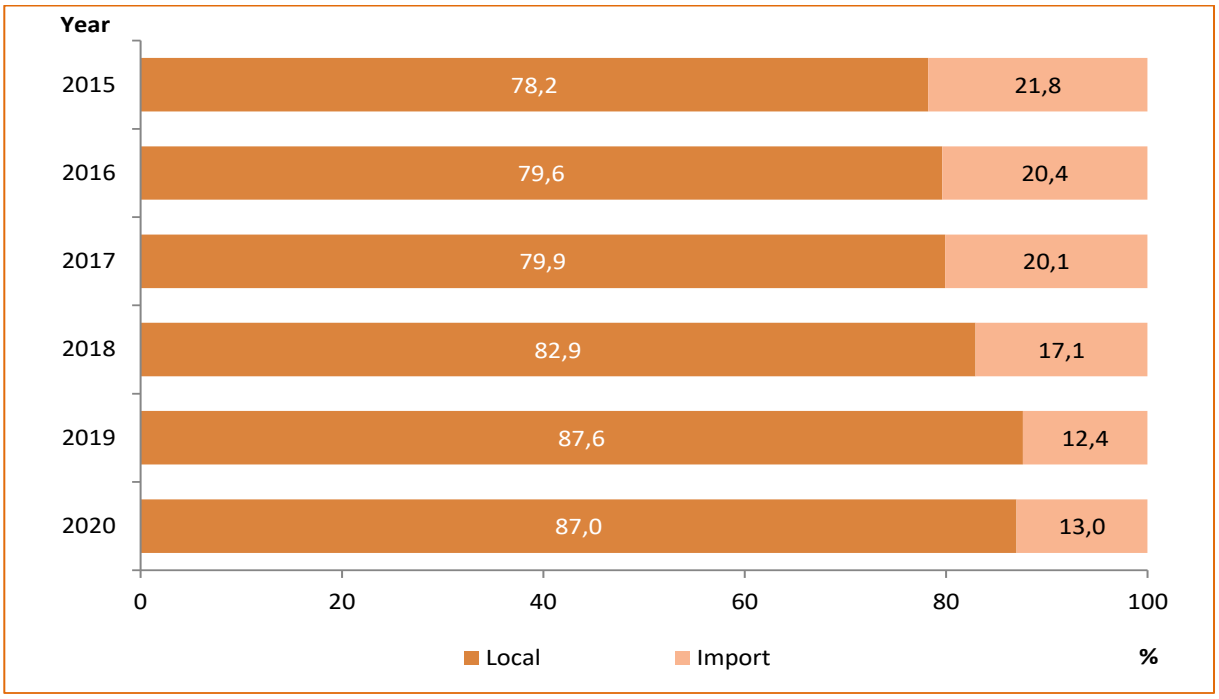
Figure 9.13. International Comparison of Share of Generic Market with respect to Box Sales and Sales Amounts (National Currency), (%), 2019



Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2021

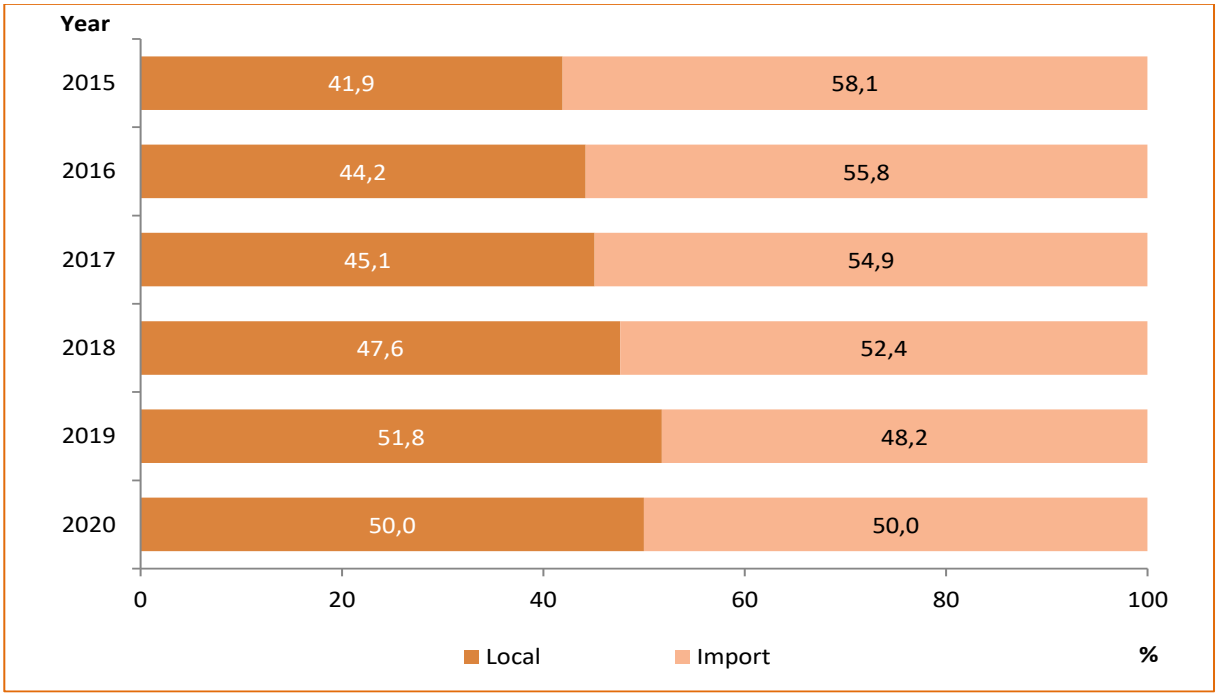
Note: Türkiye's data belong to the year 2020. OECD's data belongs to the year 2019 or nearest. Generic drugs include generic and drugs which is not specified original or generic.

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



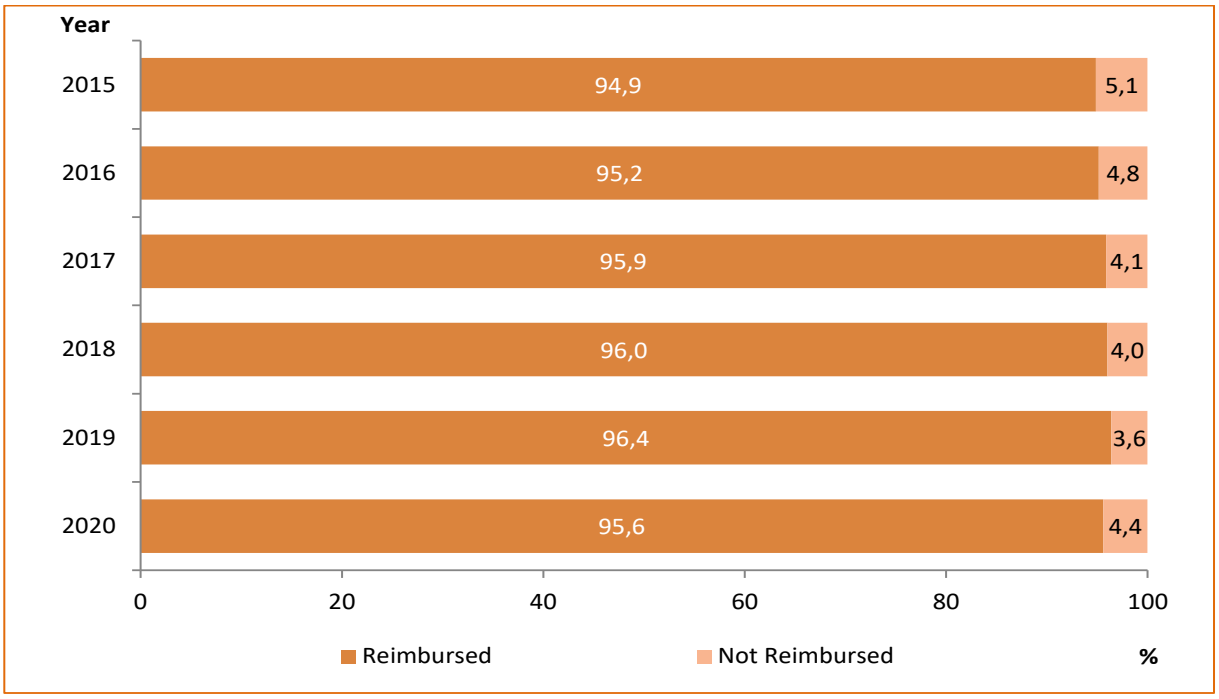
Source: Turkish Medicines and Medical Devices Agency

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



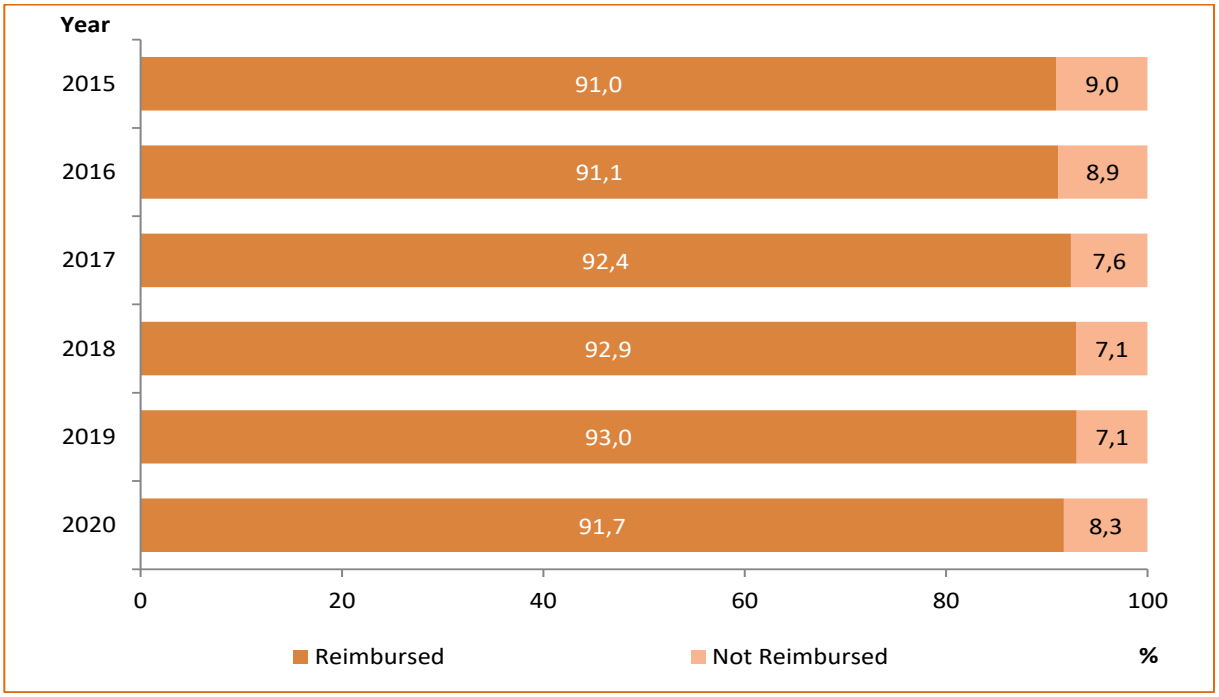
Source: Turkish Medicines and Medical Devices Agency

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	2016			2017			2018			2019		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Ratio of adequate use of cholesterol lowering treatment in people with diabetes, (%)	30,1	28,5	29,2	30,6	28,7	29,5	31,5	29,5	30,3	32,5	30,2	31,2
Ratio of first choice antihypertensive for people with diabetes, (%)	79,3	84,6	82,5	78,9	84,1	82,1	78,5	83,7	81,6	78,3	83,5	81,4
Volume of cephalosporines and quinolones as a proportion of all systemic antibiotics prescribed, (%)	31,1	33,8	32,6	30,7	34,1	32,6	31,5	34,8	33,3	27,3	30,8	29,2
Overall volume (DDD) of antibiotics for systemic use prescribed (per 1.000 population in FMIS)	16,7	16,5	16,6	9,5	9,8	9,6	10,2	10,6	10,4	11,3	12,5	12,0

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, 2019

Health Care Quality Indicators	Türkiye	OECD
Ratio of first choice antihypertensives for people with diabetes, (%)	81,4	79,3
Volume of cephalosporines and quinolones as a proportion of all systemic antibiotics prescribed, (%)	29,2	16,8
Ratio of adequate use of cholesterol lowering treatment in people with diabetes, (%)	31,2	66,0
Overall volume (DDD) of antibiotics for systemic use prescribed (per 1.000 population in FMIS)	12,0	18,6

Source: Turkish Medicines and Medical Devices Agency, OECD Health Data 2021

Note: OECD's data belongs to the year 2019 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	2016	2017	2018	2019	2020
Specialist Physicians	45.457	78.620	80.951	82.894	85.199	88.127
General Practitioners	30.900	43.058	44.649	44.053	46.843	49.760
Medical Residents	15.592	23.149	24.397	26.181	28.768	33.372
Total Physicians	**91.949**	**144.827**	**149.997**	**153.128**	**160.810**	**171.259**
Total Dentists	16.371	26.674	27.889	30.615	32.925	34.830
Pharmacists	22.289	27.864	28.512	32.032	33.841	35.364
Nurses	72.393	152.952	166.142	190.499	198.103	227.292
Midwives	41.479	52.456	53.741	56.351	55.972	59.040
Other Health Personnel	50.106	144.609	155.417	177.409	182.456	206.103
Other Personnel and Procurement of Services	83.964	321.952	339.241	376.367	369.660	408.581
Total Personnel	378.551	871.334	920.939	1.016.401	1.033.767	1.142.469

Source: General Directorate of Health Services

Note: 2.632 physicians in the subspecialty program are included to the number of "Medical Resident" in 2020. 2.558 dental residents are included to the number of "Total Dentist". 2.419 pharmacists including graduated intern pharmacist and second pharmacists are added to the number of "Pharmacists".

Table 10.2. Distribution of Health Care Professionals by Sectors and Titles, 2020

	Ministry of Health	University	Private	Total
Specialist Physicians	46.603	15.025	26.499	88.127
General Practitioners	45.291	285	4.184	49.760
Medical Residents	12.264	21.108	-	33.372
Total Physicians	**104.158**	**36.418**	**30.683**	**171.259**
Specialist Dentists	1.094	2.065	2.567	5.726
Dentists	10.444	191	15.911	26.546
Dental Residents	50	2.508	-	2.558
Total Dentists	**11.588**	**4.764**	**18.478**	**34.830**
Pharmacists	3.697	977	30.690	35.364
Nurses	156.205	35.014	36.073	227.292
Midwives	55.505	901	2.634	59.040
Other Health Personnel	140.161	19.052	46.890	206.103
Other Personnel and Procurement of Services	250.461	48.694	109.426	408.581
Total Personnel	721.775	145.820	274.874	1.142.469

Source: General Directorate of Health Services

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

	2002	2016	2017	2018	2019	2020
Specialist Physicians	22.187	40.544	42.726	43.347	44.698	46.603
General Practitioners	29.030	37.173	38.721	39.442	42.300	45.291
Medical Residents	6.189	8.615	8.817	8.770	10.147	12.264
Total Physicians	**57.406**	**86.332**	**90.264**	**91.559**	**97.145**	**104.158**
Total Dentists	3.211	9.125	9.768	10.814	11.387	11.588
Pharmacists	1.596	2.318	2.855	3.064	3.404	3.697
Nurses	54.360	103.507	112.074	126.891	132.333	156.205
Midwives	39.473	47.766	49.003	52.495	52.076	55.505
Other Health Personnel	33.276	104.446	111.193	121.206	124.758	140.161
Other Personnel and Procurement of Services	67.496	204.778	215.402	236.155	229.335	250.461
Total Personnel	256.818	558.272	590.559	642.184	650.438	721.775

Source: General Directorate of Health Services

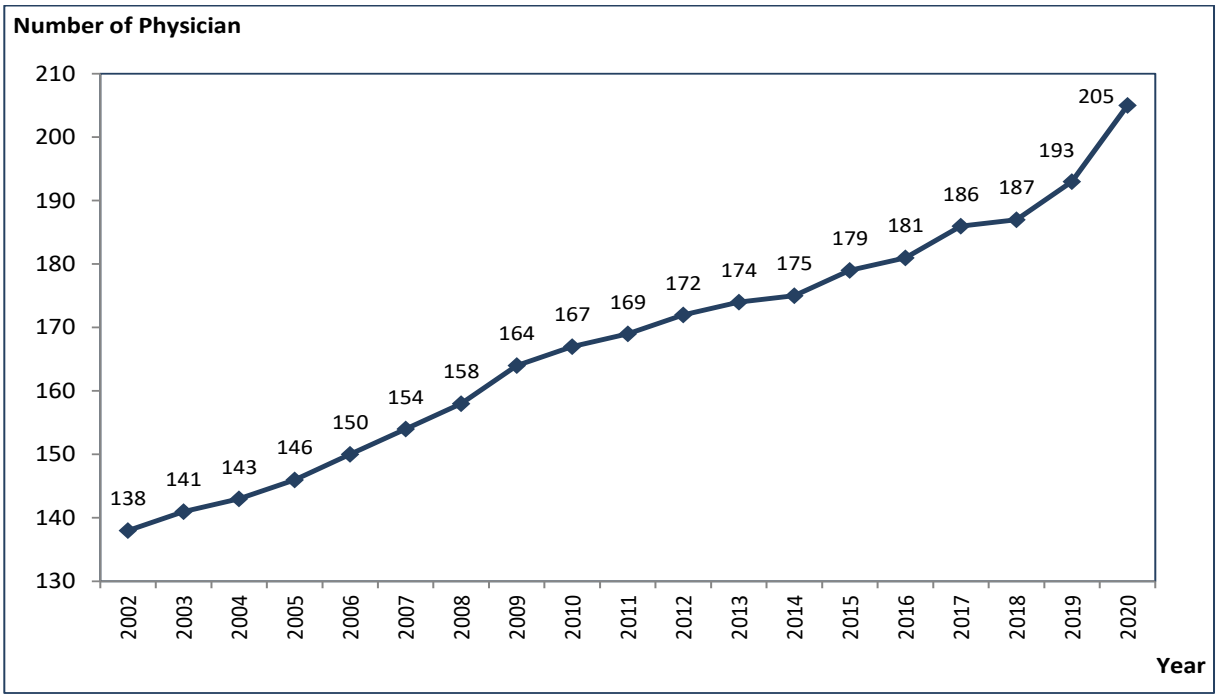
Table 10.4. Distribution of Health Care Professionals Working in Central Organization by Titles, MoH, 2020

	Central Organization
Specialist Physicians	162
General Practitioners	306
Medical Residents	-
Total Physicians	**468**
Specialist Dentists	7
Dentists	33
Dental Residents	-
Total Dentists	**40**
Pharmacists	375
Nurses	448
Midwives	164
Other Health Personnel	945
Other Personnel and Procurement of Services	4.691
Total Personnel	7.131

Source: General Directorate of Health Services

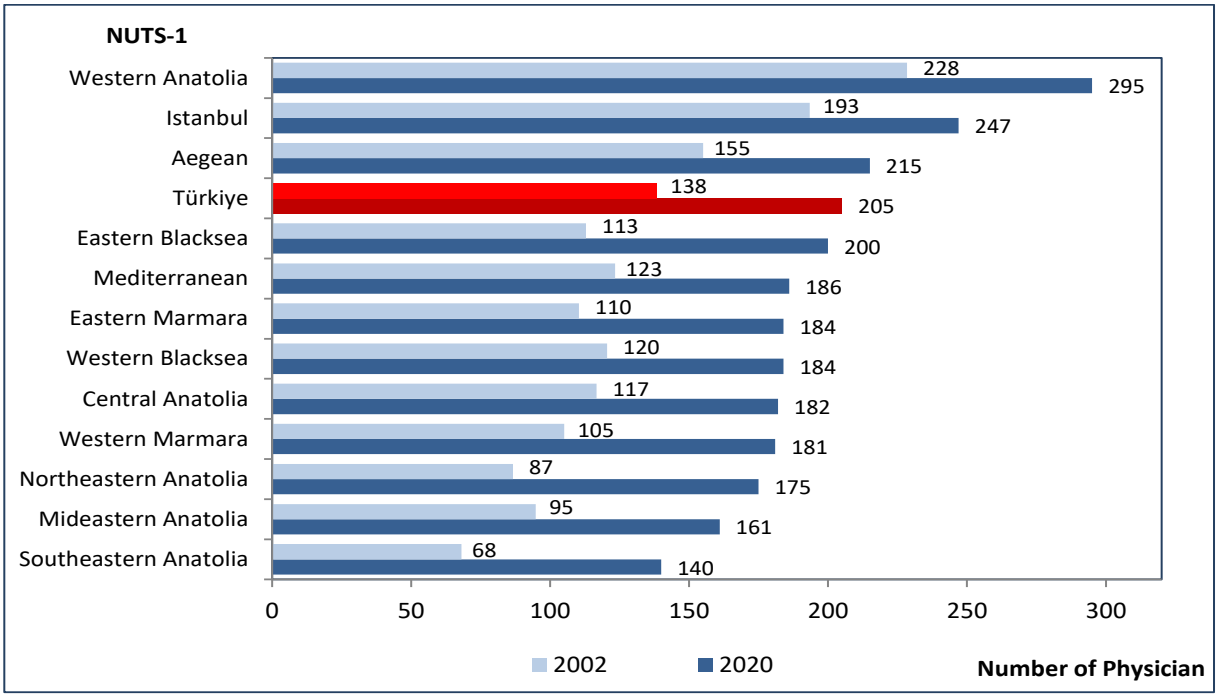
Note: The health personnel working in the central organization of the Ministry of Health are not included in the number of Ministry of Health personnel.

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, 2020

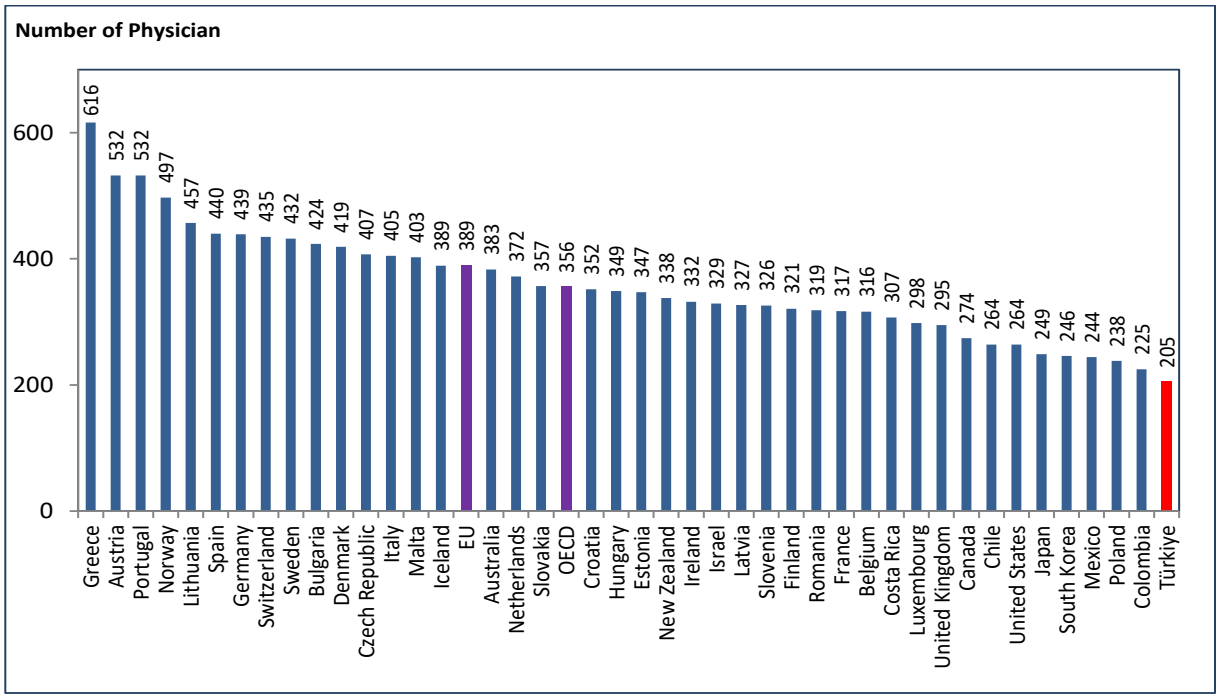


Source: General Directorate of Health Services

Map 10.1. Number of Total Physicians per 100.000 Population by Provinces, All Sectors, 2020

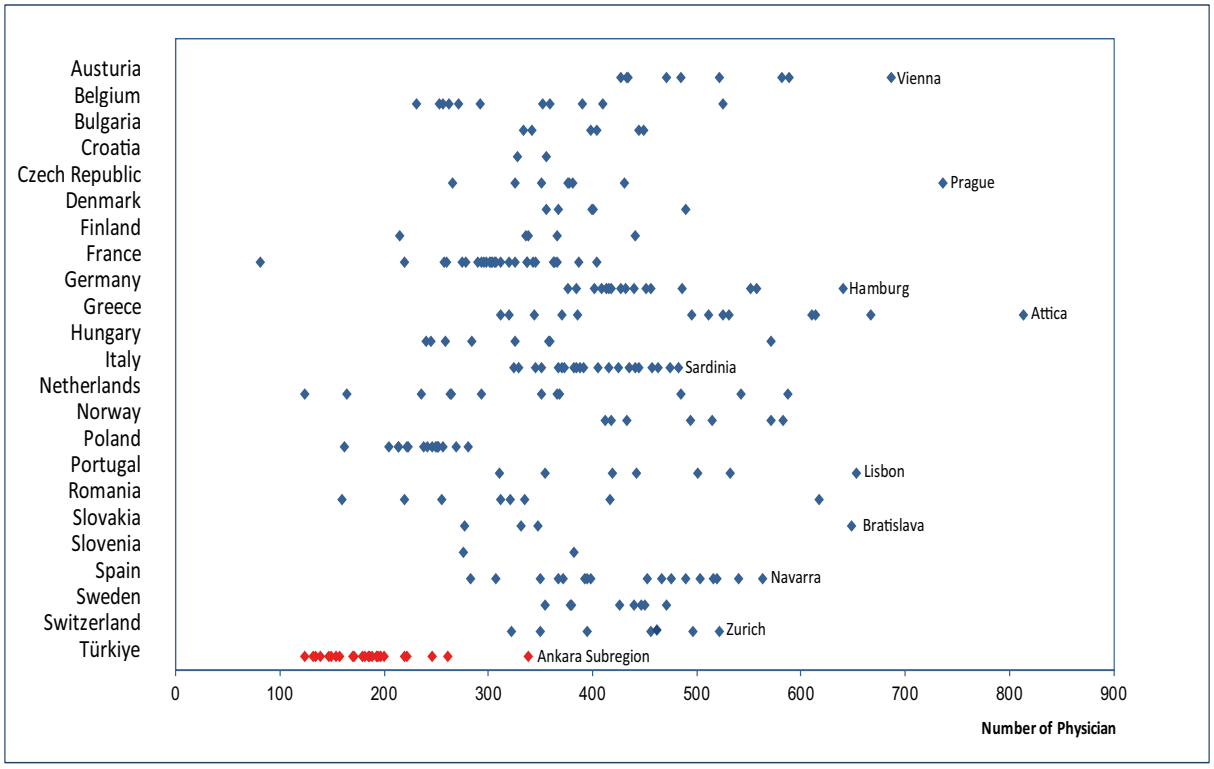
Source: General Directorate of Health Services

Figure 10.3. International Comparison of Number of Total Physicians per 100.000 Population, 2019



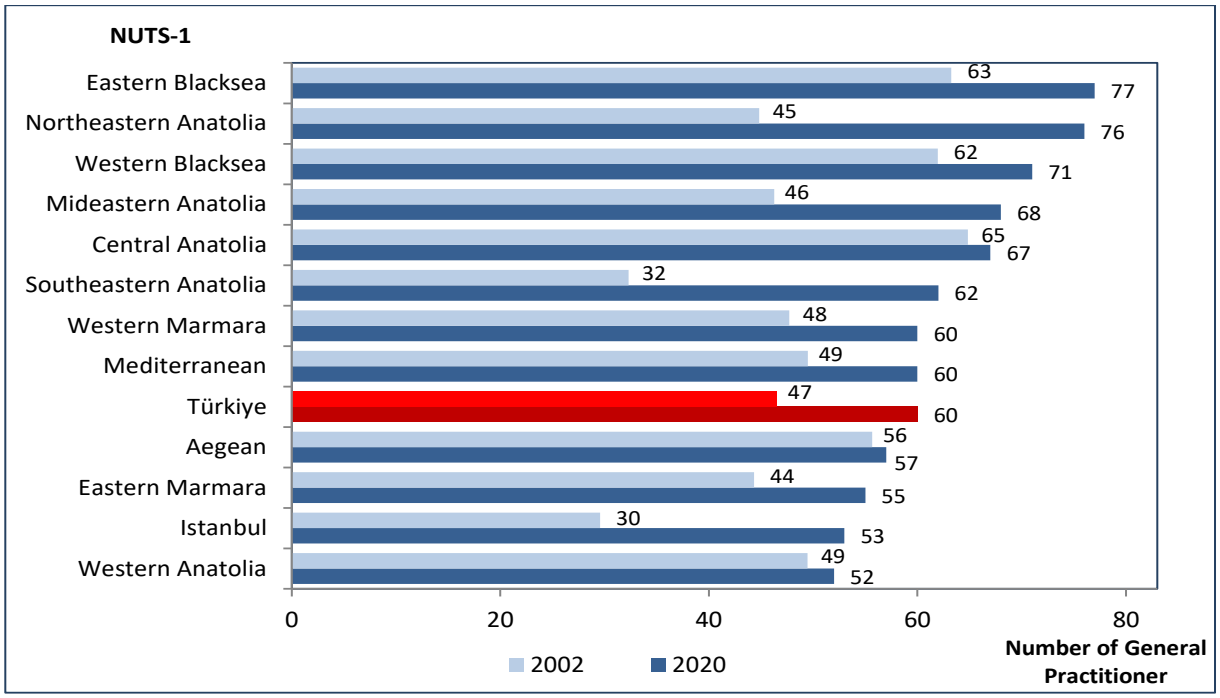
Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belongs to the year 2020. Countries' data belong to the year 2019 or nearest.

Figure 10.4. International Comparison of Number of Total Physicians per 100.000 Population by NUTS-2, 2019



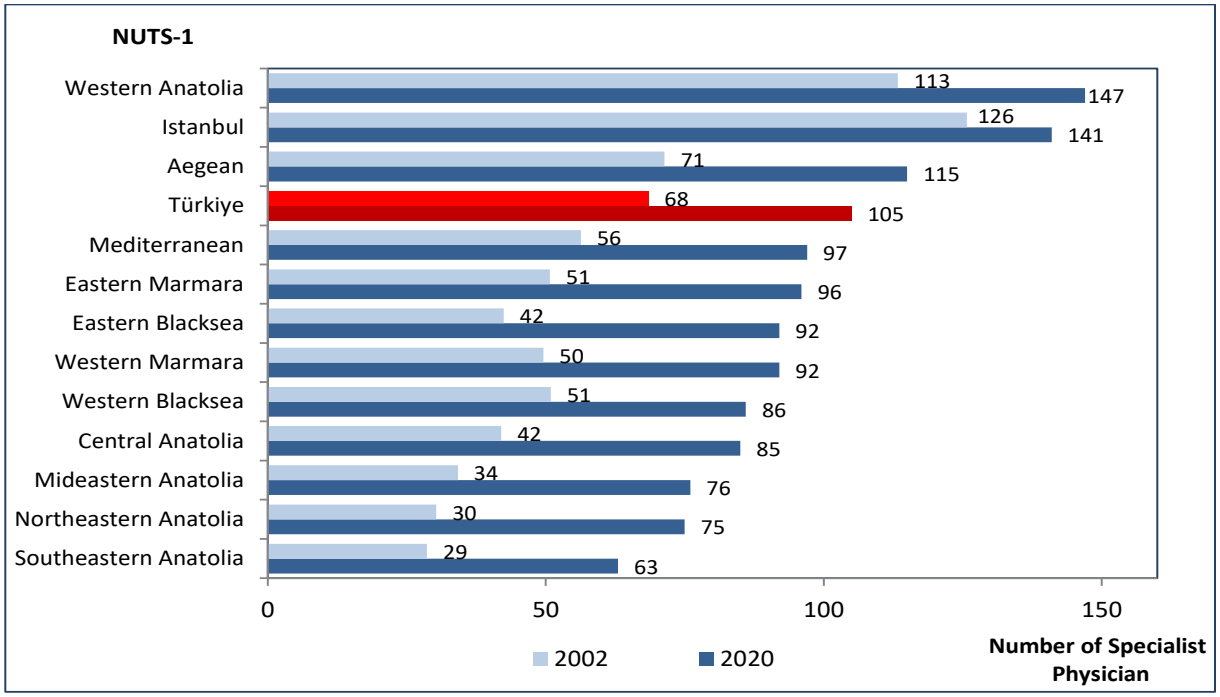
Source: General Directorate of Health Services, EUROSTAT Database
Note: Türkiye data belongs to the year 2020. Countries' data belong to the year of 2019 or nearest.

Figure 10.5. Number of General Practitioners per 100.000 Population by NUTS-1, All Sectors, 2002, 2020



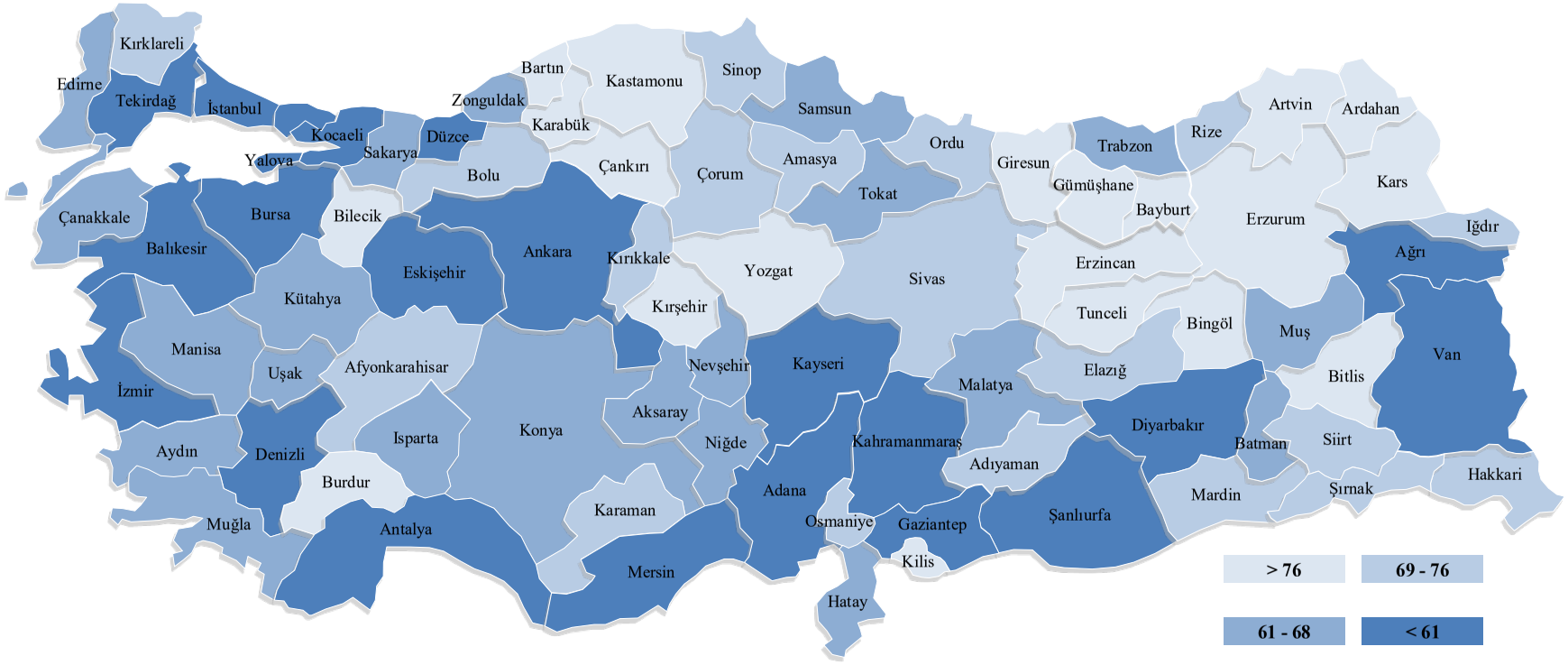
Source: General Directorate of Health Services

Figure 10.6. Number of Specialist Physicians per 100.000 Population by NUTS-1, All Sectors, 2002, 2020



Source: General Directorate of Health Services

Map 10.2. Number of General Practitioners per 100.000 Population by Provinces, All Sectors, 2020

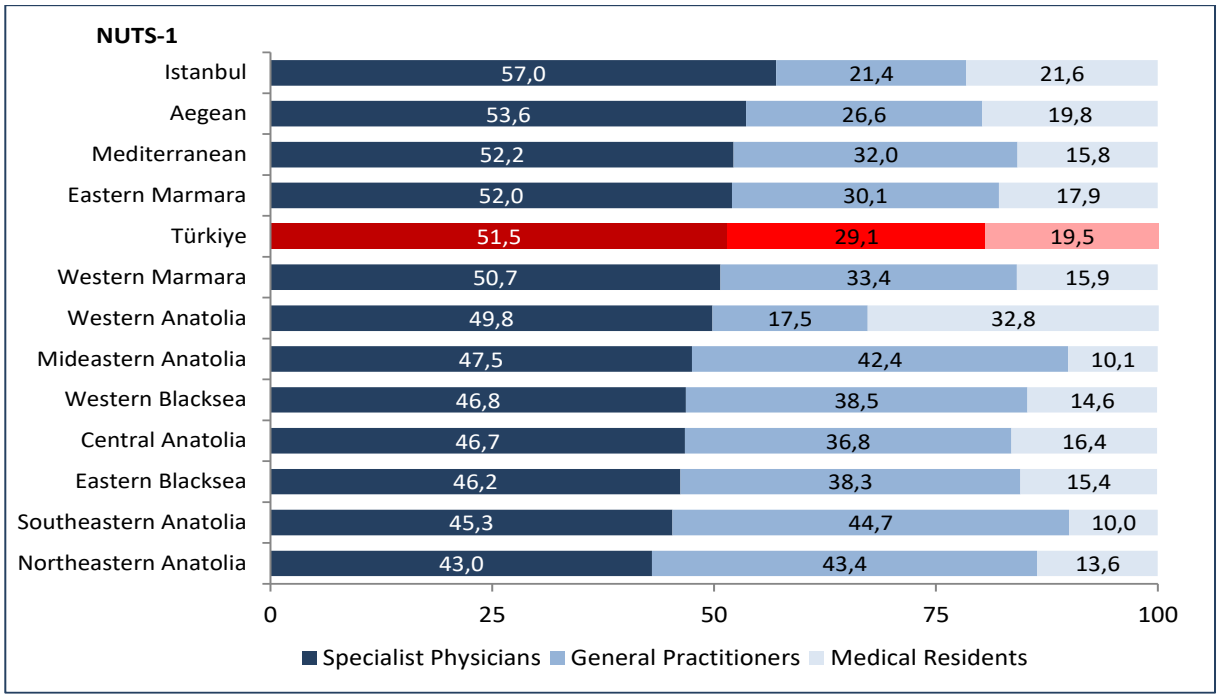


Source: General Directorate of Health Services

Map 10.3. Number of Specialist Physicians per 100.000 Population by Provinces, All Sectors, 2020

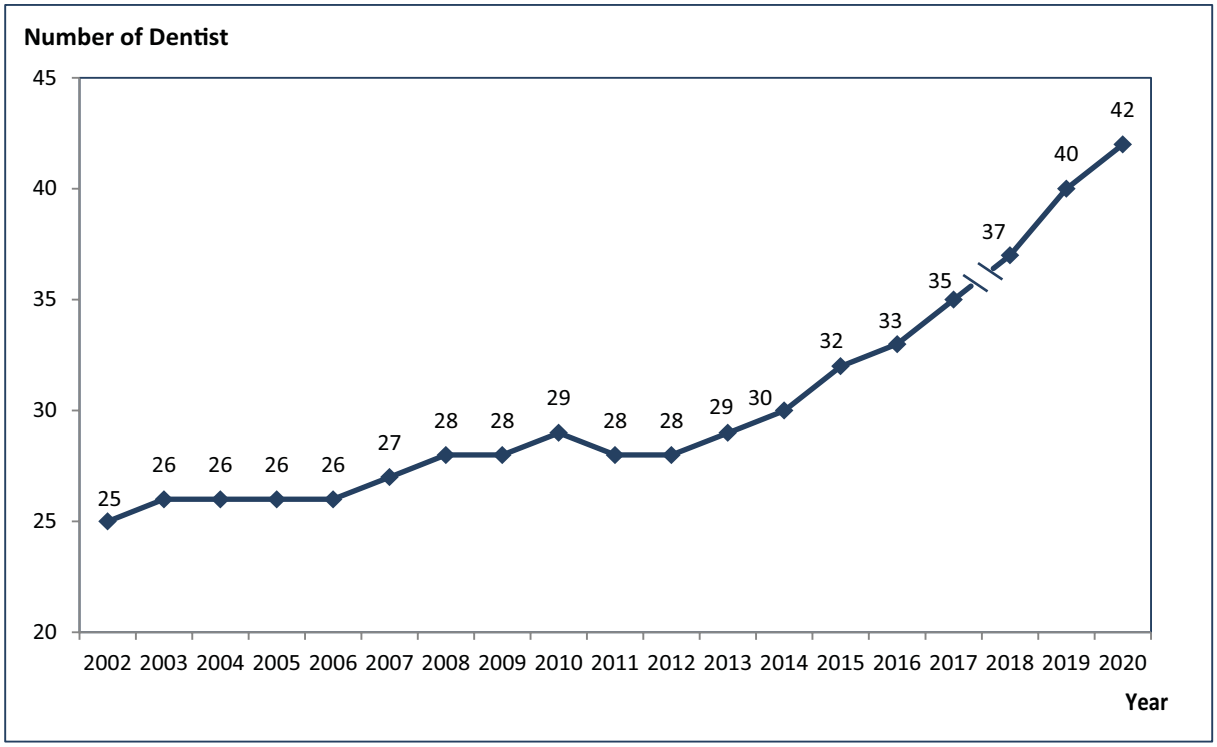
Source: General Directorate of Health Services

Figure 10.7. Distribution of Specialist Physicians, General Practitioners and Medical Residents by NUTS-1, All Sectors, (%), 2020



Source: General Directorate of Health Services

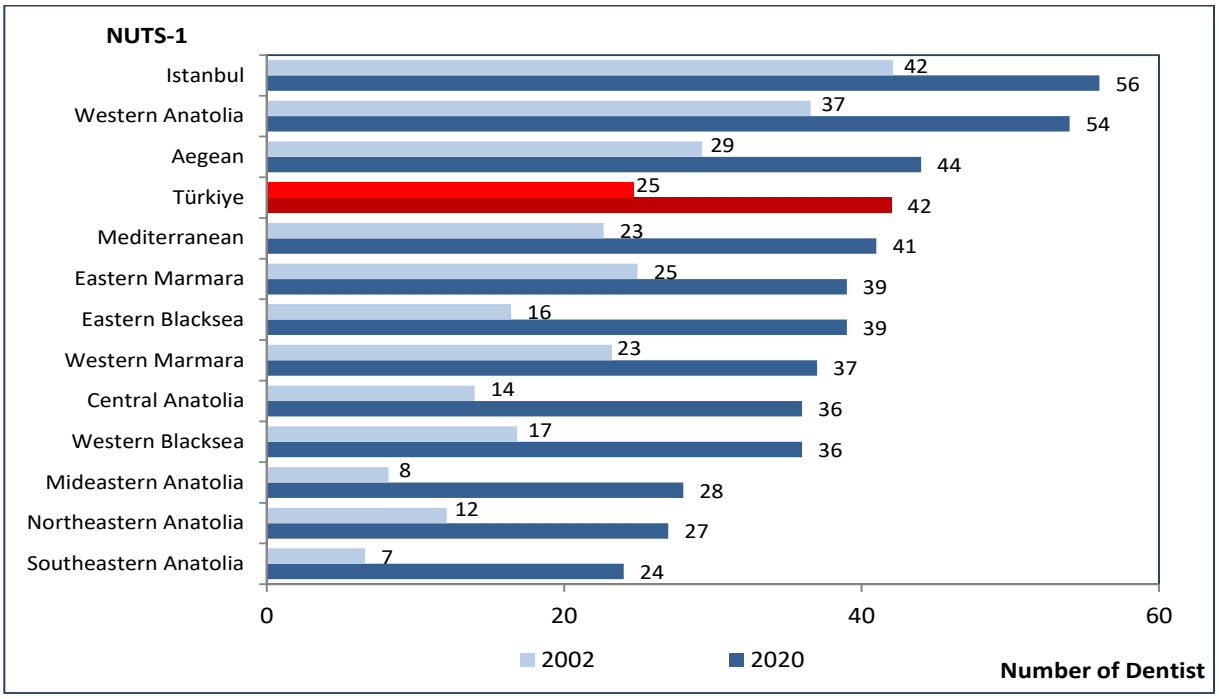
Figure 10.8. Number of Total Dentists per 100.000 Population by Years, All Sectors



Source: General Directorate of Health Services

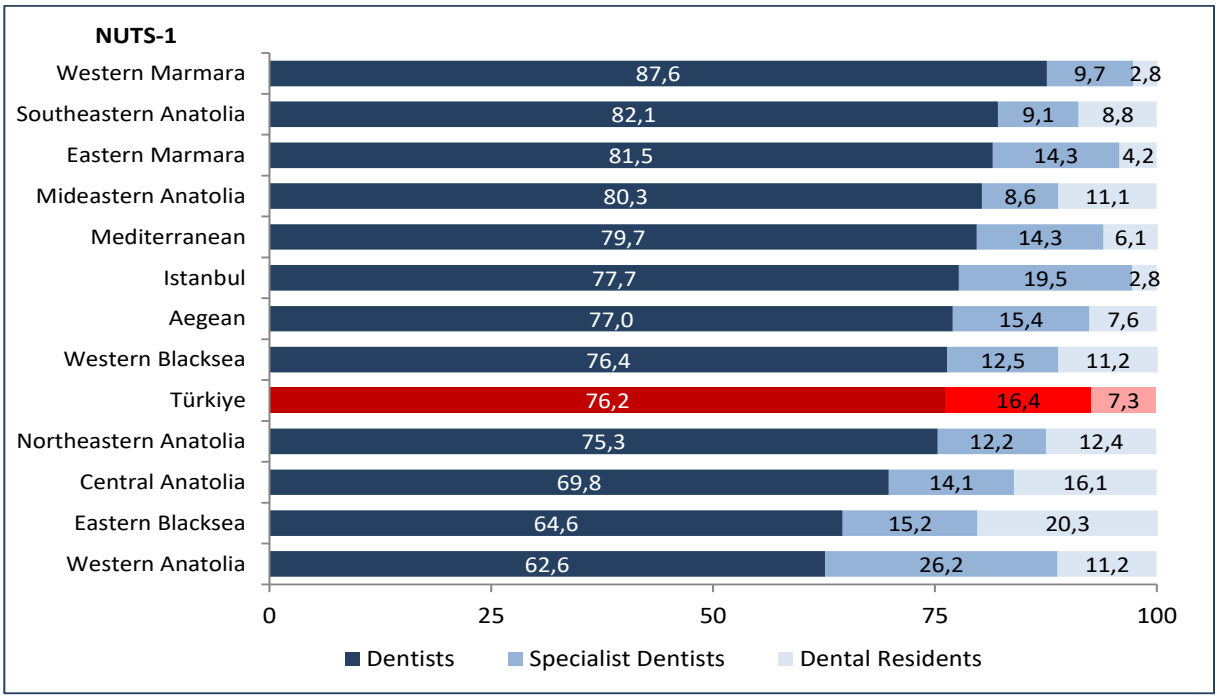
Note:Unlike the previous years, the number of dentists includes dental residents as of 2018. Number of dentists per 100.000 population not including dental residents is 39 for the year 2020.

Figure 10.9. Number of Total Dentists per 100.000 Population by NUTS-1, All Sectors, 2002, 2020



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, (%), 2020

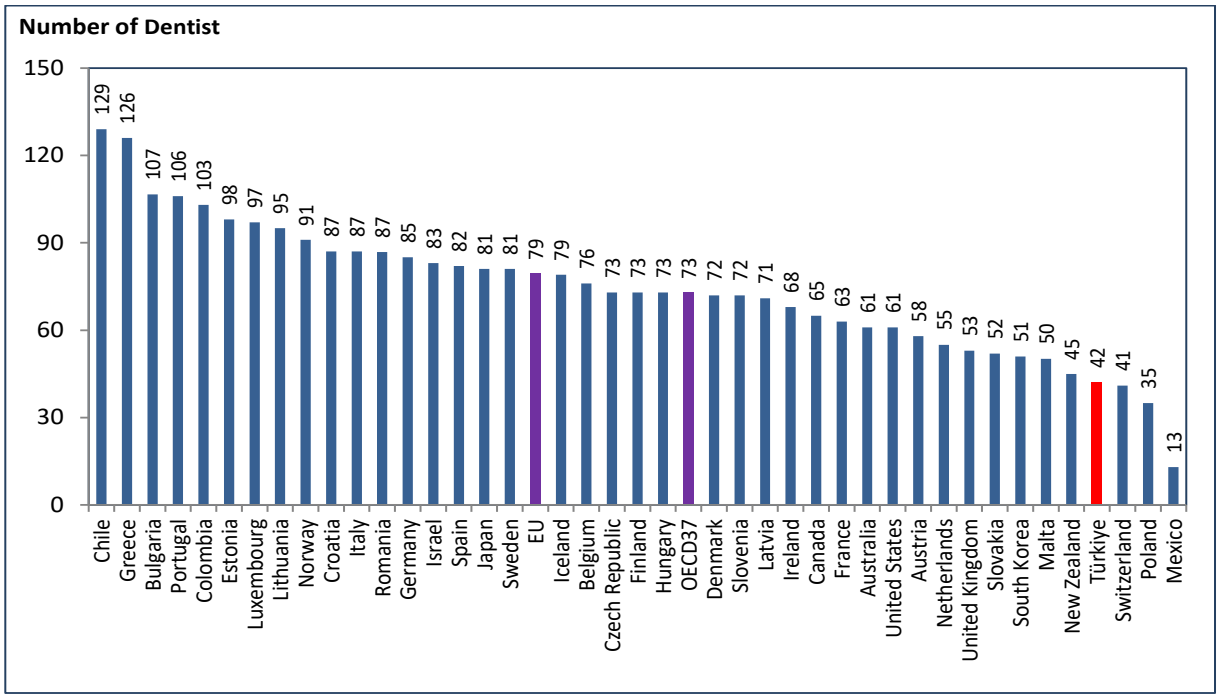


Source: General Directorate of Health Services

Map 10.4. Number of Total Dentists per 100.000 Population by Provinces, All Sectors, 2020

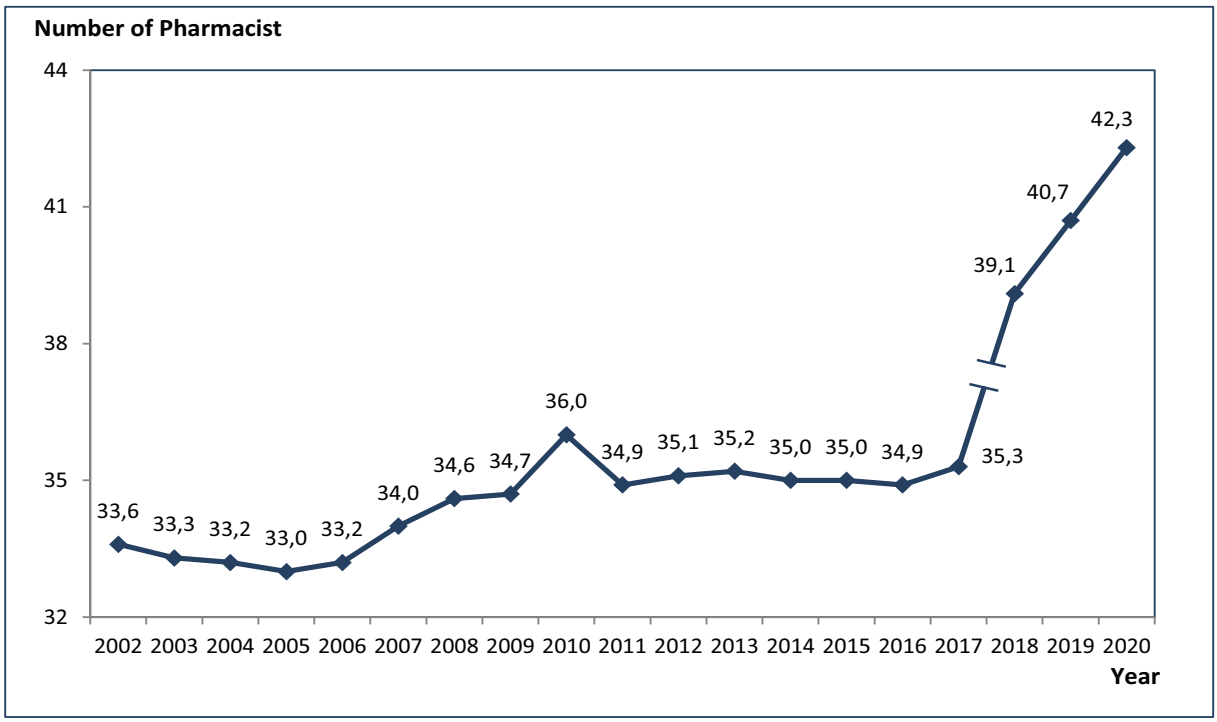
Source: General Directorate of Health Services

Figure 10.11. International Comparison of Number of Total Dentists per 100.000 Population, 2019



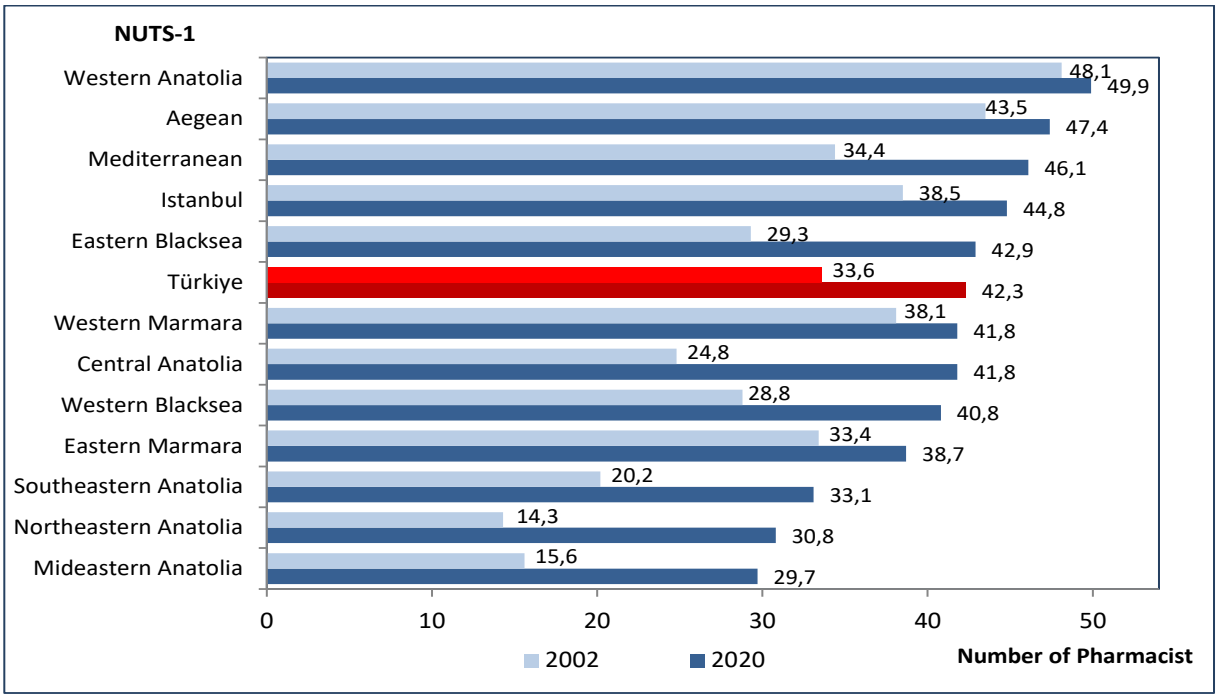
Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belongs to the year 2020. Countries' data belong to the year 2019 or nearest.

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



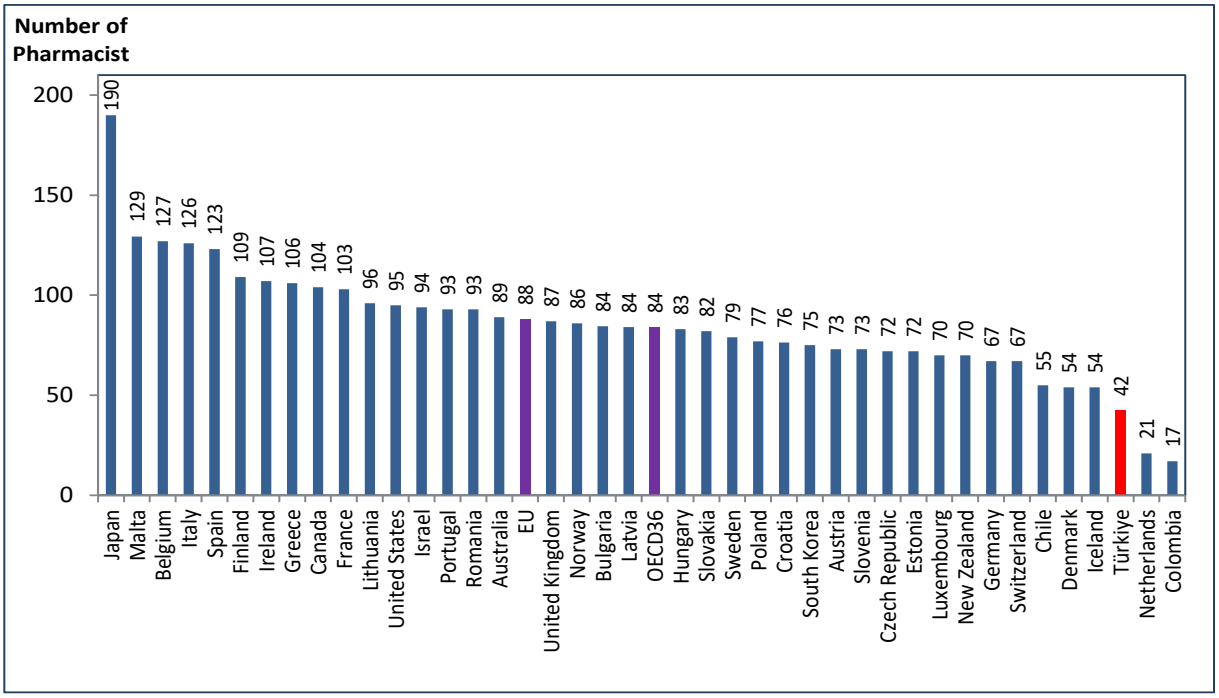
Source: General Directorate of Health Services
Note: Unlike the previous years, the number of pharmacists include second pharmacists and graduated intern pharmacists as of 2018. Number of pharmacists per 100.000 population not including second pharmacists and graduated intern pharmacists is 39,4 for the year 2020.

Figure 10.13. Number of Pharmacists per 100.000 Population by NUTS-1, All Sectors, 2002, 2020



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, 2019

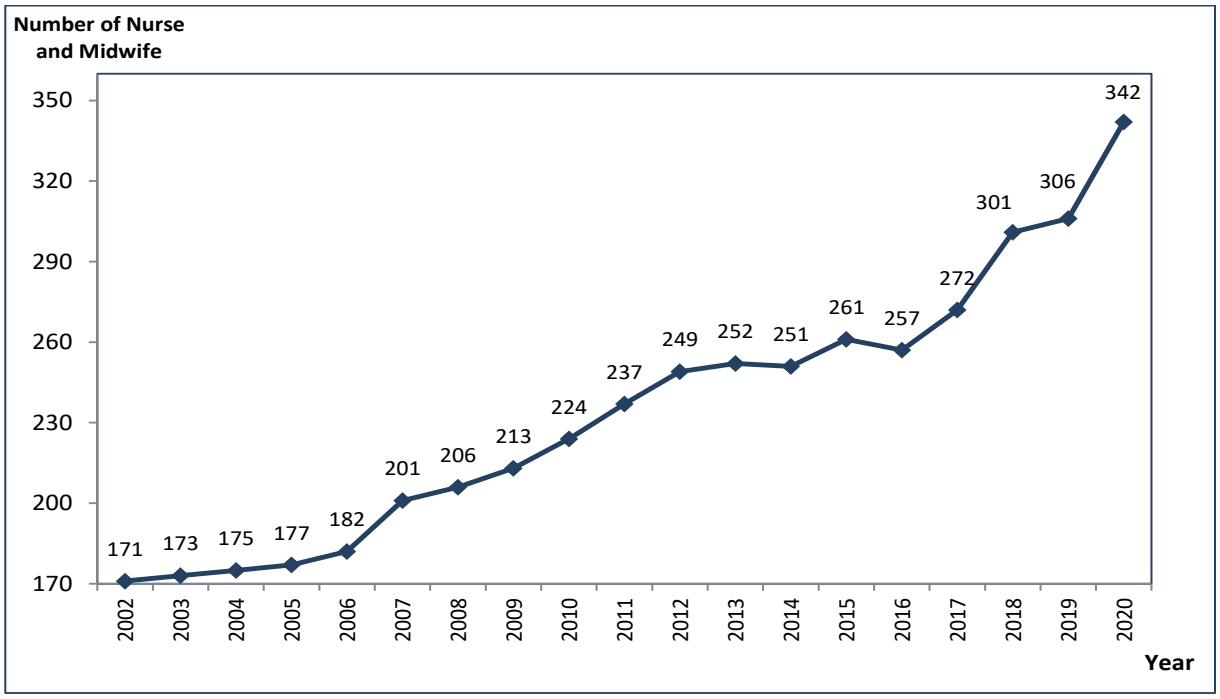


Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belongs to the year 2020. Countries' data belong to the year 2019 or nearest.

Map 10.5. Number of Pharmacists per 100.000 Population by Provinces, All Sectors, 2020

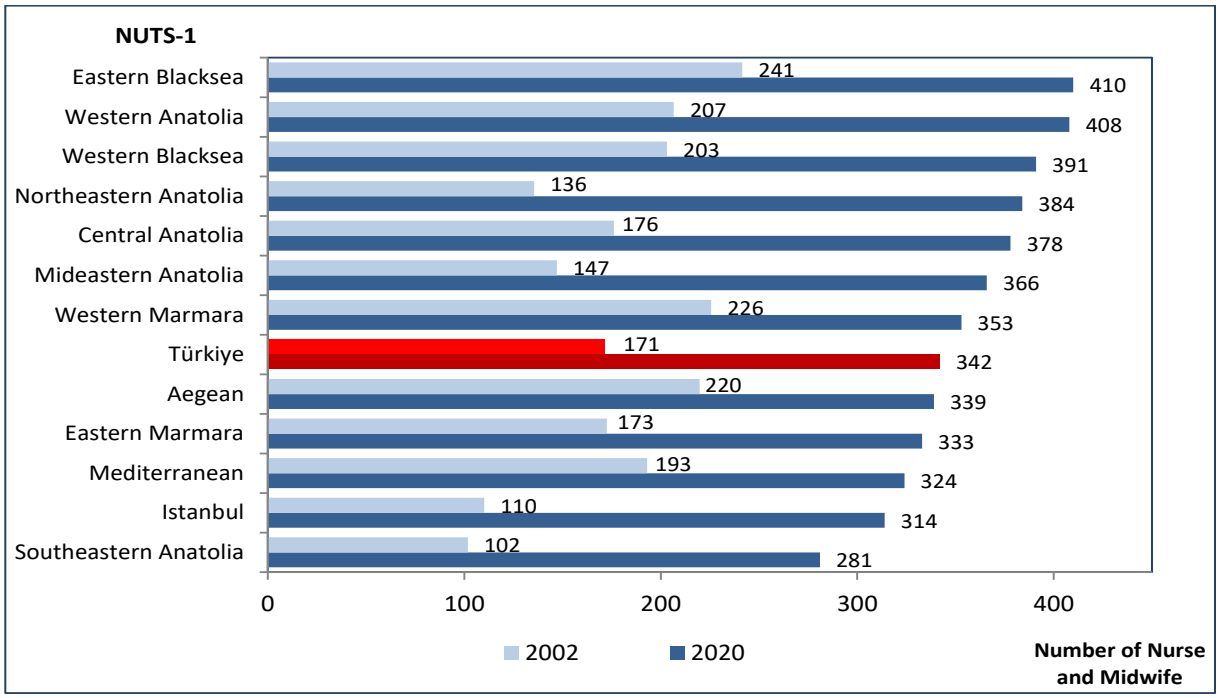
Source: General Directorate of Health Services

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, 2020

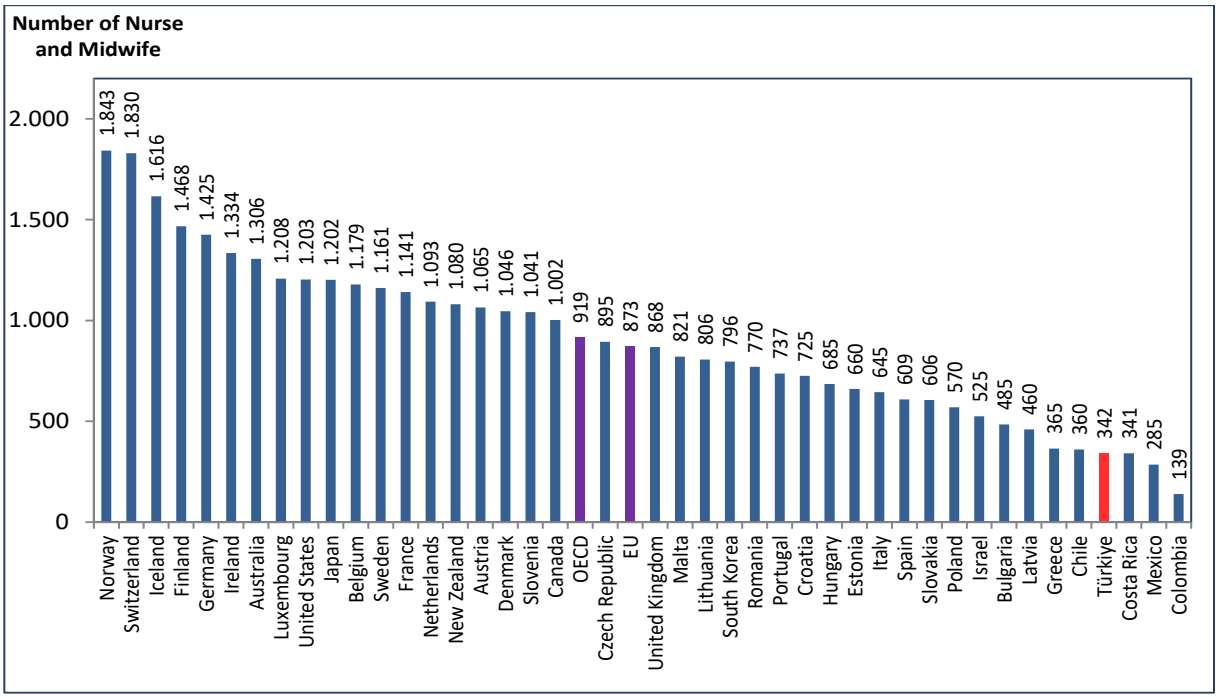


Source: General Directorate of Health Services

Map 10.6. Number of Nurses and Midwives per 100.000 Population by Provinces, All Sectors, 2020

Source: General Directorate of Health Services

Figure 10.17. International Comparison of Number of Nurses and Midwives per 100.000 Population, 2019



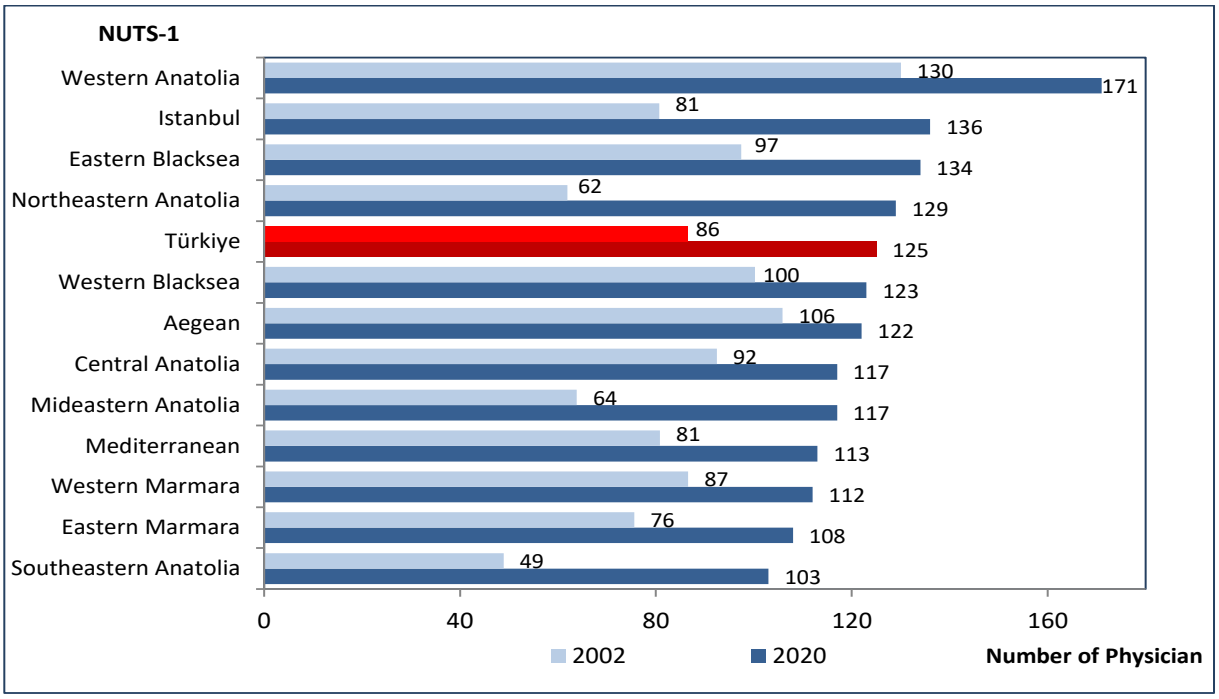
Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
Note: Türkiye's data belongs to the year 2020. Countries' data belong to the year 2019 or nearest.

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

	2002			2010			2015			2019		
	Türkiye	OECD	EU	Türkiye	OECD	EU	Türkiye	OECD	EU	Türkiye*	OECD	EU
Total Physicians	138	278	306	167	307	339	179	332	363	205	356	389
Total Dentists	25	61	65	29	66	71	32	69	75	42	73	79
Pharmacists	34	60	57	36	68	68	35	77	82	42	84	88
Nurses and Midwives	171	592	589	224	807	781	261	864	822	342	919	873

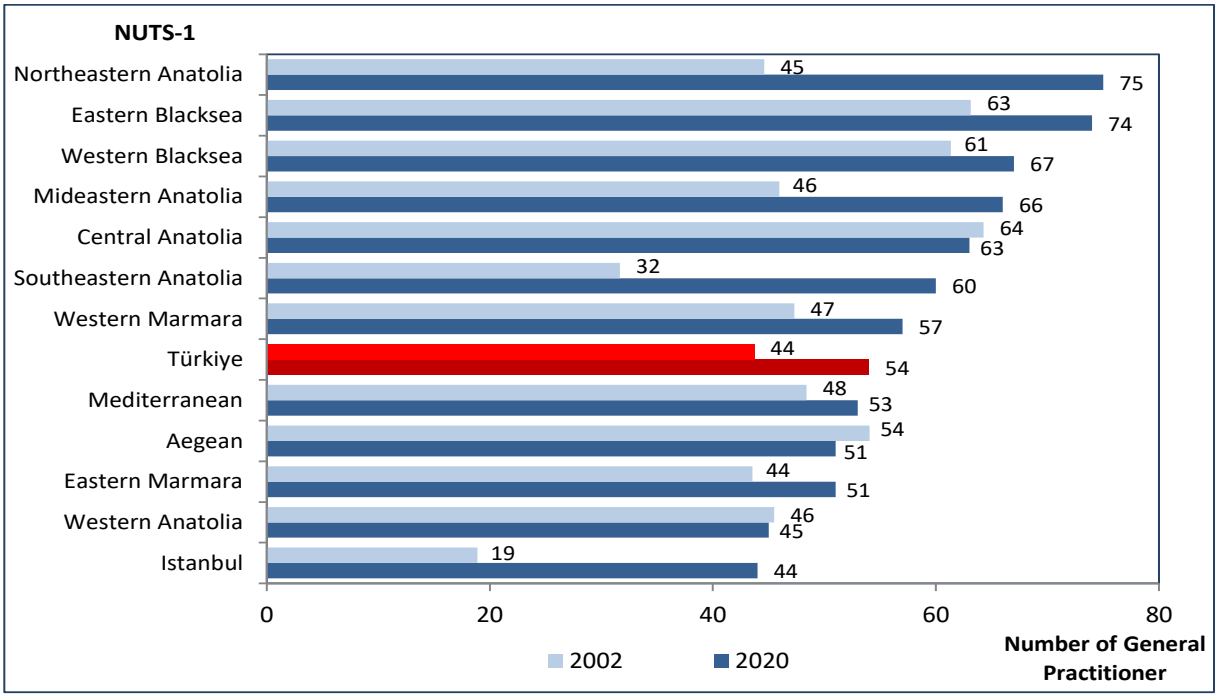
Source: General Directorate of Health Services, OECD Health Data 2021, EUROSTAT Database
** Türkiye's data belongs to the year 2020.*

Figure 10.18. Number of Total Physicians per 100.000 Population by NUTS-1, MoH, 2002, 2020



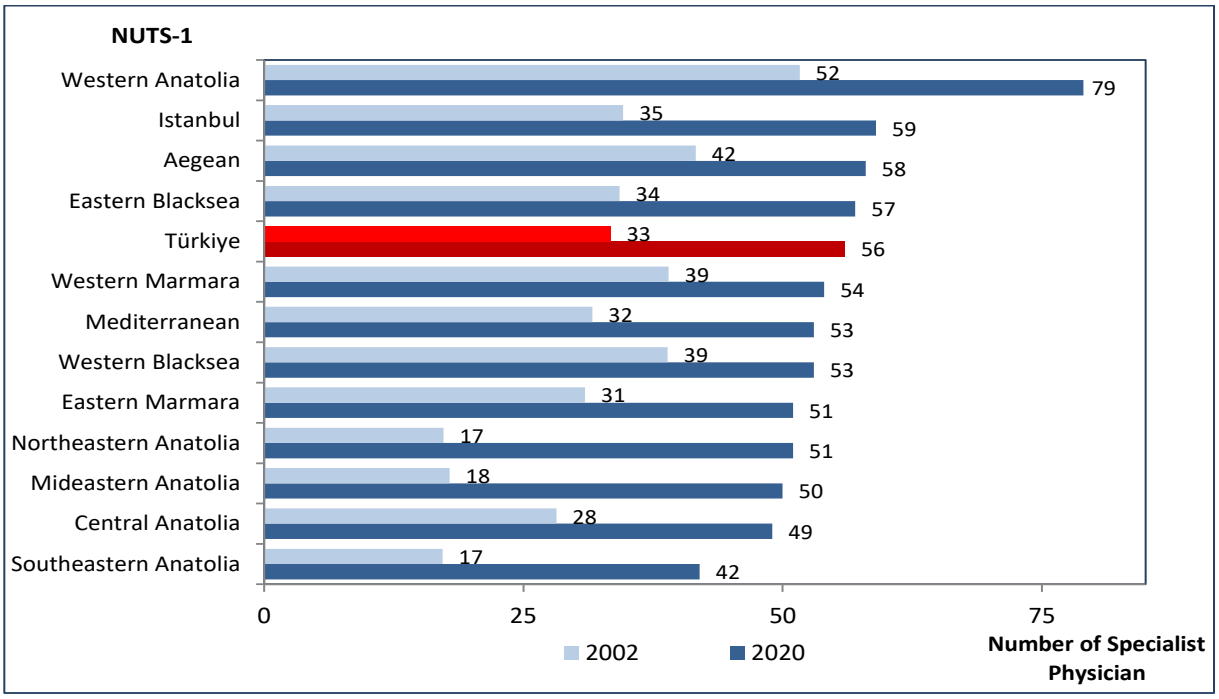
Source: General Directorate of Health Services

Figure 10.19. Number of General Practitioners per 100.000 Population by NUTS-1, MoH, 2002, 2020



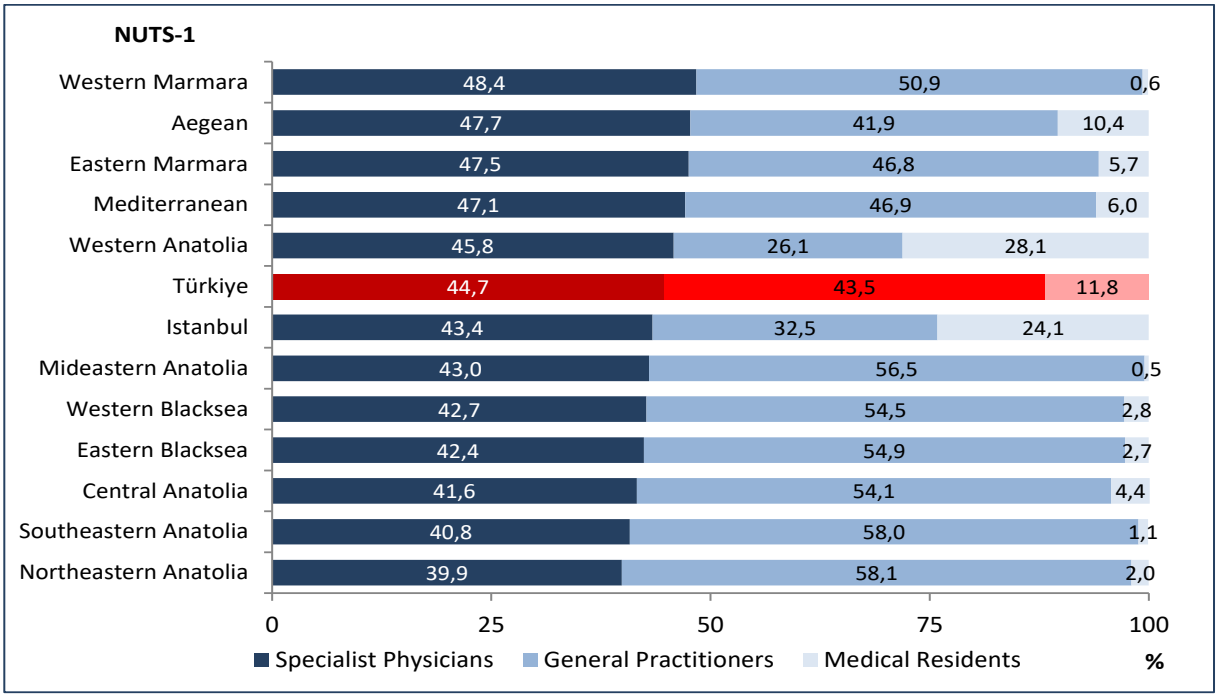
Source: General Directorate of Health Services

Figure 10.20. Number of Specialist Physicians per 100.000 Population by NUTS-1, MoH, 2002, 2020



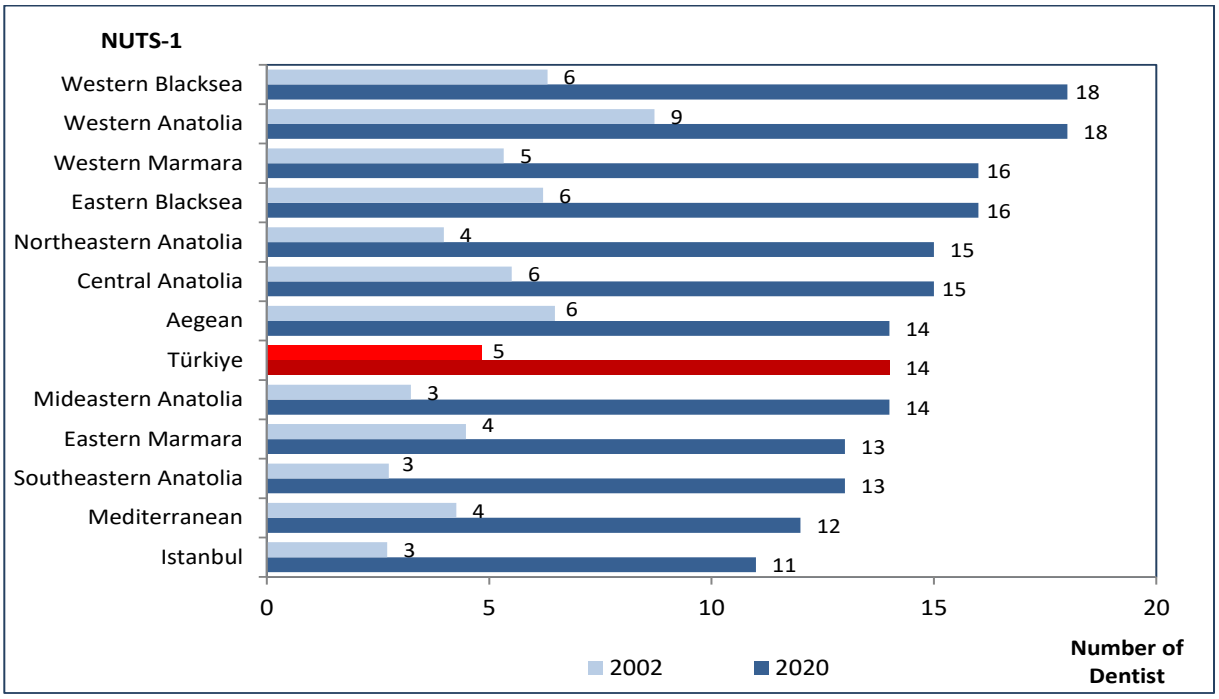
Source: General Directorate of Health Services

Figure 10.21. Distribution of Specialist Physicians, General Practitioners and Medical Residents by NUTS-1, MoH, (%), 2020



Source: General Directorate of Health Services

Figure 10.22. Number of Total Dentists per 100.000 Population by NUTS-1, MoH, 2002, 2020



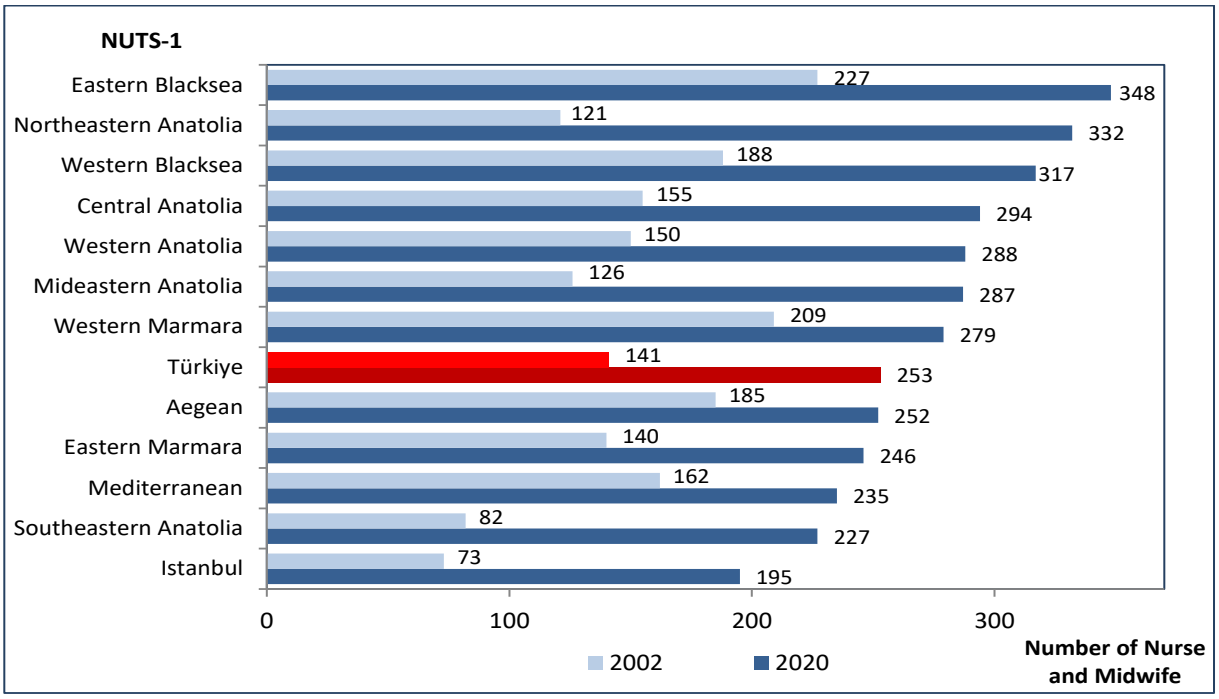
Source: General Directorate of Health Services
Note: Data for 2002 does not include dental residents.

Table 10.6. Distribution of Dentists, Specialist Dentists and Dental Residents by NUTS-1, MoH, (%), 2020

NUTS-1	Specialist Dentist	Dentist	Dental Resident
Istanbul	11,4	88,3	0,3
Western Marmara	7,2	92,8	0,0
Aegean	11,3	88,3	0,5
Eastern Marmara	9,1	90,8	0,1
Western Anatolia	19,3	78,7	2,1
Mediterranean	8,2	91,4	0,4
Central Anatolia	7,5	92,5	0,0
Western Blacksea	6,9	93,0	0,1
Eastern Blacksea	7,7	92,3	0,0
Northeastern Anatolia	2,4	97,6	0,0
Mideastern Anatolia	2,6	97,4	0,0
Southeastern Anatolia	3,2	96,8	0,0
Türkiye	9,4	90,1	0,4

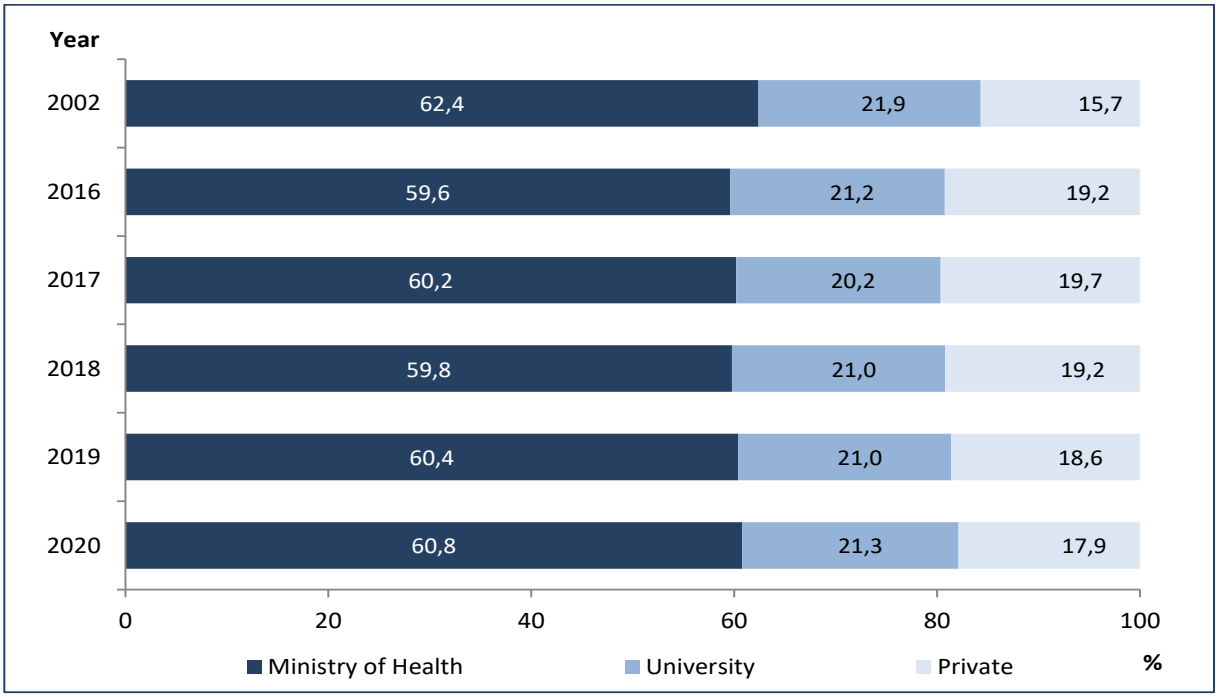
Source: General Directorate of Health Services

Figure 10.23. Number of Nurses and Midwives per 100.000 Population by NUTS-1, MoH, 2002, 2020



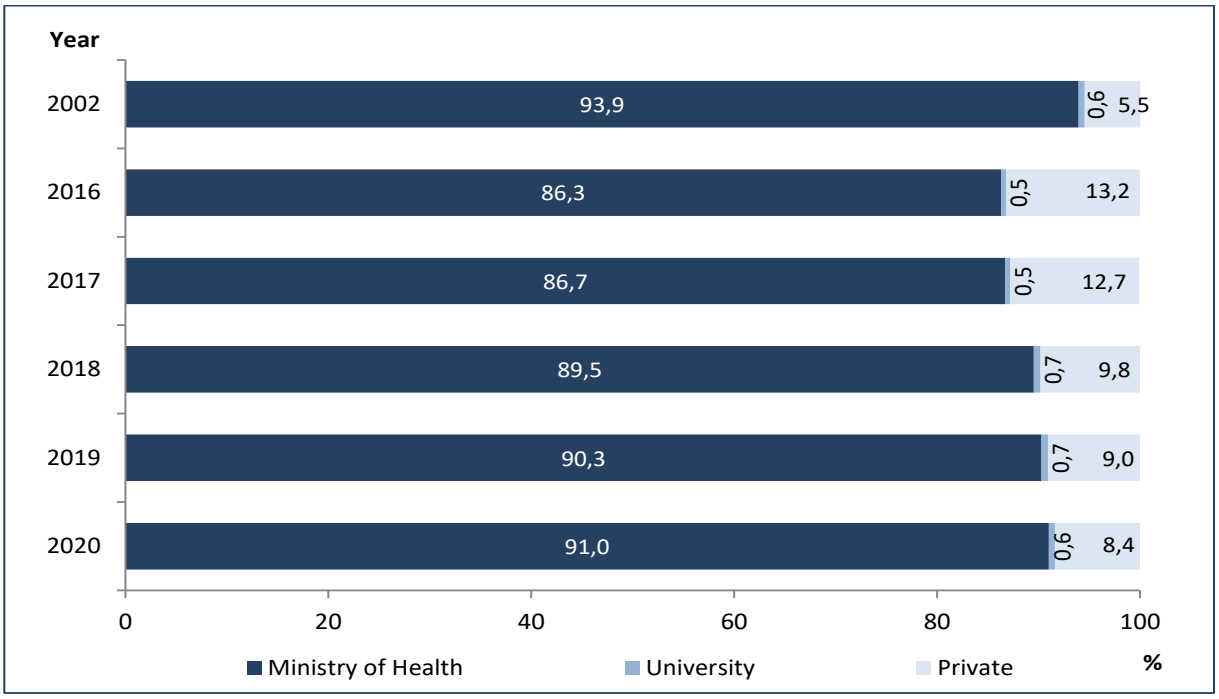
Source: General Directorate of Health Services

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



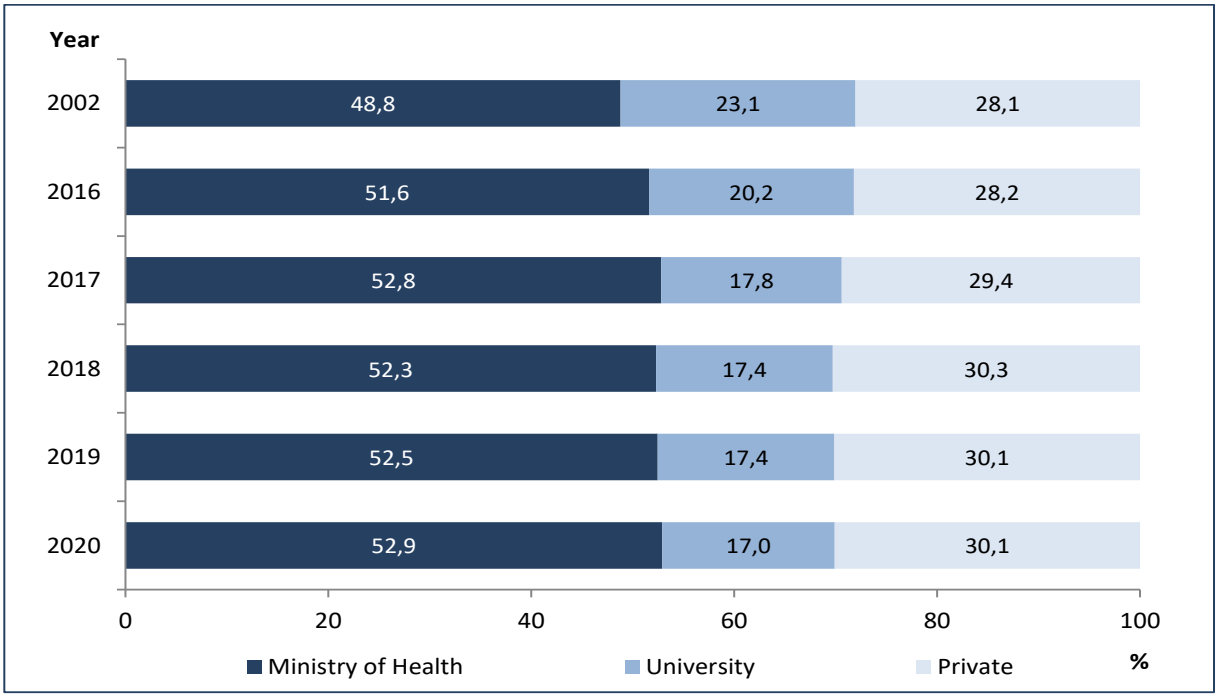
Source: General Directorate of Health Services

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



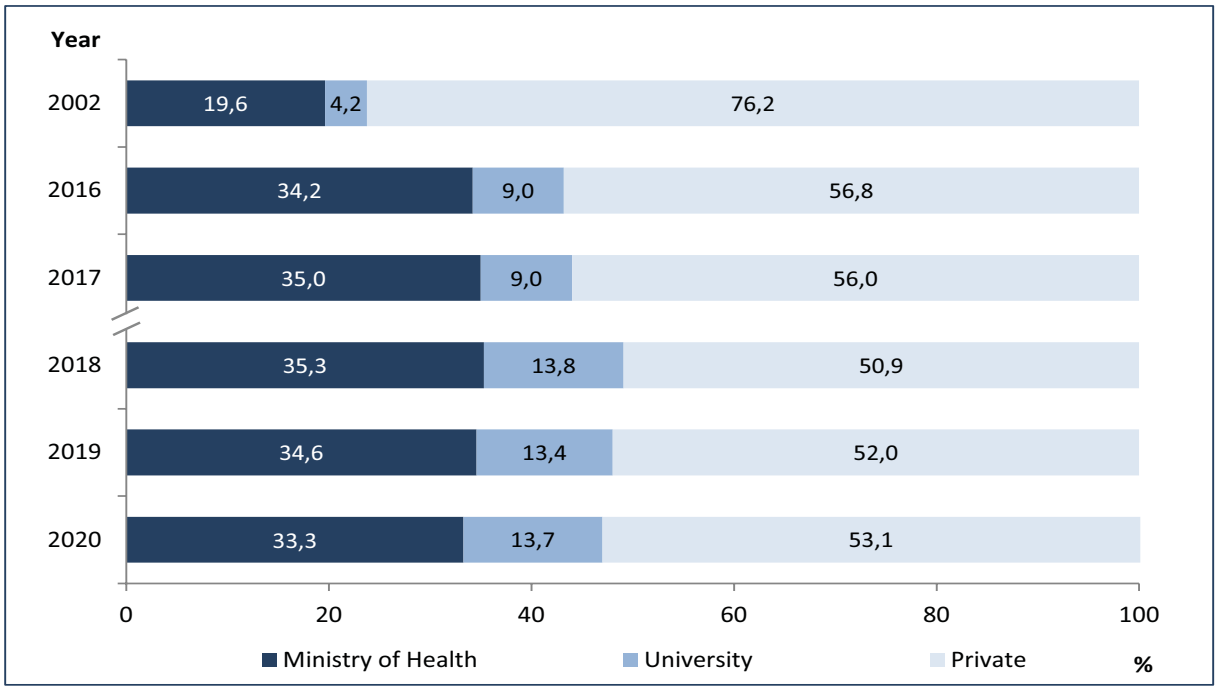
Source: General Directorate of Health Services

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



Source: General Directorate of Health Services

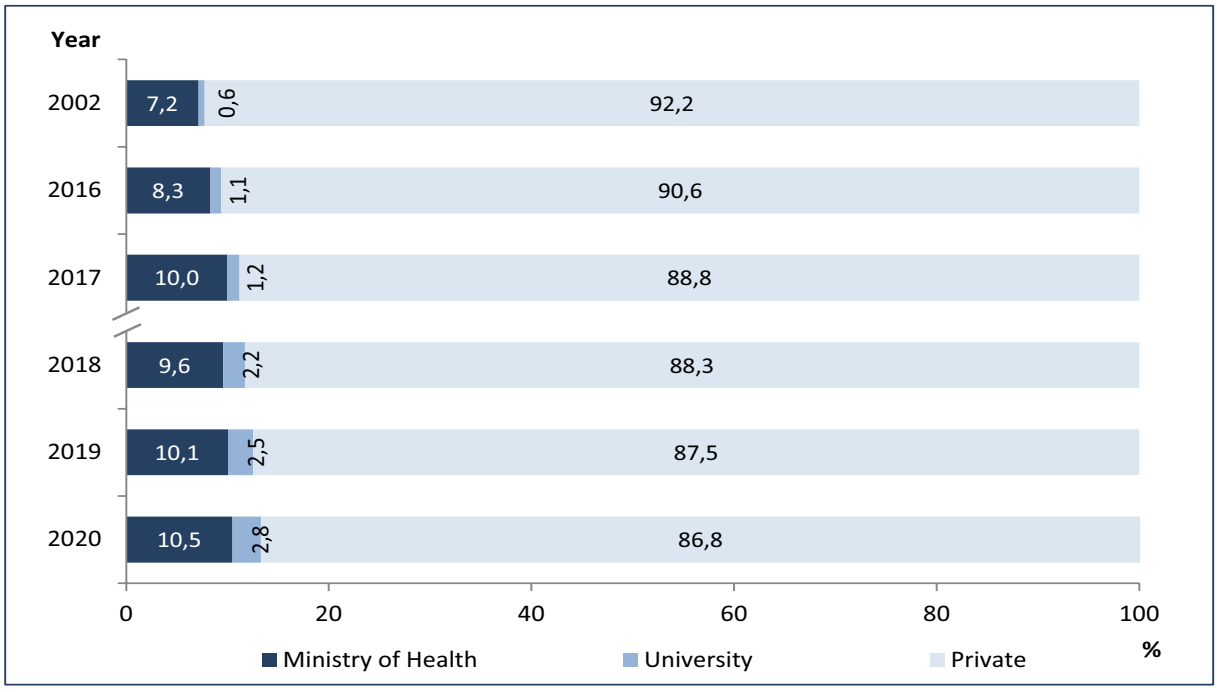
Figure 10.27. Distribution of Total Dentists by Years and Sectors, (%)



Source: General Directorate of Health Services

Note: Unlike the previous years, the total number of dentists includes the number of assistant dentists, as of 2018. When the assistant dentist is not included, the distribution of the total number of dentists in 2020 is 35,8% for the Ministry of Health, 7,0% for the University and 57,3% for the Private.

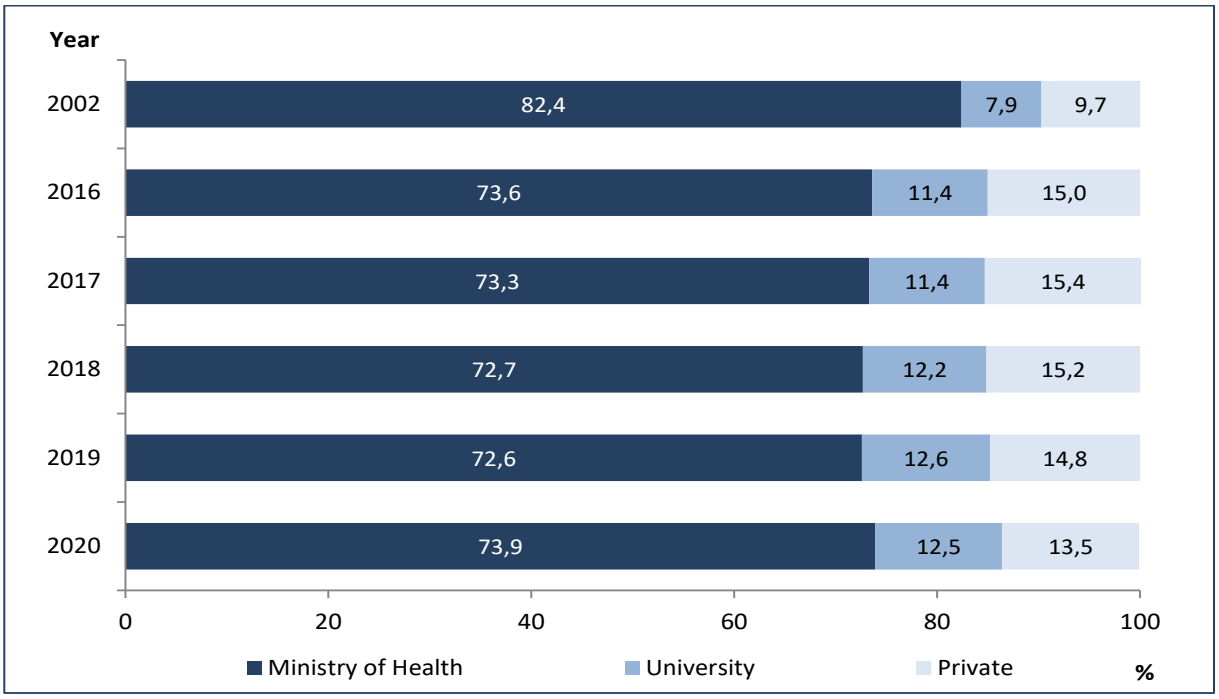
Figure 10.28. Distribution of Pharmacists by Years and Sectors, (%)



Source: General Directorate of Health Services

Note: Unlike previous years, the total number of pharmacists also includes the number of second pharmacists and assistant pharmacists working in community pharmacies, as of 2018. When the second pharmacist and assistant pharmacist are not included, the distribution of the number of pharmacists in 2020 is 11,2% for the Ministry of Health, 3,0% for the University and 85,8% for the Private.

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



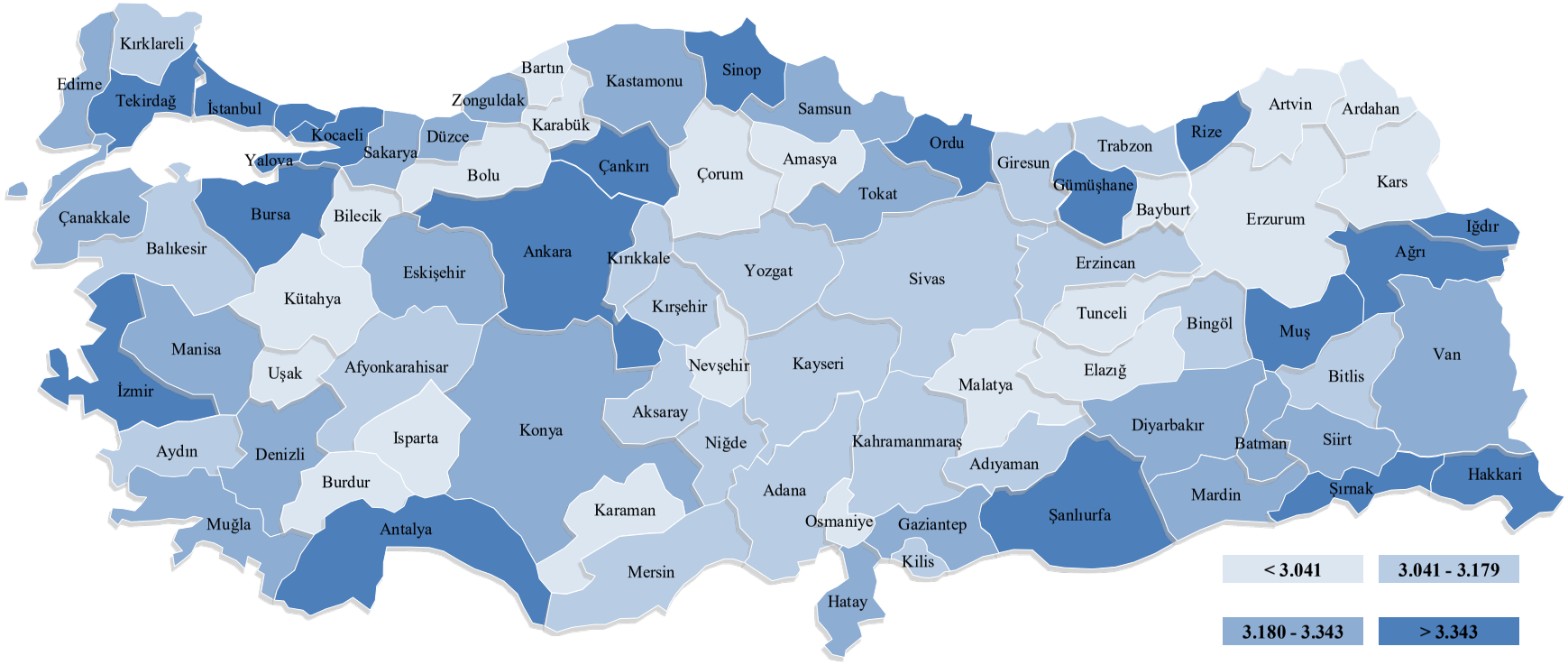
Source: General Directorate of Health Services

Table 10.7. Distribution of MoH Personnel by Service Units, 2020

	Hospitals*	Family Medicine Unit	Other Facilities	Total
Specialist Physicians	43.251	2.085	1.267	46.603
General Practitioners	14.840	22.991	7.460	45.291
Medical Residents	12.264	0	0	12.264
Total Physicians	**70.355**	**25.076**	**8.727**	**104.158**
Total Dentists	5.260	0	6.328	11.588
Pharmacists	3.317	0	380	3.697
Nurses	141.236	8.749	6.220	156.205
Midwives	30.913	12.776	11.816	55.505
Other Health Personnel	85.029	1.891	53.241	140.161
Other Personnel and Procurement of Services	205.359	18.762	26.340	250.461
Total Personnel	541.469	67.254	113.052	721.775

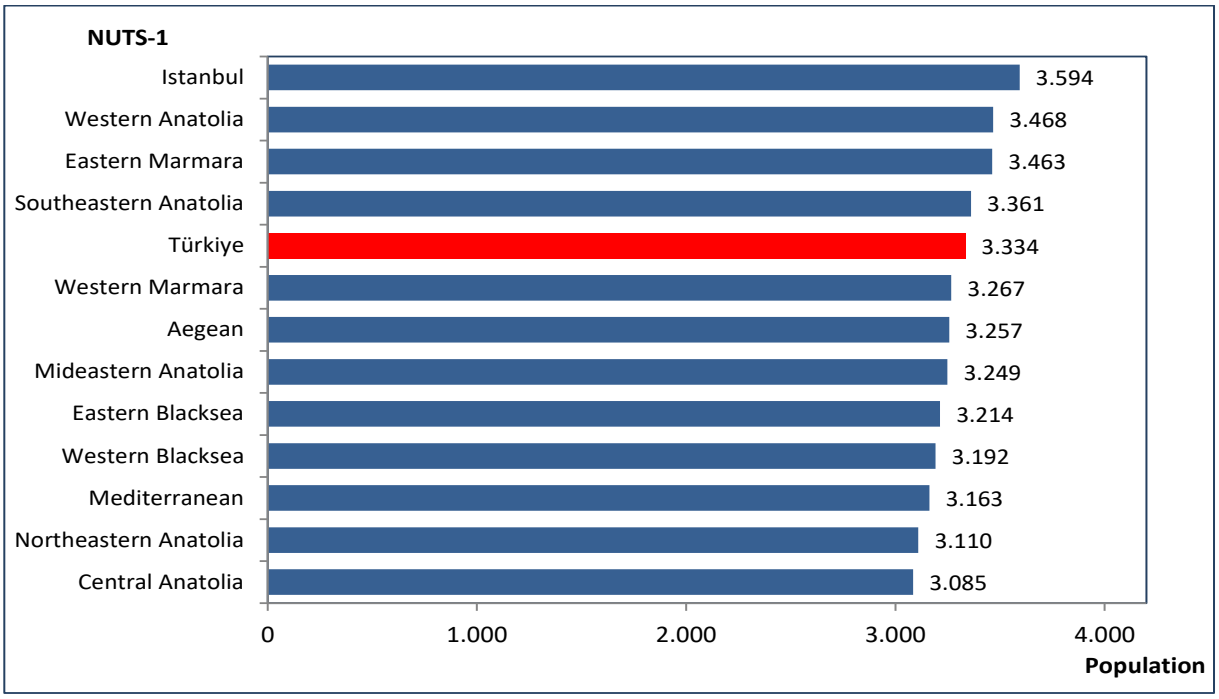
Source: General Directorate of Health Services, General Directorate of Public Health
**The personnel working in E1, E2 and E3 Integrated District State Hospitals are included.*

Map 10.7. Population per Actively Working Family Medicine by Provinces, 2020



Source: General Directorate of Public Health

Figure 10.30. Population per Actively Working Family Medicine by NUTS-1, 2020



Source: General Directorate of Health Services

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

Academic Year	Number of Faculties	Number of Student			Number of Academic Staff Member
		Recently Enrolled	Total	Graduates	
2002-2003	44	4.998	31.966	4.804	7.172
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
2020-2021	115	18.954	102.549	11.909	16.474

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

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

Academic Year	Number of Faculties	Number of Student			Number of Academic Staff Member
		Recently Enrolled	Total	Graduates	
2002-2003	14	975	5.256	813	605
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
2020-2021	79	8.866	33.875	3.859	2.294

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

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

Academic Year	Number of Faculties	Number of Student			Number of Academic Staff Member
		Recently Enrolled	Total	Graduates	
2002-2003	11	939	4.120	919	354
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
2020-2021	39	4.613	18.383	2.082	1.037

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

Table 10.11. Some Health Indicators by Provinces, 2020

City	Specialist Physician	General Practitioner	Medical Resident	Total Physician	Total Dentist	Pharmacist	Nurse	Midwife	Other Health Personnel
Adana	2.457	1.274	959	4.690	849	1.007	5.901	1.501	5.808
Adıyaman	430	462	103	995	191	234	1.475	579	1.524
Afyonkarahisar	582	505	177	1.264	222	292	1.946	581	1.837
Ağrı	251	312	3	566	76	128	844	325	910
Amasya	236	241	11	488	110	147	843	344	1.078
Ankara	9.808	2.624	6.760	19.192	3.421	2.966	20.242	3.483	15.471
Antalya	3.169	1.387	1.018	5.574	1.533	1.420	6.142	1.794	6.433
Artvin	119	187	8	314	39	57	450	218	622
Aydın	1.124	700	386	2.210	456	531	2.868	1.027	2.621
Balıkesir	1.069	740	136	1.945	424	547	3.162	1.321	2.917
Bilecik	128	175	5	308	78	75	583	199	724
Bingöl	157	236	1	394	69	82	675	330	801
Bitlis	194	296	4	494	70	82	959	306	823
Bolu	369	227	247	843	176	139	1.169	293	1.083
Burdur	174	221	2	397	77	127	714	331	876
Bursa	2.892	1.541	979	5.412	1.209	1.241	7.831	1.860	6.255
Çanakkale	572	340	215	1.127	187	227	1.504	624	1.572
Çankırı	118	164	6	288	68	65	424	166	768
Çorum	410	387	89	886	147	206	1.633	538	1.500
Denizli	1.108	591	360	2.059	441	532	2.669	989	2.791
Diyarbakır	1.326	1.076	543	2.945	499	573	4.486	1.095	3.647
Edirne	544	274	446	1.264	204	208	1.646	401	1.296
Elazığ	667	443	11	1.121	239	229	2.349	608	1.751
Erzincan	217	211	72	500	85	104	677	271	791
Erzurum	738	598	389	1.725	299	276	3.189	719	2.277
Eskişehir	1.114	507	504	2.125	413	487	3.445	732	2.828
Gaziantep	1.612	1.070	435	3.117	641	788	5.007	1.229	3.989
Giresun	371	363	58	792	111	205	1.554	511	1.652
Gümüşhane	88	130	2	220	43	40	377	139	521
Hakkari	177	194	5	376	48	47	475	209	625
Hatay	1.235	1.123	229	2.587	507	693	3.578	1.067	3.422
Isparta	611	299	339	1.249	267	212	1.881	535	1.531
Mersin	1.667	1.032	323	3.022	660	854	4.553	1.634	4.127
İstanbul	21.759	8.156	8.260	38.175	8.690	6.932	42.174	6.434	36.727
İzmir	6.347	2.190	2.975	11.512	2.389	2.195	11.628	2.707	10.127
Kars	213	231	51	495	53	69	705	387	761
Kastamonu	232	322	12	566	98	133	947	312	1.126
Kayseri	1.392	785	776	2.953	588	679	4.080	1.094	3.740
Kırklareli	302	270	3	575	130	164	847	339	885
Kırşehir	170	211	23	404	63	97	623	254	829
Kocaeli	1.930	1.080	490	3.500	753	633	4.959	1.250	4.504

Source: General Directorate of Health Services

Table 10.11. Some Health Indicators by Provinces, 2020 - Continued

City	Specialist Physician	General Practitioner	Medical Resident	Total Physician	Total Dentist	Pharmacist	Nurse	Midwife	Other Health Personnel
Konya	2.019	1.401	1.146	4.566	885	1.001	7.094	1.639	5.742
Kütahya	441	352	122	915	204	220	1.726	519	1.551
Malatya	850	504	348	1.702	340	355	2.750	921	2.311
Manisa	1.373	913	342	2.628	378	634	3.663	1.165	3.218
Kahramanmaraş	794	692	290	1.776	294	412	2.872	835	2.747
Mardin	440	607	4	1.051	192	261	1.492	597	1.678
Muğla	1.049	619	173	1.841	445	511	2.231	907	2.489
Muş	195	275	2	472	58	74	732	282	735
Nevşehir	196	208	0	404	87	124	749	272	909
Niğde	231	242	7	480	89	138	785	326	964
Ordu	615	580	38	1.233	271	315	1.943	683	1.975
Rize	346	248	179	773	172	142	1.060	288	982
Sakarya	845	644	293	1.782	383	366	2.373	752	1.963
Samsun	1.529	888	721	3.138	577	591	4.440	1.100	4.014
Siirt	165	241	1	407	57	89	704	241	746
Sinop	141	157	5	303	66	87	617	226	746
Sivas	580	462	184	1.226	293	252	2.388	703	2.057
Tekirdağ	844	566	243	1.653	399	373	2.311	661	2.177
Tokat	445	406	148	999	234	231	1.936	586	1.766
Trabzon	936	543	542	2.021	400	391	3.043	703	2.810
Tunceli	69	109	1	179	34	24	224	142	413
Şanlıurfa	1.022	1.258	186	2.466	348	707	3.796	1.079	2.980
Uşak	301	233	13	547	171	154	1.030	527	950
Van	712	639	268	1.619	257	281	2.755	744	2.350
Yozgat	309	342	51	702	97	137	1.283	454	1.220
Zonguldak	535	369	208	1.112	227	252	1.874	482	1.507
Aksaray	300	285	6	591	106	169	976	326	1.070
Bayburt	58	80	3	141	17	19	272	95	341
Karaman	173	185	3	361	67	106	631	257	684
Kırıkkale	295	202	175	672	168	111	878	270	1.253
Batman	383	419	2	804	121	197	1.553	445	1.426
Şırnak	278	369	4	651	108	114	794	289	835
Bartın	119	153	4	276	57	82	494	179	503
Ardahan	69	87	4	160	28	24	250	131	372
Iğdır	105	148	2	255	38	56	384	161	465
Yalova	273	165	1	439	118	114	694	188	853
Karabük	230	198	45	473	102	98	737	248	816
Kilis	120	197	1	318	41	58	532	193	474
Osmaniye	325	377	2	704	178	239	1.125	448	1.565
Düzce	338	222	190	750	100	132	887	240	876
Türkiye	88.127	49.760	33.372	171.259	34.830	35.364	227.292	59.040	206.103

Source: General Directorate of Health Services

Explanations for Chapter 10

☑ Data collection method was changed in 2018 and personnel data were obtained from Health Personnel Tracking System (SPTS) Database.

☑ Number of health care professionals working in central organization is not included in personnel data within chapter for the 2018. Health care professionals working in central organization by titles are given in Table 10.4.

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

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

☑ 4-point Likert scale was used while creating the maps within the chapter and the number of provinces was tried to distribute evenly while determining the scale intervals. The value of the provinces was rounded up to the closest whole number (except Map 10.5). The value of the provinces was rounded up to 1 decimal place while making Map 10.5. These whole numbers were considered while creating the likert scales.

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

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

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

☑ **Owner Pharmacist and Pharmacist Manager:** Pharmacist who has a pharmacy license and right to operate a pharmacy.

☑ **Second Pharmacist:** In community pharmacy, second pharmacist work with the pharmacist who is owner of pharmacy or responsible for the pharmacy. They work in this pharmacy according to the prescribing number or endorsement of pharmacy or they can work independent of these criteria.

☑ **Graduated Intern Pharmacist:** In 2013 and later years, after graduating from the faculty of pharmacy, the pharmacists, who is called graduated intern pharmacist, work with responsible manager in community pharmacy or hospital pharmacy under the service contract for at least one year. It is a necessary condition to open a community pharmacy or to work as a responsible manager in a community pharmacy.

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

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

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

☑ “Other Institutions" indicated in the distribution of the Ministry of Health personnel: include Emergency Care Center, Community Health Center, Tuberculosis Dispensary, Cancer Early Diagnosis and Screening Center, Public Health Laboratory, CEKUS Unit, Oral and Dental Health Center and Provincial Directorate of Health personnel.

☑ In the table where the Medical Faculty Statistics are given: Ataturk University, Gazi, Hacettepe and Istanbul Universities offer medical education both in English and in Turkish in different departments and they are not listed separately. The number of faculty members from other departments is not included.

☑ Faculty/associate/assistant professors are included in the number of academic staff member in faculty.

CHAPTER 11

Health Economics ve Financing

Table 11.1. Current, Investment and Total Health Expenditure by Years

Year	Unit	GDP	Current Health Expenditure	Proportion of Current Health Expenditure to the GDP (%)	Investment Expenditure	Proportion of Investment Expenditure to the GDP (%)	Total Health Expenditure (Current + Investment)	Proportion of Total Health Expenditure to the GDP (%)
2002	Million ₺	362.110	18.331	5,1	443	0,1	18.774	5,2
	Million US $	238.145	12.056		291		12.347	
	Million PPP US $	677.953	34.320		829		35.149	
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 $	981.782	51.422		4.876		56.298	
2008	Million ₺	1.002.756	52.320	5,2	5.420	0,5	57.740	5,8
	Million US $	782.865	40.847		4.231		45.078	
	Million PPP US $	1.099.023	57.342		5.940		63.283	
2009	Million ₺	1.006.372	55.294	5,5	2.616	0,3	57.911	5,8
	Million US $	651.543	35.799		1.694		37.492	
	Million PPP US $	1.070.581	58.822		2.783		61.606	
2010	Million ₺	1.167.664	58.623	5,0	3.054	0,3	61.678	5,3
	Million US $	777.461	39.033		2.034		41.067	
	Million PPP US $	1.229.649	61.735		3.217		64.952	
2011	Million ₺	1.404.928	65.372	4,7	3.236	0,2	68.607	4,9
	Million US $	837.924	38.989		1.930		40.919	
	Million PPP US $	1.417.005	65.934		3.264		69.197	
2012	Million ₺	1.581.479	70.288	4,4	3.901	0,2	74.189	4,7
	Million US $	877.676	39.008		2.165		41.173	
	Million PPP US $	1.513.424	67.263		3.733		70.996	
2013	Million ₺	1.823.427	79.702	4,4	4.688	0,3	84.390	4,6
	Million US $	958.125	41.880		2.463		44.343	
	Million PPP US $	1.651.069	72.168		4.245		76.413	
2014	Million ₺	2.054.898	88.878	4,3	5.871	0,3	94.750	4,6
	Million US $	939.923	40.654		2.685		43.339	
	Million PPP US $	1.796.555	77.705		5.133		82.838	
2015	Million ₺	2.350.941	96.786	4,1	7.782	0,3	104.568	4,4
	Million US $	867.071	35.696		2.870		38.566	
	Million PPP US $	1.976.144	81.356		6.541		87.897	
2016	Million ₺	2.626.560	112.540	4,3	7.216	0,3	119.756	4,6
	Million US $	869.241	37.244		2.388		39.632	
	Million PPP US $	2.088.486	89.485		5.737		95.223	
2017	Million ₺	3.133.704	130.981	4,2	9.666	0,3	140.647	4,5
	Million US $	859.055	35.906		2.650		38.556	
	Million PPP US $	2.258.990	94.420		6.968		101.388	
2018	Million ₺	3.758.774	154.998	4,1	10.236	0,3	165.234	4,4
	Million US $	797.221	32.875		2.171		35.045	
	Million PPP US $	2.396.874	98.838		6.527		105.366	
2019	Million ₺	4.317.787	188.237	4,4	12.794	0,3	201.031	4,7
	Million US $	760.355	33.148		2.253		35.401	
	Million PPP US $	2.407.048	104.937		7.132		112.069	
2020	Million ₺	5.046.883	233.062	4,6	16.870	0,3	249.932	5,0
	Million US $	716.902	33.106		2.396		35.502	
	Million PPP US $	2.503.936	115.630		8.370		124.000	

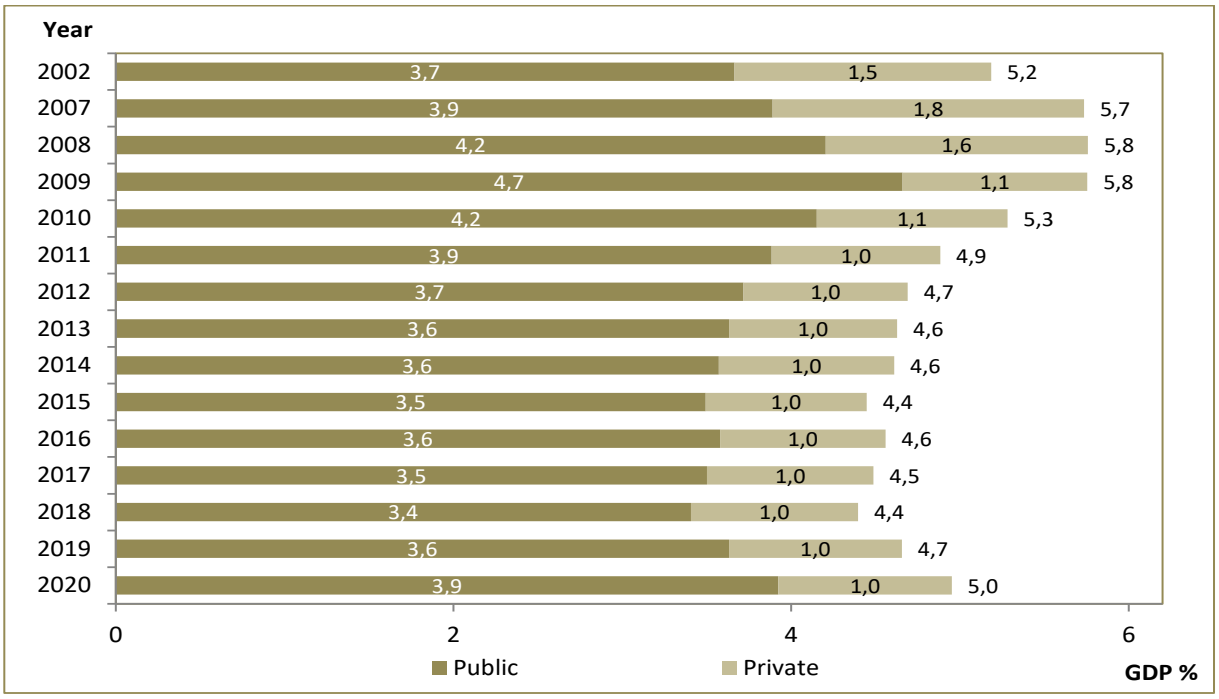
Source: TURKSTAT, OECD Health Data 2021

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

Year	Unit	GDP	Public Current Health Expenditure	Proportion of Public Current Health Expenditure to the GDP (%)	Public Investment Expenditure	Proportion of Public Investment Expenditure to the GDP (%)	Total Public Health Expenditure (Current + Investment)	Proportion of Total Public Health Expenditure to the GDP (%)
2002	Million ₺	362.110	12.827	3,5	443	0,1	13.270	3,7
	Million US $	238.145	8.436		291		8.727	
	Million PPP US $	677.953	24.015		829		24.844	
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 $	981.782	35.370		2.819		38.189	
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 $	1.099.023	41.684		4.522		46.206	
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 $	1.070.581	47.351		2.531		49.882	
2010	Million ₺	1.167.664	45.726	3,9	2.756	0,2	48.482	4,2
	Million US $	777.461	30.445		1.835		32.280	
	Million PPP US $	1.229.649	48.153		2.902		51.055	
2011	Million ₺	1.404.928	51.728	3,7	2.852	0,2	54.580	3,9
	Million US $	837.924	30.851		1.701		32.552	
	Million PPP US $	1.417.005	52.172		2.876		55.049	
2012	Million ₺	1.581.479	55.648	3,5	3.137	0,2	58.785	3,7
	Million US $	877.676	30.883		1.741		32.624	
	Million PPP US $	1.513.424	53.253		3.002		56.255	
2013	Million ₺	1.823.427	62.447	3,4	3.781	0,2	66.228	3,6
	Million US $	958.125	32.813		1.987		34.800	
	Million PPP US $	1.651.069	56.544		3.424		59.968	
2014	Million ₺	2.054.898	68.974	3,4	4.407	0,2	73.382	3,6
	Million US $	939.923	31.549		2.016		33.565	
	Million PPP US $	1.796.555	60.303		3.853		64.156	
2015	Million ₺	2.350.941	75.622	3,2	6.499	0,3	82.121	3,5
	Million US $	867.071	27.891		2.397		30.288	
	Million PPP US $	1.976.144	63.566		5.463		69.029	
2016	Million ₺	2.626.560	88.279	3,4	5.733	0,2	94.012	3,6
	Million US $	869.241	29.215		1.897		31.112	
	Million PPP US $	2.088.486	70.194		4.558		74.753	
2017	Million ₺	3.133.704	101.786	3,2	7.958	0,3	109.744	3,5
	Million US $	859.055	27.903		2.181		30.084	
	Million PPP US $	2.258.990	73.374		5.736		79.111	
2018	Million ₺	3.758.774	119.941	3,2	8.080	0,2	128.021	3,4
	Million US $	797.221	25.439		1.714		27.153	
	Million PPP US $	2.396.874	76.483		5.152		81.636	
2019	Million ₺	4.317.787	146.232	3,4	10.586	0,2	156.819	3,6
	Million US $	760.355	25.751		1.864		27.616	
	Million PPP US $	2.407.048	81.521		5.902		87.422	
2020	Million ₺	5.046.883	183.759	3,6	14.304	0,3	198.062	3,9
	Million US $	716.902	26.103		2.032		28.134	
	Million PPP US $	2.503.936	91.169		7.097		98.266	

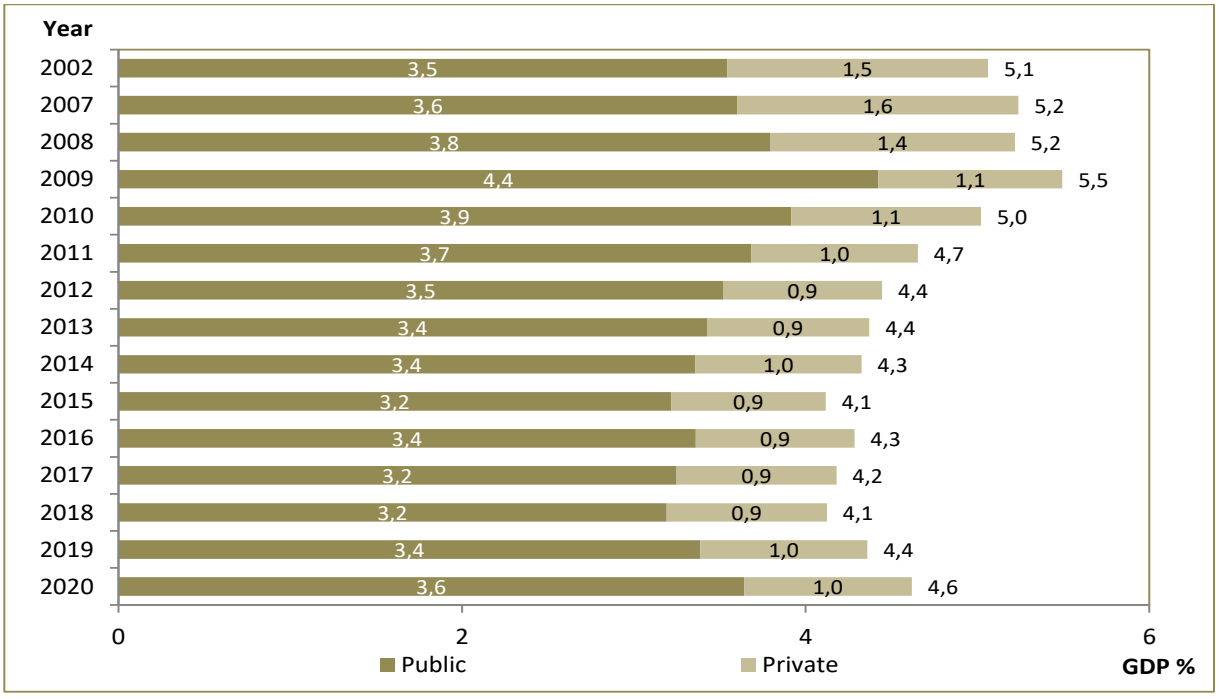
Source: TURKSTAT, OECD Health Data 2021

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



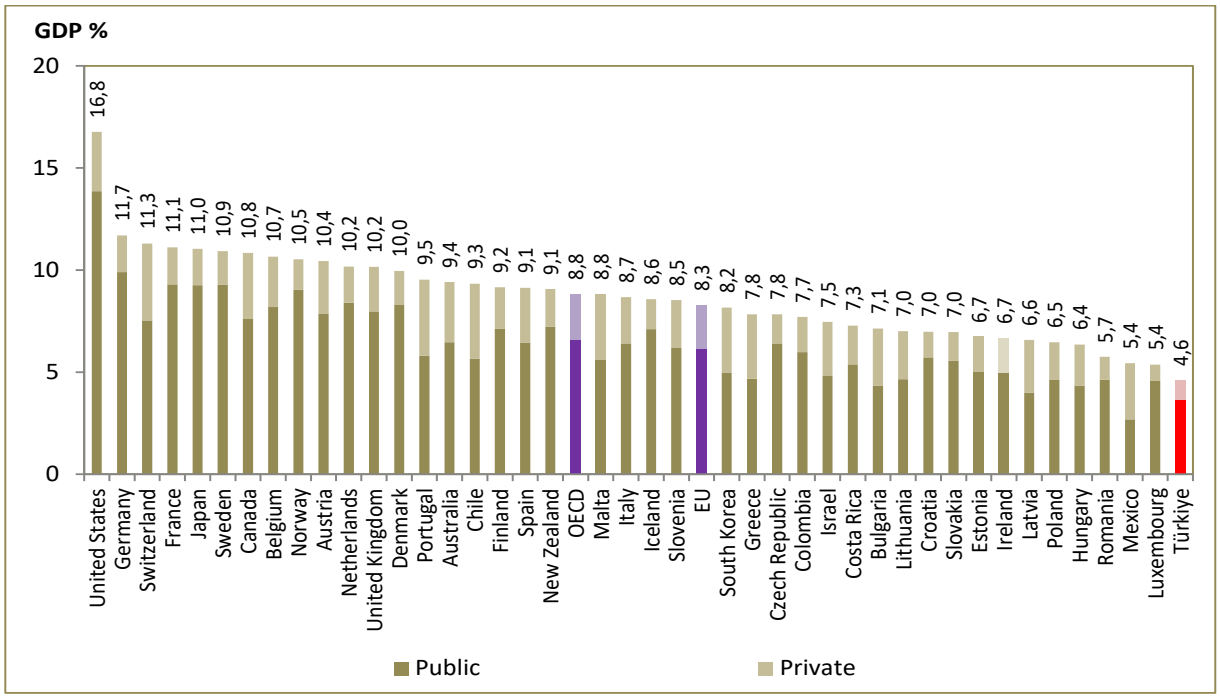
Source: TURKSTAT

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



Source: TURKSTAT

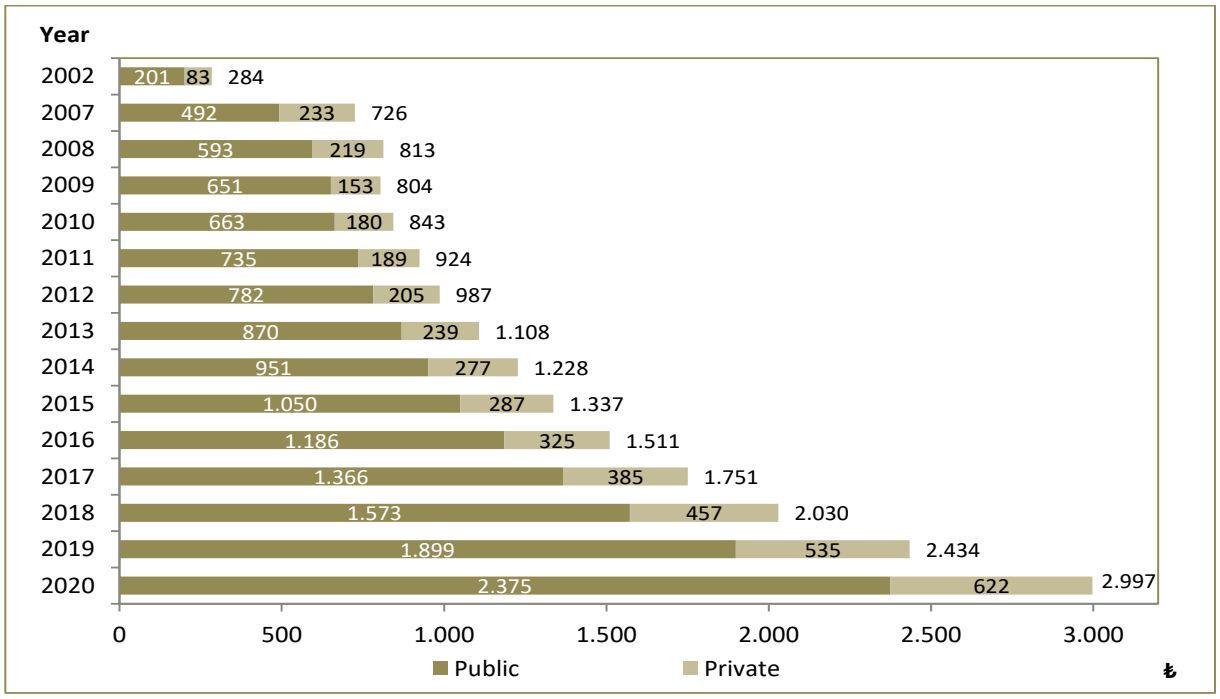
Figure 11.3. International Comparison of Current Health Expenditure as a Share of GDP, (%), 2019



Source: TURKSTAT, OECD Health Data 2021

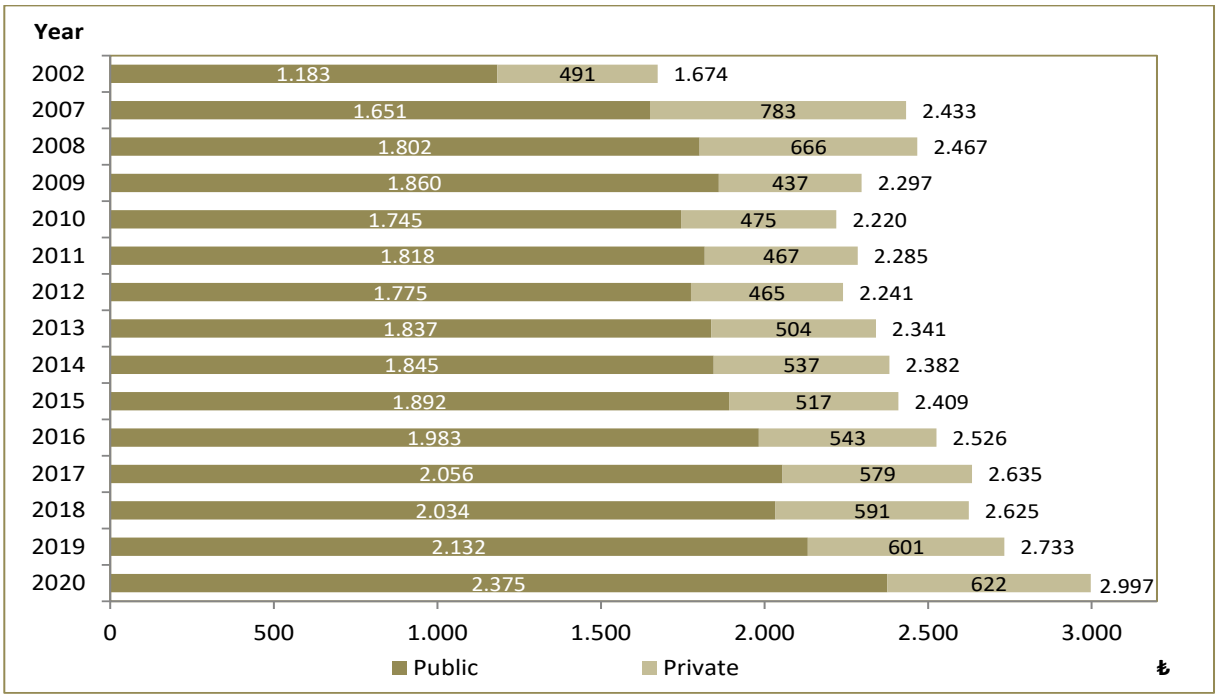
Note: Türkiye's data belongs to the year 2020. Countries' data belong to the year 2019 or nearest.

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



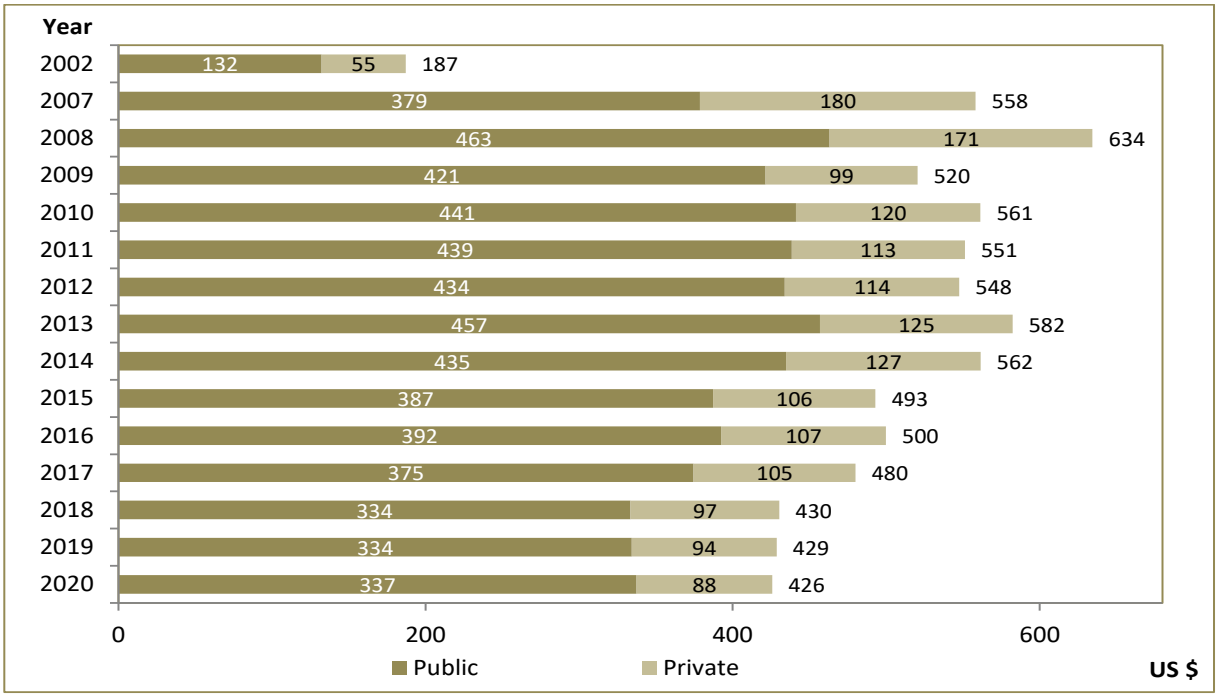
Source: TURKSTAT

Figure 11.5. Public and Private Health Expenditure per Capita at 2020 Price Level by Years, Real, in ₺



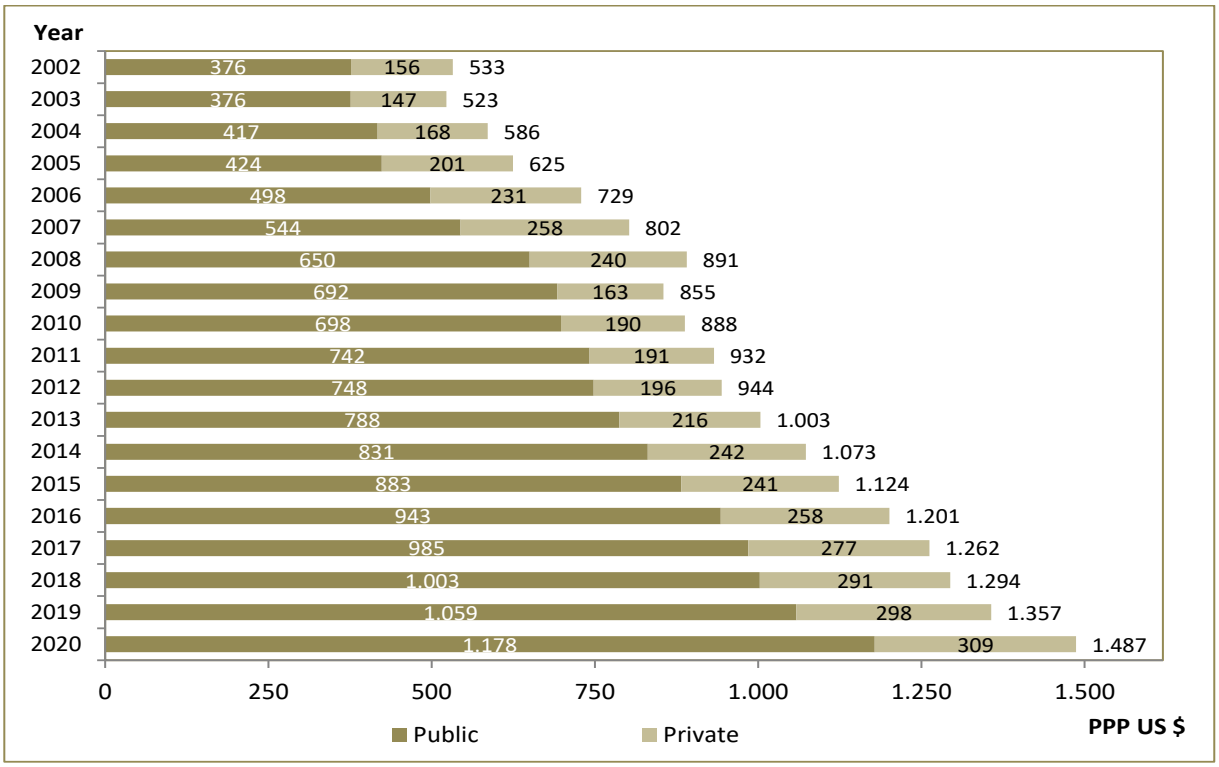
Source: TURKSTAT

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



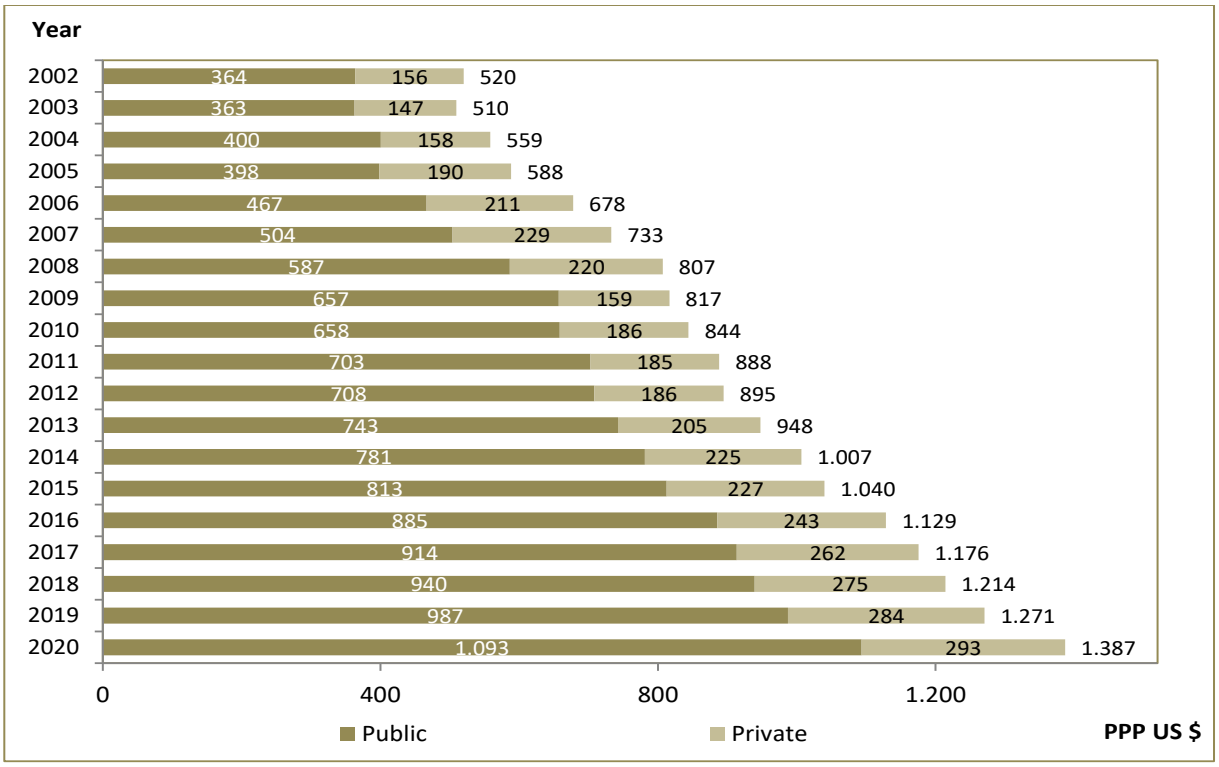
Source: TURKSTAT

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



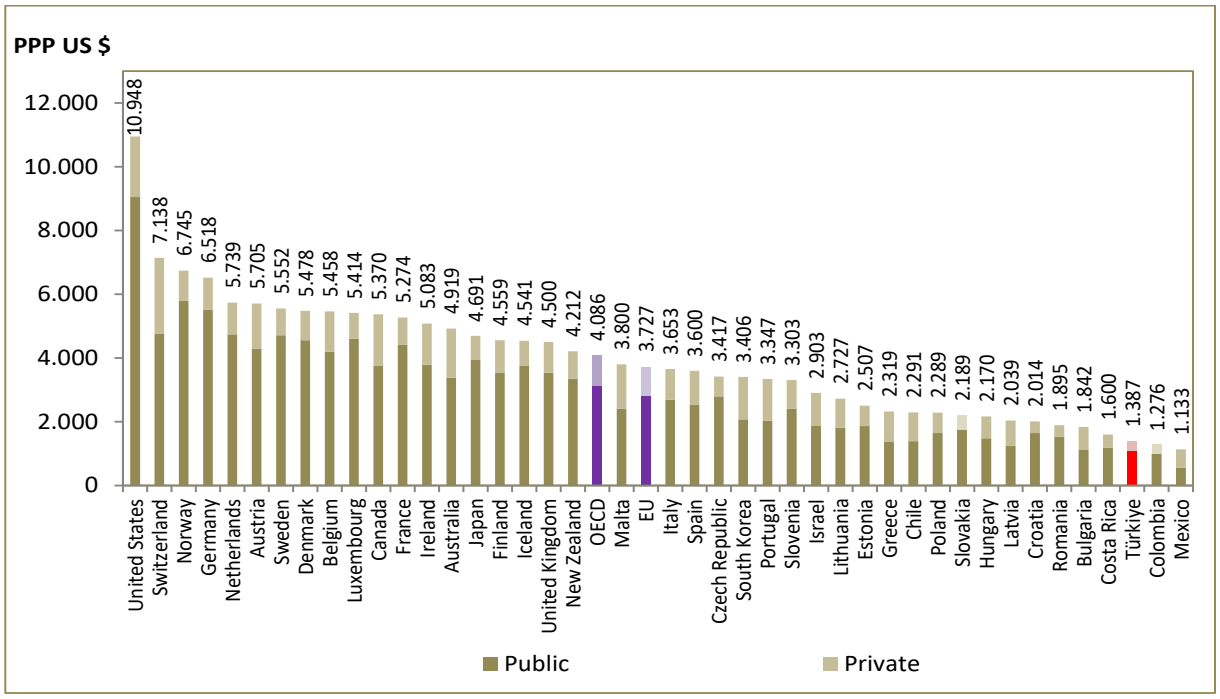
Source: TURKSTAT, OECD Health Data 2021

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



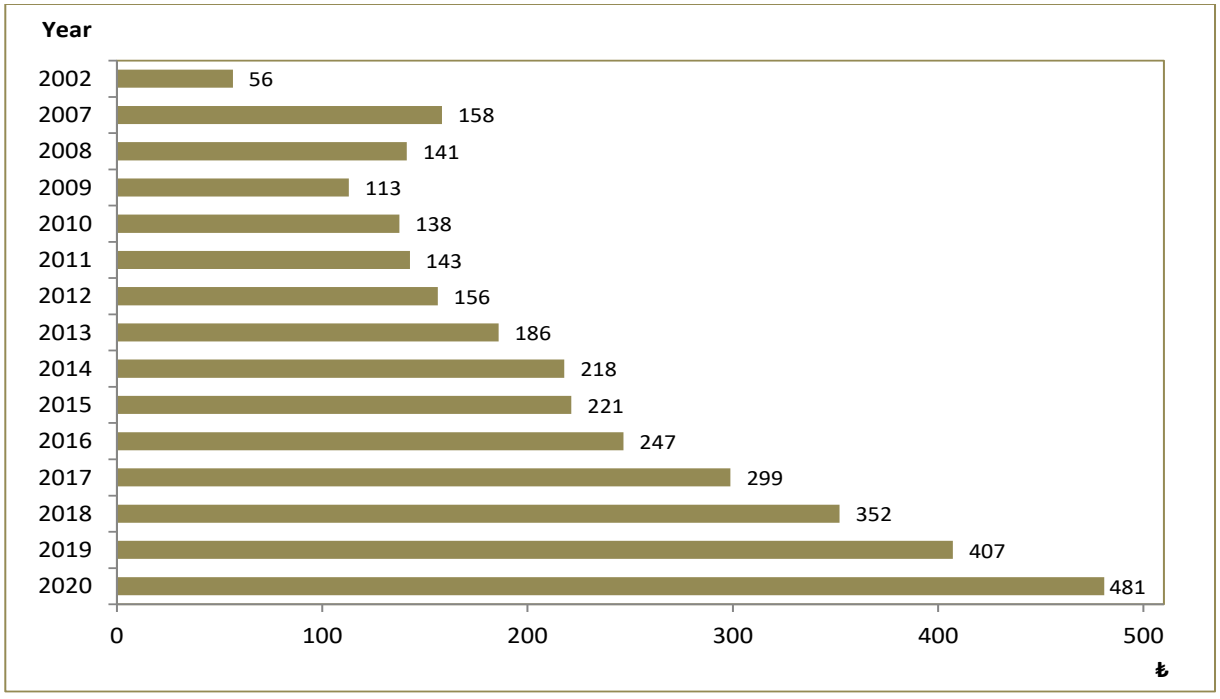
Source: TURKSTAT, OECD Health Data 2021

Figure 11.9. International Comparison of Current Health Expenditure per Capita, PPP US $, 2019



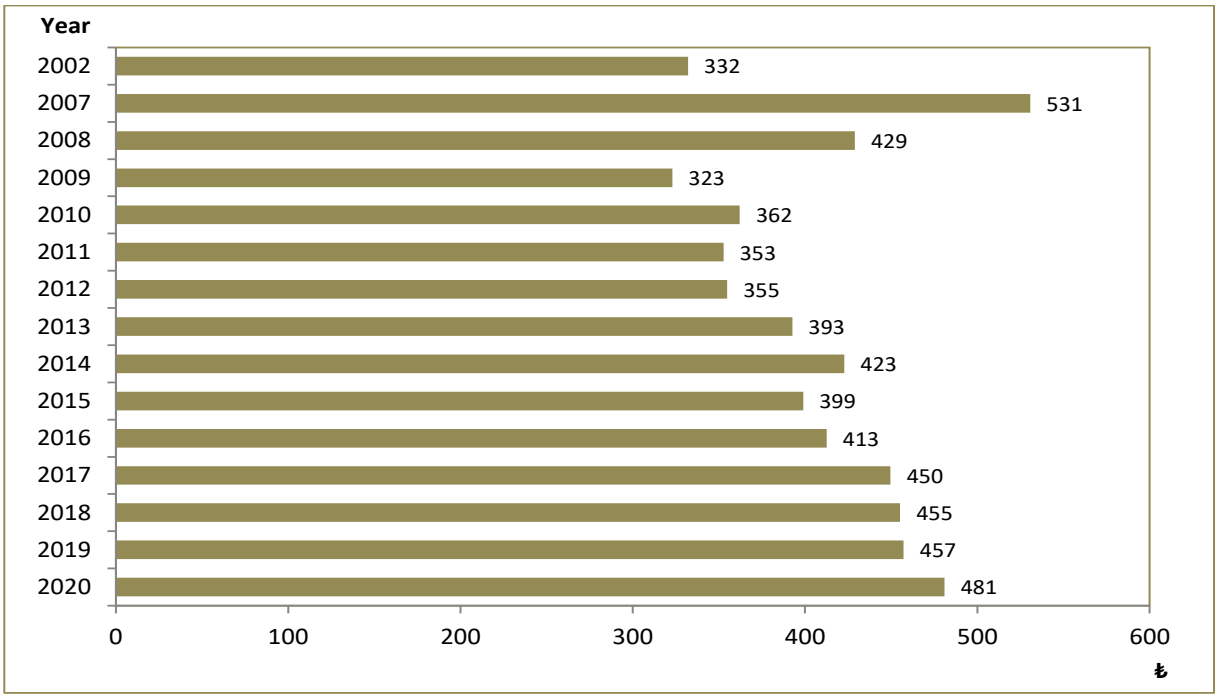
Source: TURKSTAT, OECD Health Data 2021
Note: Türkiye's data belong to the year 2020. Countries' data belong to the year 2019 or nearest.

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



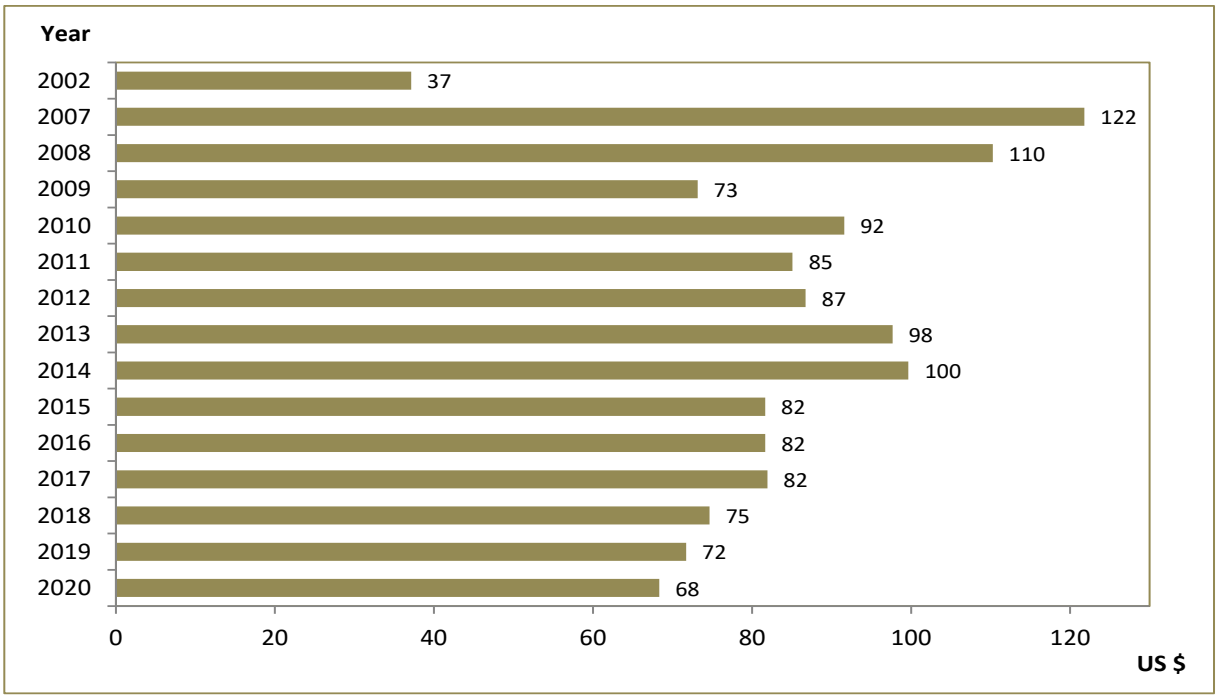
Source: TURKSTAT

Figure 11.11. Out-of-Pocket Health Expenditure per Capita at 2020 Price Level, Real, in ₺



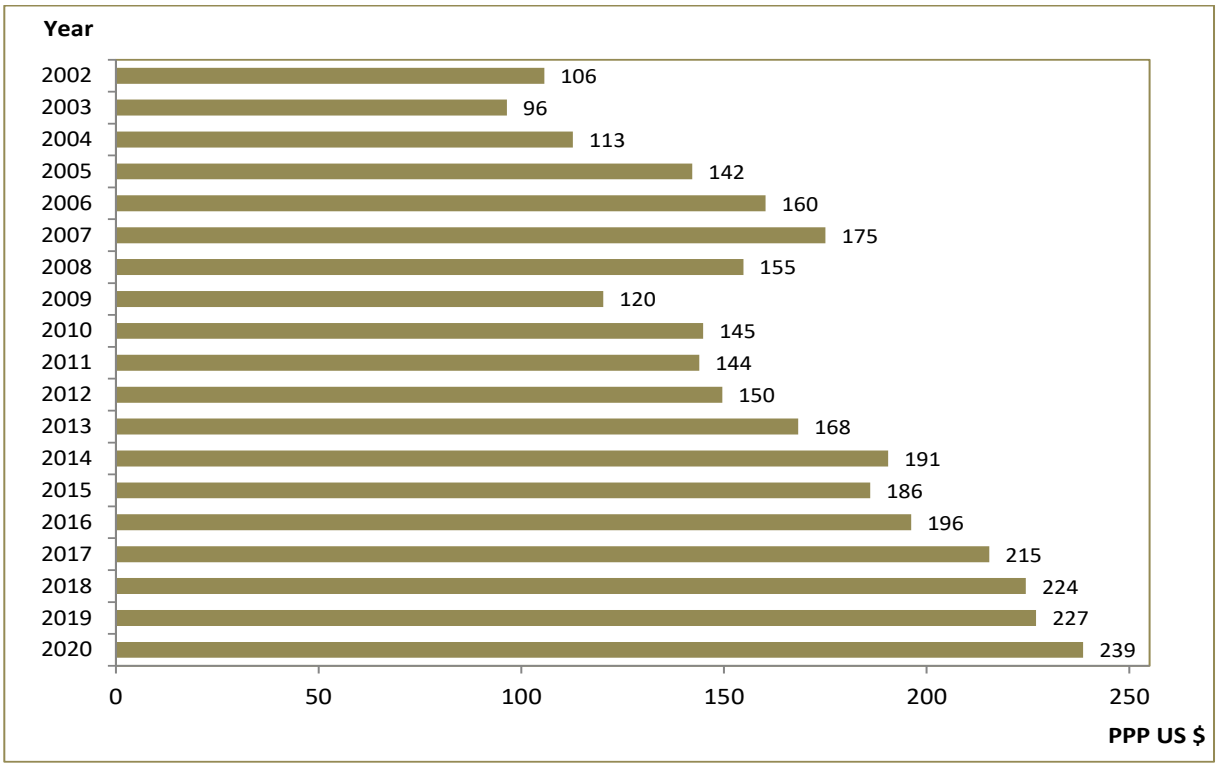
Source: TURKSTAT

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



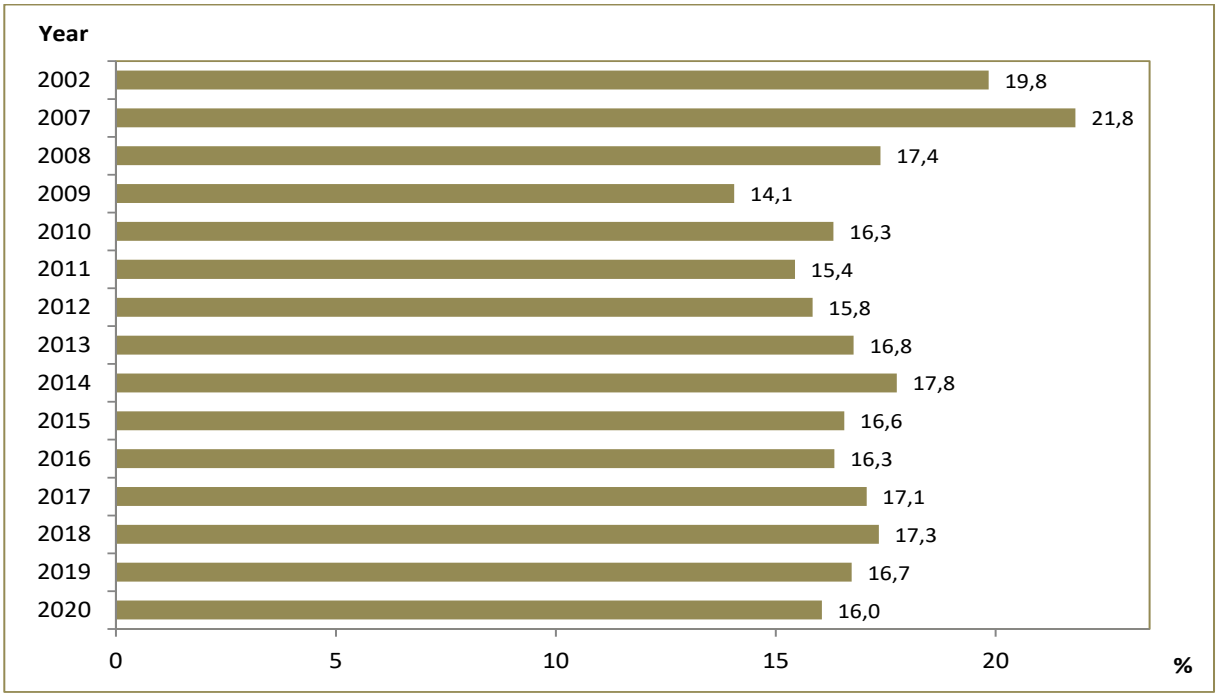
Source: TURKSTAT

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



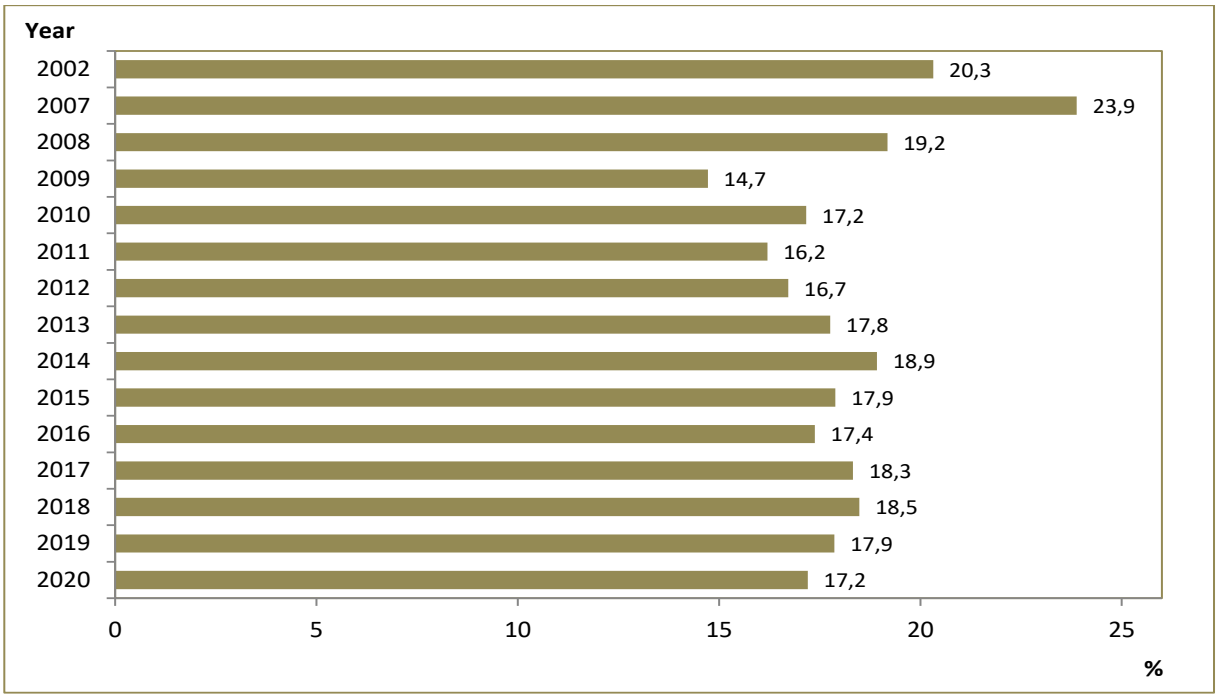
Source: TURKSTAT, OECD Health Data 2021

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



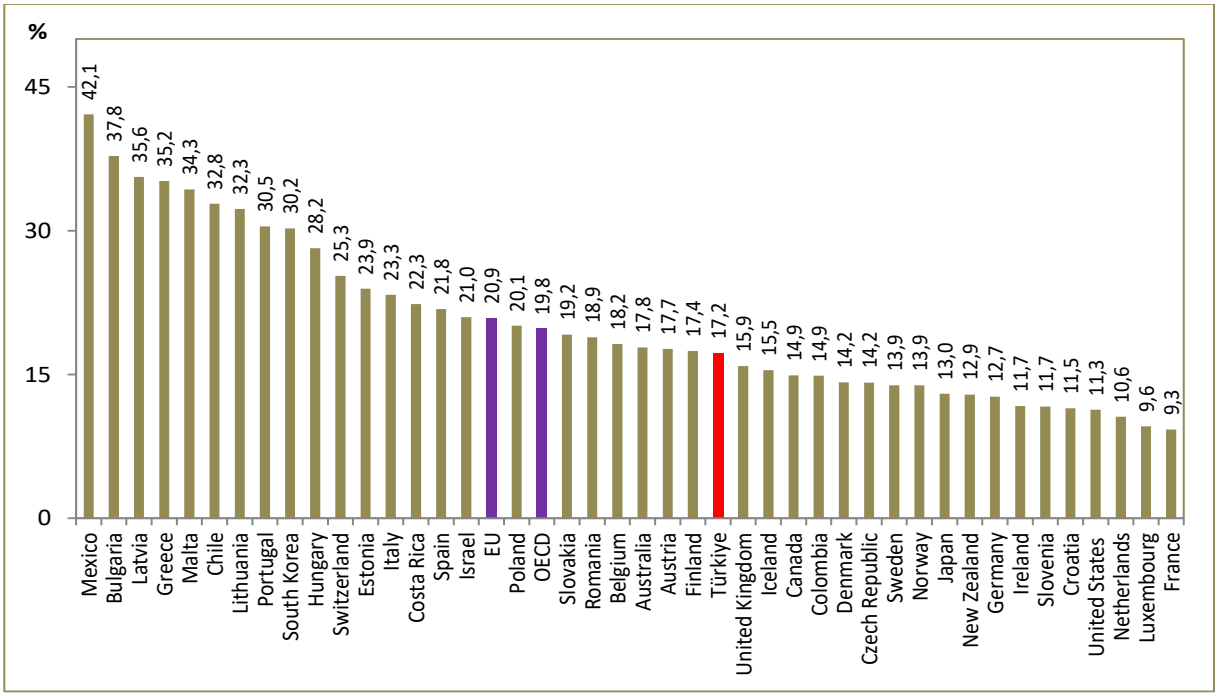
Source: TURKSTAT

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



Source: TURKSTAT

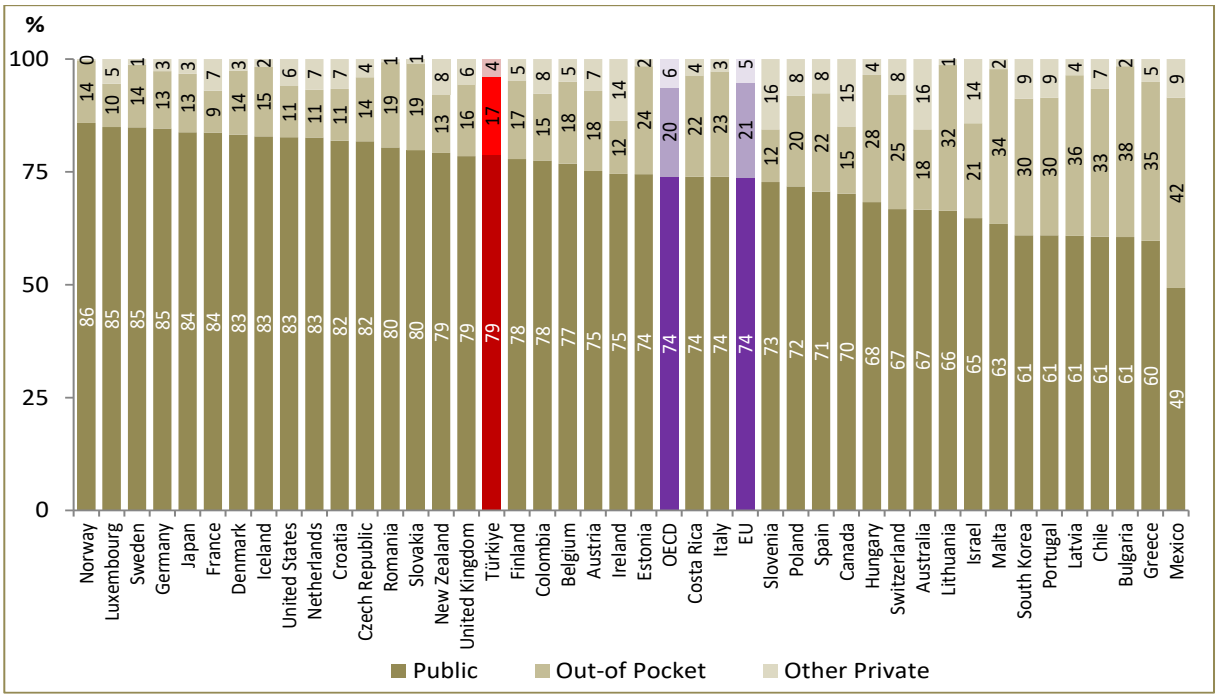
Figure 11.16. International Comparison of Out-of-Pocket Health Expenditure as a Share of Current Health Expenditure, (%), 2019



Source: TURKSTAT, OECD Health Data 2021

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

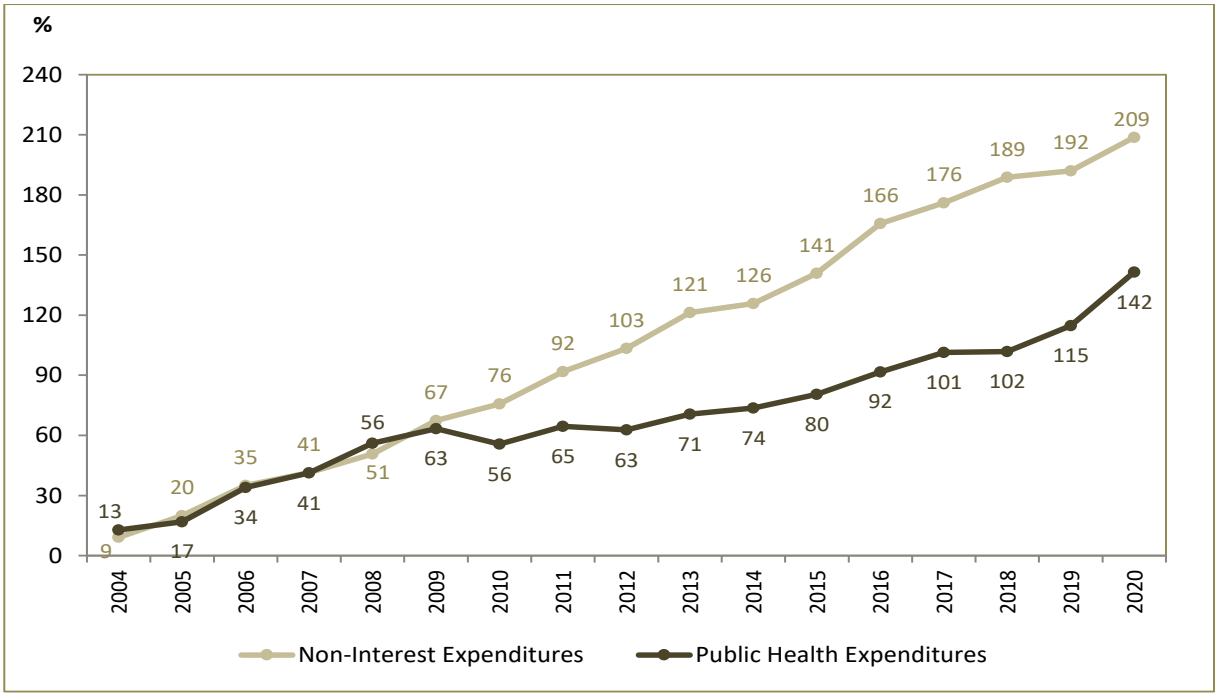
Figure 11.17. International Comparison of Distribution of Current Health Expenditure by Financing Type, 2019



Source: TURKSTAT, OECD Health Data 2021

Note: Türkiye's data belong to the year 2020. Countries' data belong to the year 2019 or nearest. Some countries' total does not give 100% due to having some other financing types.

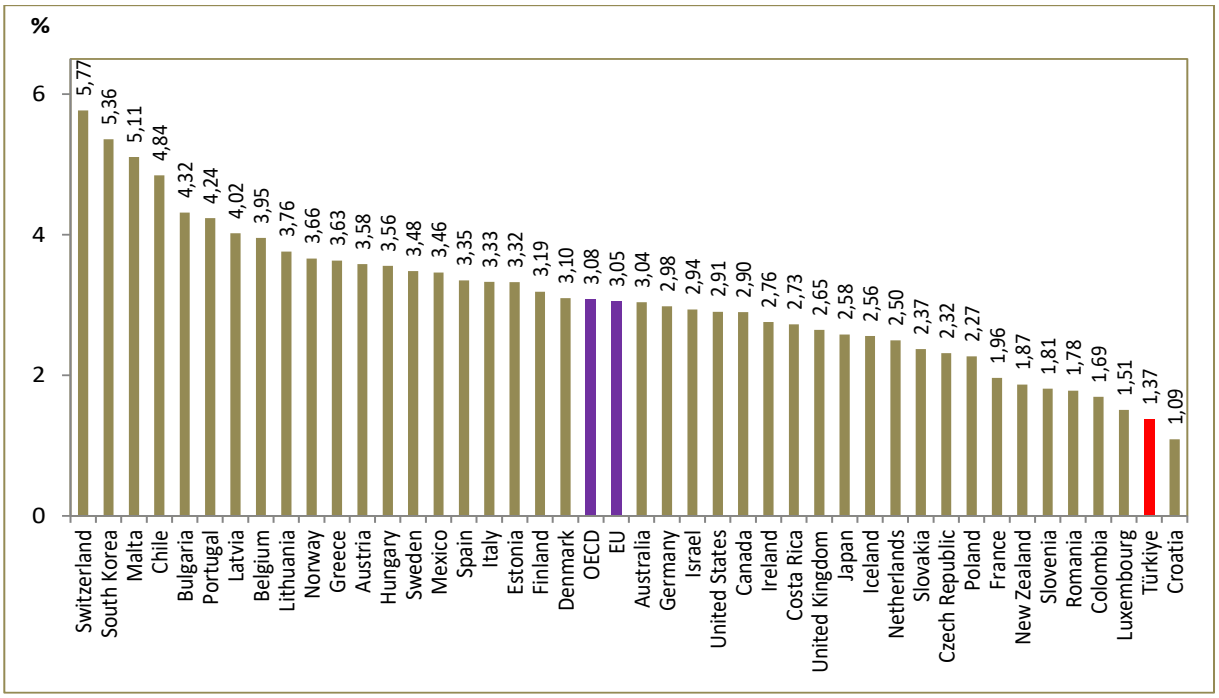
Figure 11.18. Rates of Increase of Non-Interest Expenditures and Public Health Expenditures by Years, (%)



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

Note: Rates of increase were calculated based on the year 2003. The "Non-Interest Expenditure" value for the year 2020 is the "Realization Forecast" value.

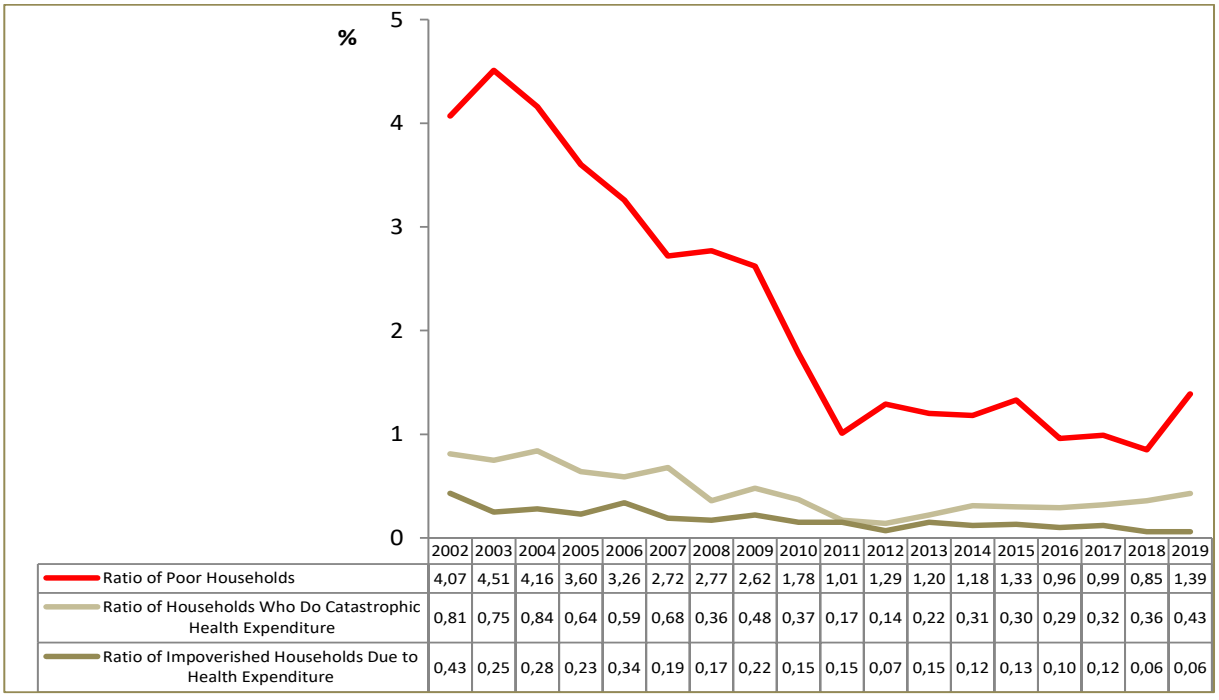
Figure 11.19. International Comparison of Ratio of Out-of-Pocket Health Expenditure in Household Final Consumption Expenditure, (%), 2019



Source: TURKSTAT, OECD Health Data 2021

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

Table 11.3. PPP Indicators Calculated Based on GDP by Years, PPP US $

Year	Health Expenditure (Million)			Public Health Expenditure (Million)			Health Expenditure per Capita				Current Health Expenditure per Capita		
	Current	Investment	Total	Current	Investment	Total	Public	Private	Total	Out-of Pocket	Public	Private	Total
2002	31.004	749	31.753	21.695	749	22.444	340	141	481	95	329	141	470
2003	32.111	818	32.929	22.865	818	23.683	355	138	493	91	342	138	481
2004	36.094	1.772	37.865	25.880	1.098	26.978	399	161	560	108	383	151	534
2005	39.890	2.477	42.367	27.024	1.717	28.741	420	199	619	141	395	188	583
2006	48.579	3.701	52.280	33.448	2.280	35.728	516	239	754	166	483	218	701
2007	54.550	5.173	59.723	37.521	2.991	40.512	577	274	851	186	535	243	778
2008	59.457	6.159	65.616	43.221	4.689	47.910	674	249	923	161	608	229	837
2009	61.169	2.894	64.063	49.240	2.632	51.871	720	169	889	125	684	166	849
2010	63.748	3.322	67.070	49.723	2.997	52.720	721	196	917	150	680	192	872
2011	67.660	3.349	71.009	53.539	2.952	56.490	761	196	957	148	721	190	912
2012	68.919	3.825	72.744	54.564	3.076	57.640	767	201	968	153	726	191	917
2013	74.467	4.380	78.848	58.345	3.533	61.878	813	223	1.035	174	766	212	978
2014	80.469	5.316	85.785	62.448	3.990	66.438	861	251	1.111	197	809	233	1.043
2015	83.260	6.694	89.954	65.054	5.591	70.645	903	247	1.150	190	832	233	1.064
2016	90.681	5.814	96.495	71.132	4.619	75.752	956	262	1.217	199	897	247	1.144
2017	94.641	6.985	101.625	73.546	5.750	79.296	987	278	1.265	216	916	263	1.178
2018	94.889	6.266	101.156	73.427	4.947	78.374	963	280	1.243	215	902	264	1.166
2019	99.306	6.750	106.056	77.147	5.585	82.731	1.002	282	1.284	215	934	268	1.203
2020	110.293	7.983	118.277	86.961	6.769	93.730	1.124	294	1.418	228	1.043	280	1.323

Source: TURKSTAT, OECD Health Data 2021

Note: The values in this table were published in the previous Health Statistics Yearbooks and were calculated on the basis of GDP. Except this table, other PPP indicators are calculated based on actual individual consumption.

Explanations for Chapter 11

☑ Tables and figures on health expenditures were calculated by TURKSTAT according to the OECD system of health accounts.

☑ While the expenditure figures were being converted into real figures, CPI 12-month average change rate released by the TURKSTAT was used.

☑ **Total Health Expenditure:** All expenditures made for prevention, improvement, care, nutrition and emergency programs designed to promote and prevent health status are defined as "Health Expenditures". Total health expenditure is the sum of current health expenditure and investment expenditure.

☑ **Current Health Expenditure:** It is calculated by subtracting investment expenditure from total health expenditure.

☑ **Catastrophic Health Expenditure:** Households with rate of health expenditure to payment capacity is greater than 40% are described as "households with catastrophic health expenditures".

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

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

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

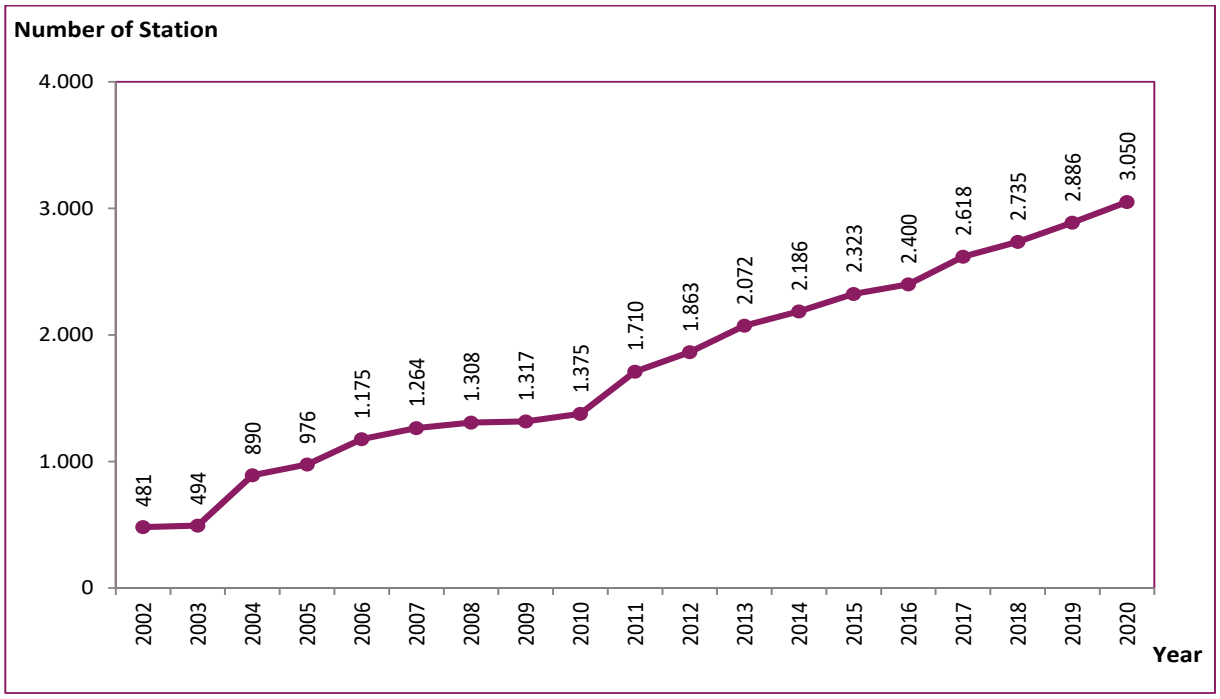
Year	Mid-year Population (in thousand)	US $	PPP US $ (Based on Actual Individual Consumption)	PPP US $ (Based on GDP)	CPI
2002	66.003	1,521	0,534	0,591	5,884
2003	66.795	1,492	0,696	0,737	4,696
2004	67.599	1,432	0,758	0,793	4,324
2005	68.435	1,348	0,827	0,835	3,997
2006	69.295	1,441	0,872	0,843	3,647
2007	70.158	1,300	0,904	0,852	3,353
2008	71.052	1,281	0,912	0,880	3,036
2009	72.039	1,545	0,940	0,904	2,858
2010	73.142	1,502	0,950	0,920	2,632
2011	74.224	1,677	0,991	0,966	2,472
2012	75.176	1,802	1,045	1,020	2,270
2013	76.148	1,903	1,104	1,070	2,112
2014	77.182	2,186	1,144	1,105	1,940
2015	78.218	2,711	1,190	1,162	1,802
2016	79.278	3,022	1,258	1,241	1,672
2017	80.313	3,648	1,387	1,384	1,504
2018	81.407	4,715	1,568	1,633	1,293
2019	82.579	5,679	1,794	1,896	1,123
2020	83.385	7,040	2,016	2,113	1,000

Source: TURKSTAT, OECD Health Data 2021

CHAPTER 12

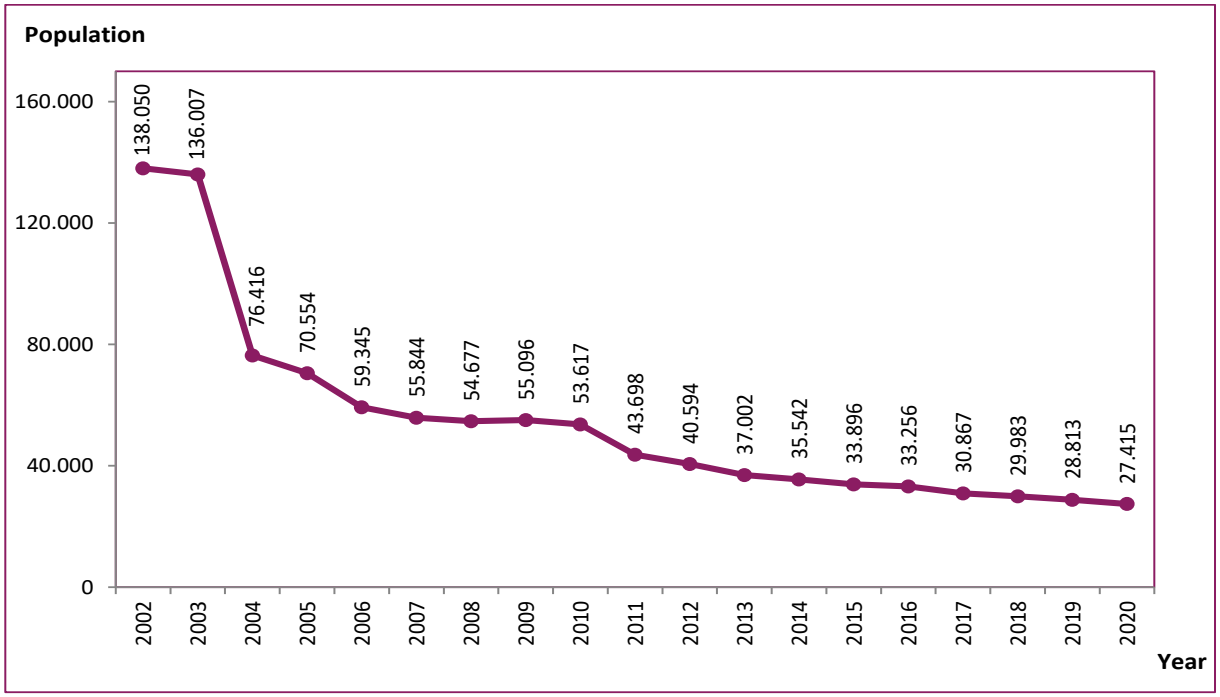
Emergency Health Services

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



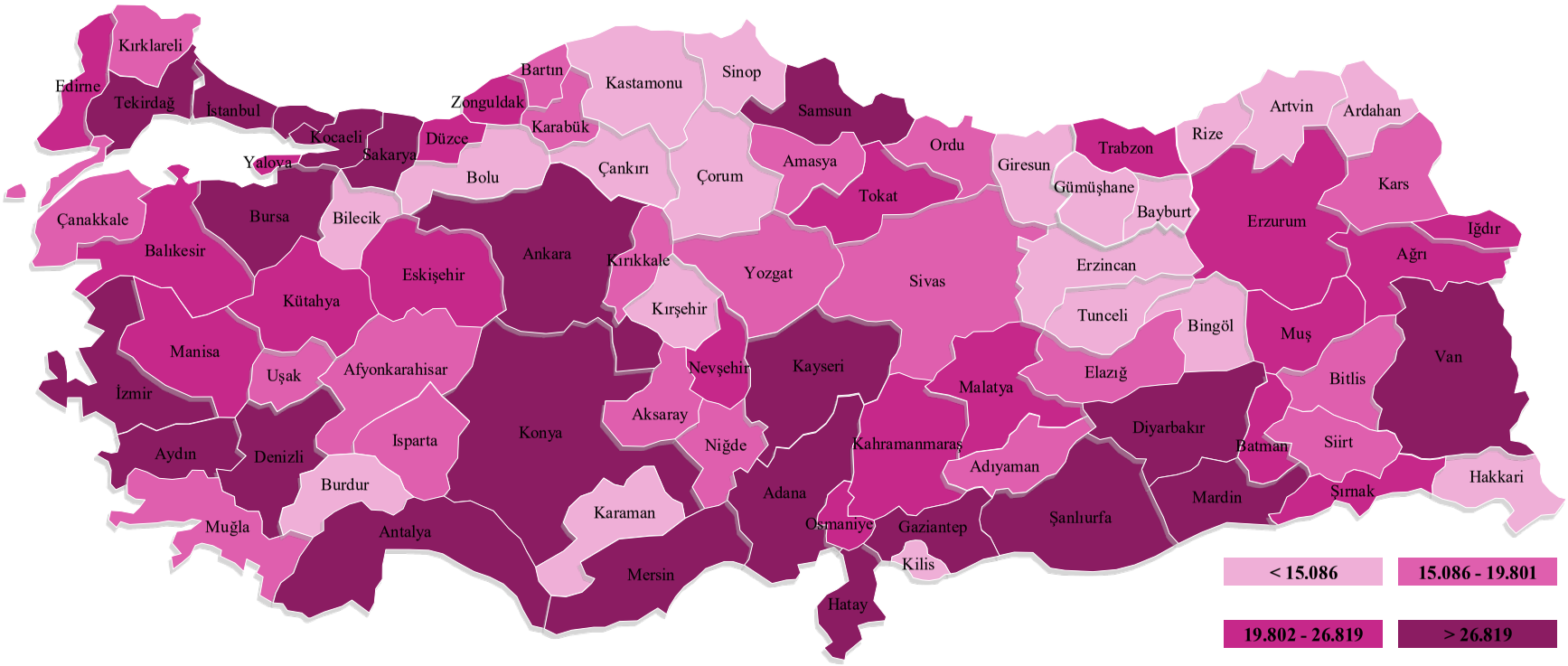
Source: General Directorate of Emergency Health Services

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



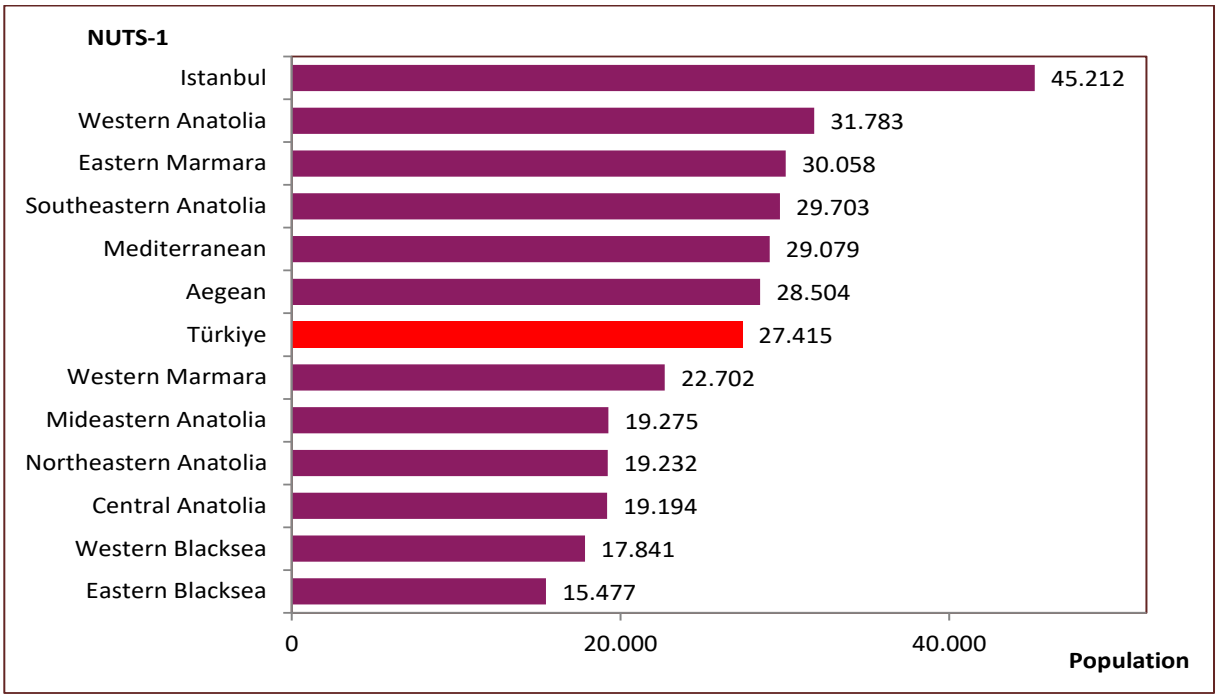
Source: General Directorate of Emergency Health Services

Map 12.1. Population per Emergency Care Station by Provinces, Ministry of Health, 2020



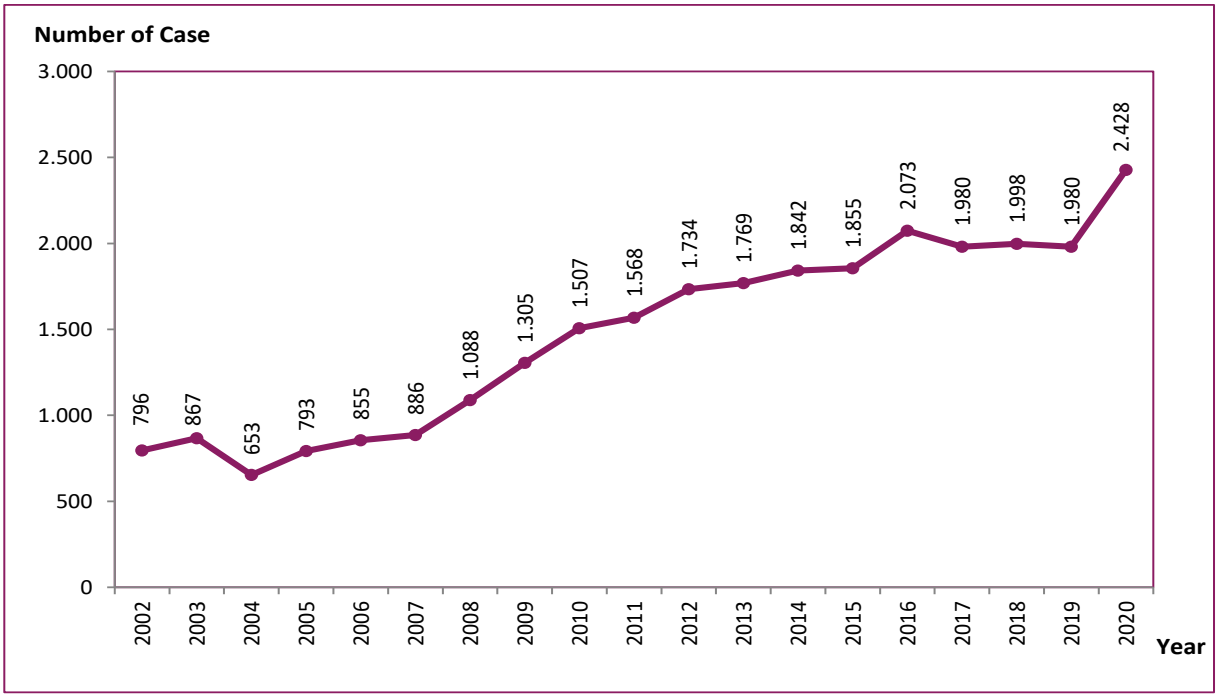
Source: General Directorate of Emergency Health Services

Figure 12.3. Population per Emergency Care Station by NUTS-1, Ministry of Health, 2020



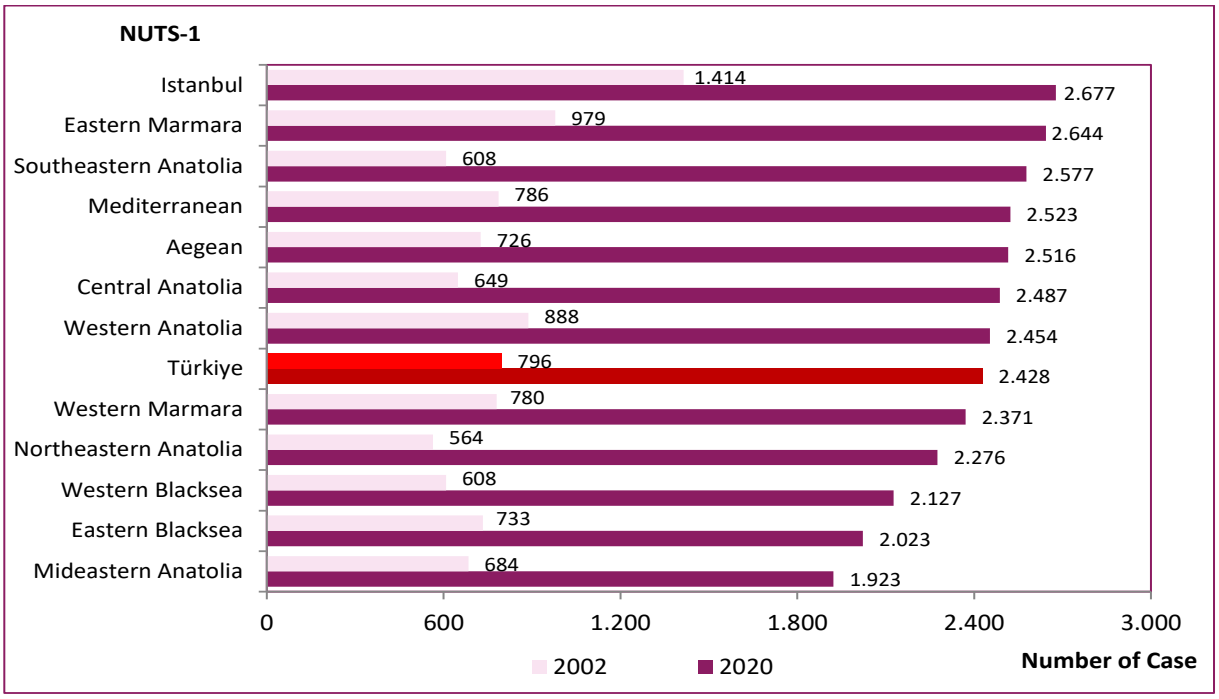
Source: General Directorate of Emergency Health Services

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



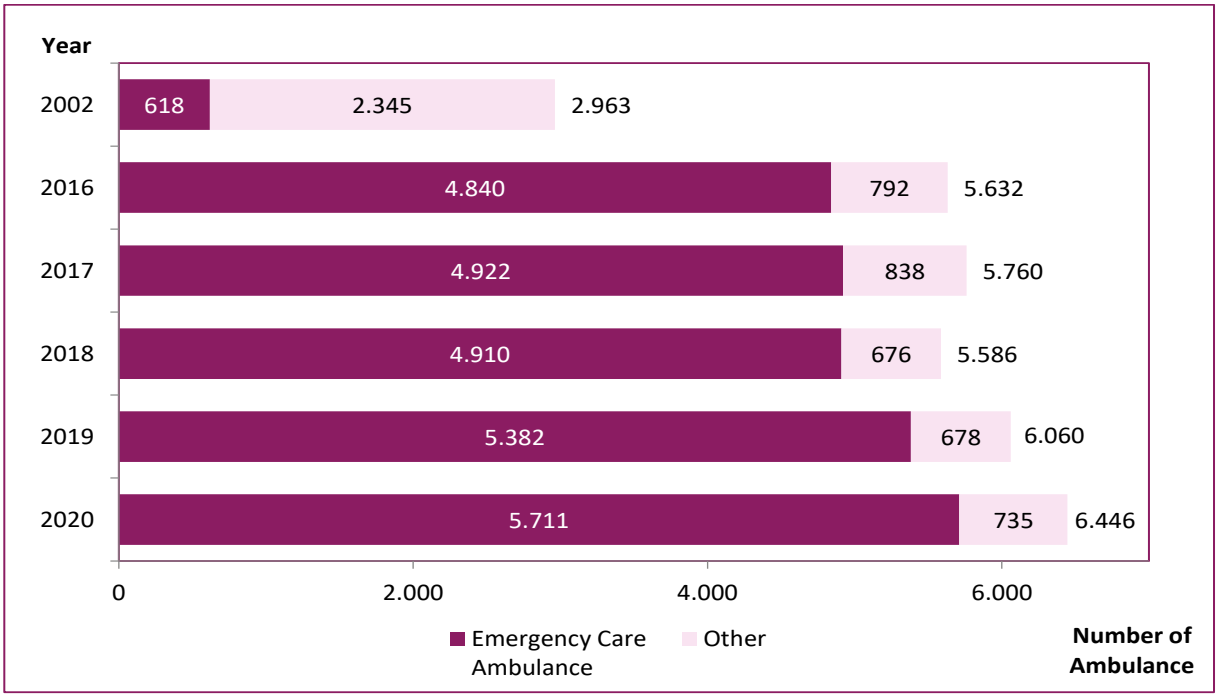
Source: General Directorate of Emergency Health Services

Figure 12.5. Number of Case per Emergency Care Station by NUTS-1, Ministry of Health, 2002, 2020



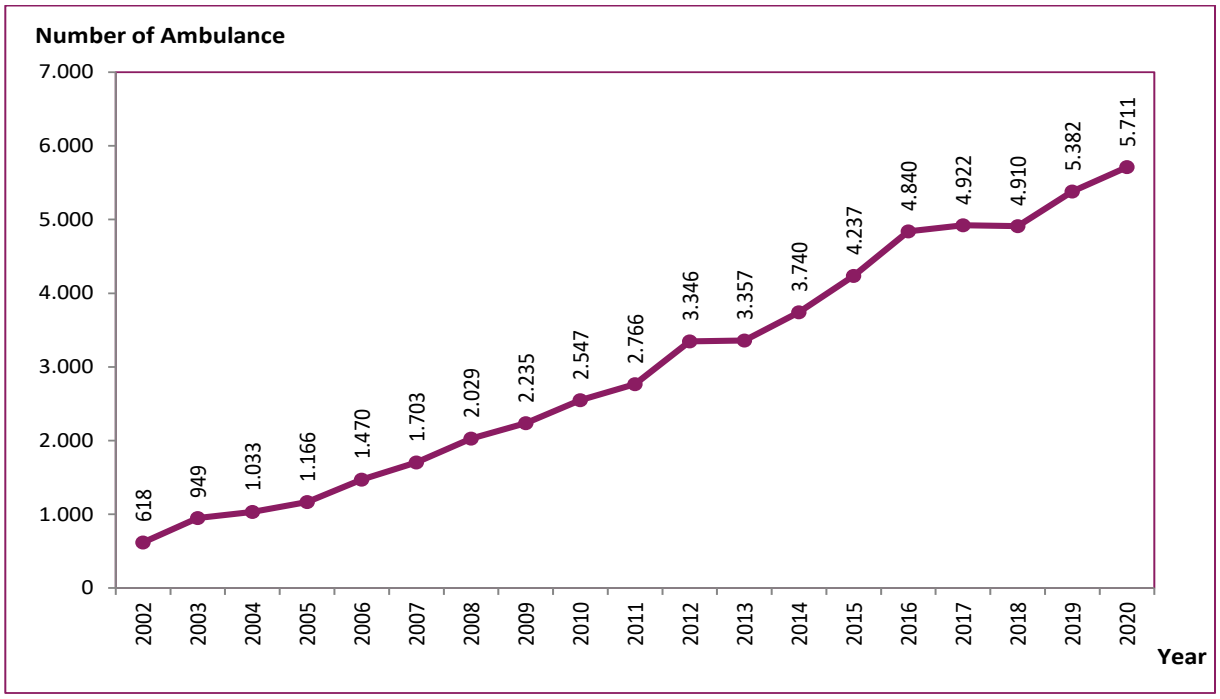
Source: General Directorate of Emergency Health Services

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



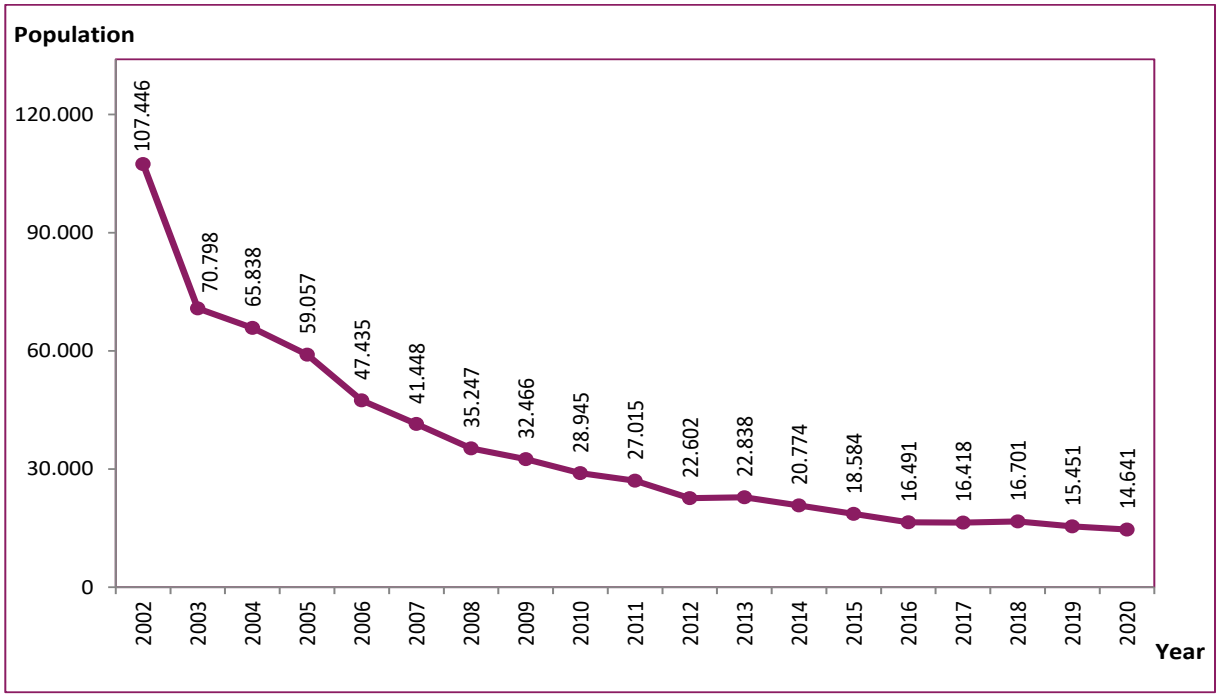
Source: General Directorate of Emergency Health Services

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



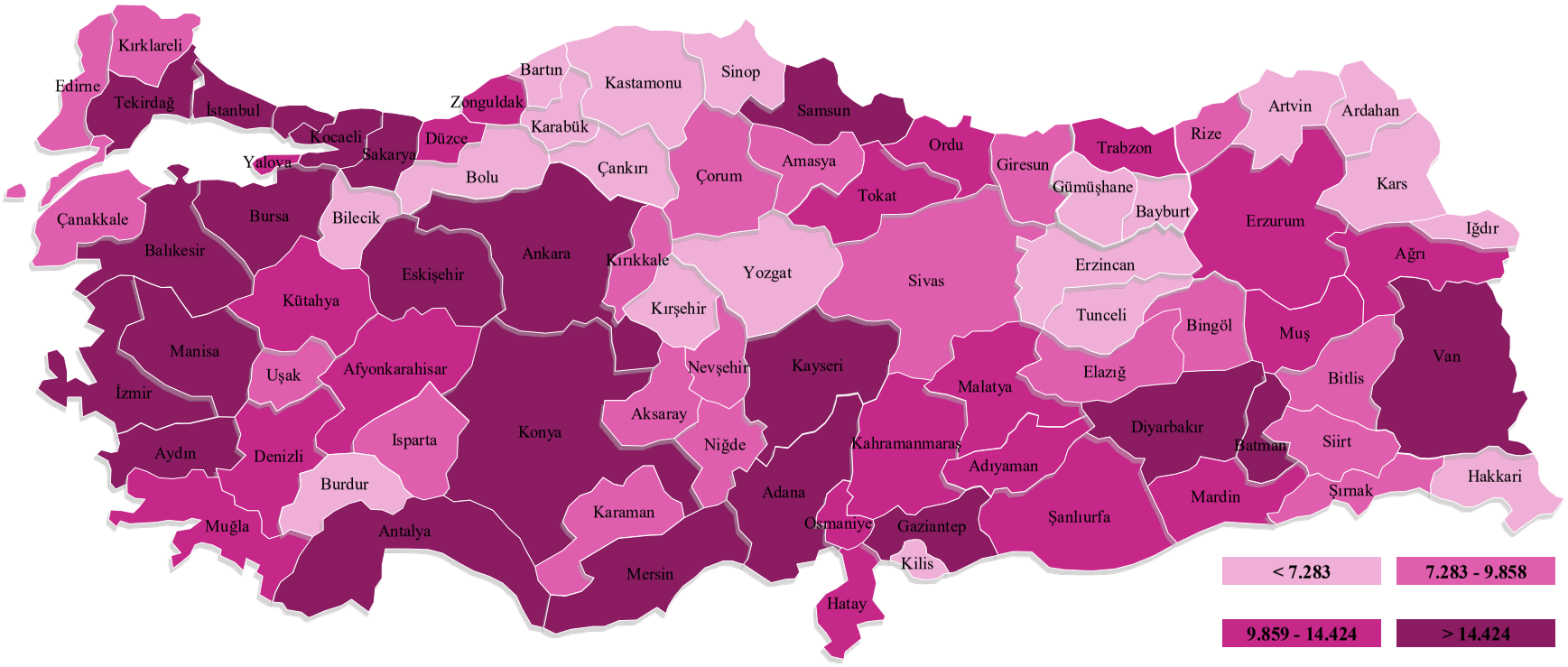
Source: General Directorate of Emergency Health Services

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



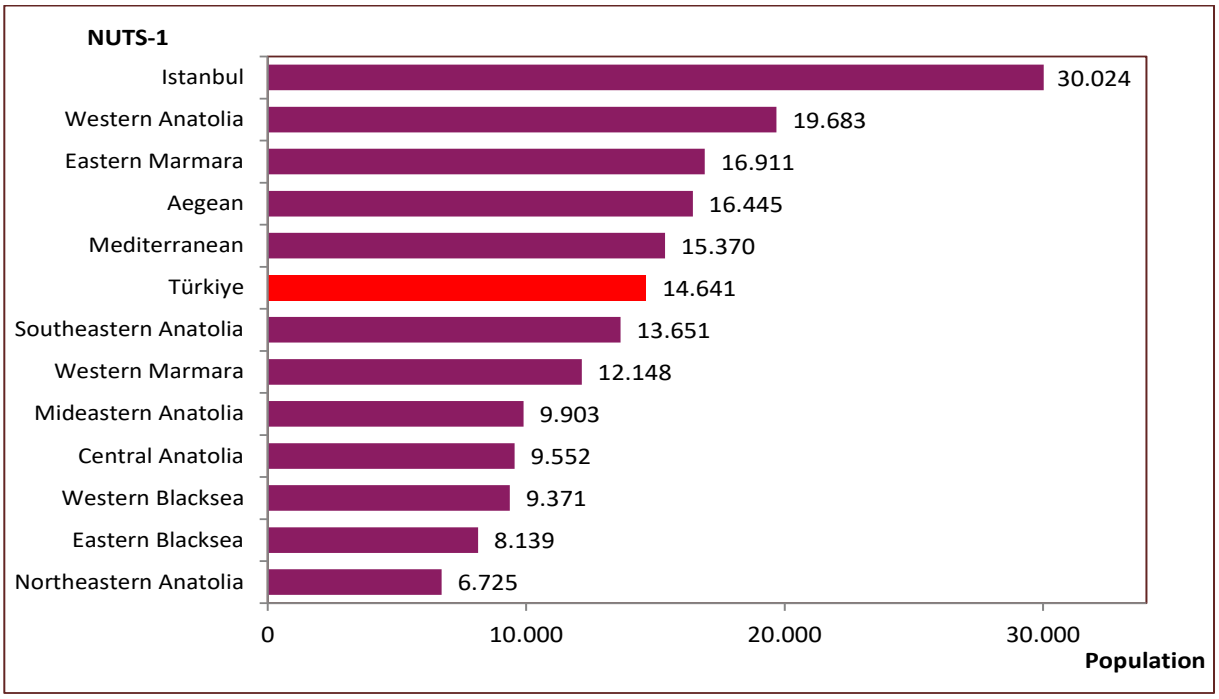
Source: General Directorate of Emergency Health Services

Map 12.2. Population per Emergency Care Ambulance by Provinces, Ministry of Health, 2020



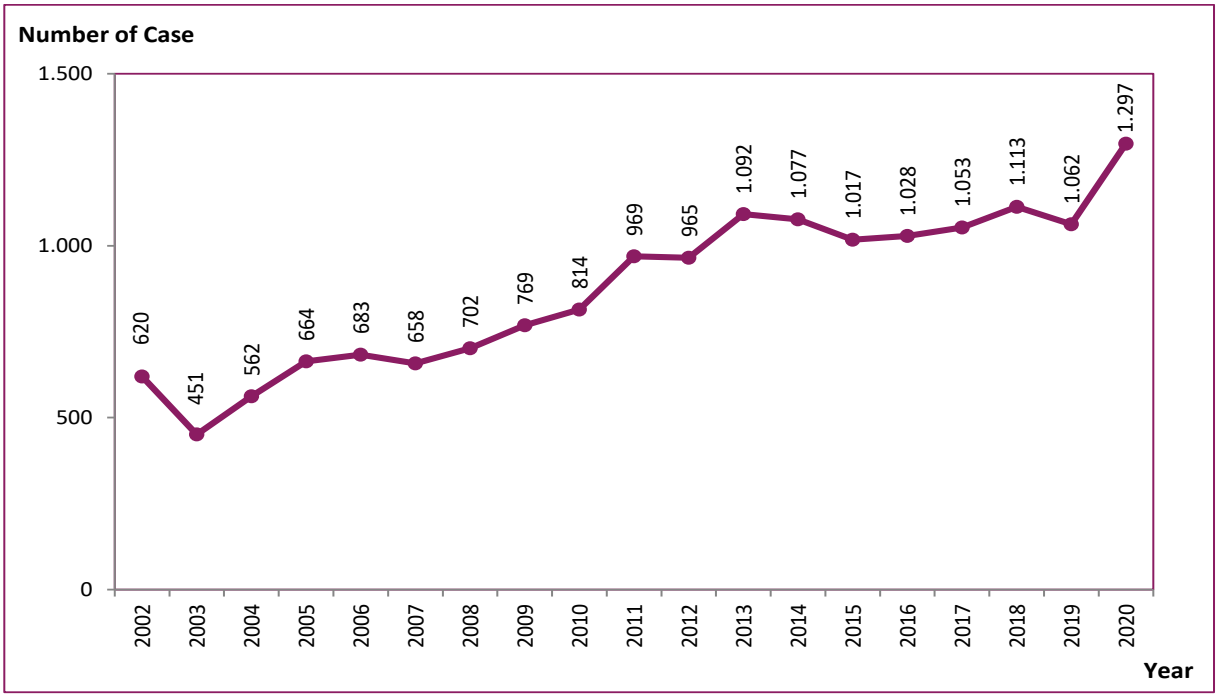
Source: General Directorate of Emergency Health Services

Figure 12.9. Population per Emergency Care Ambulance by NUTS-1, Ministry of Health, 2020



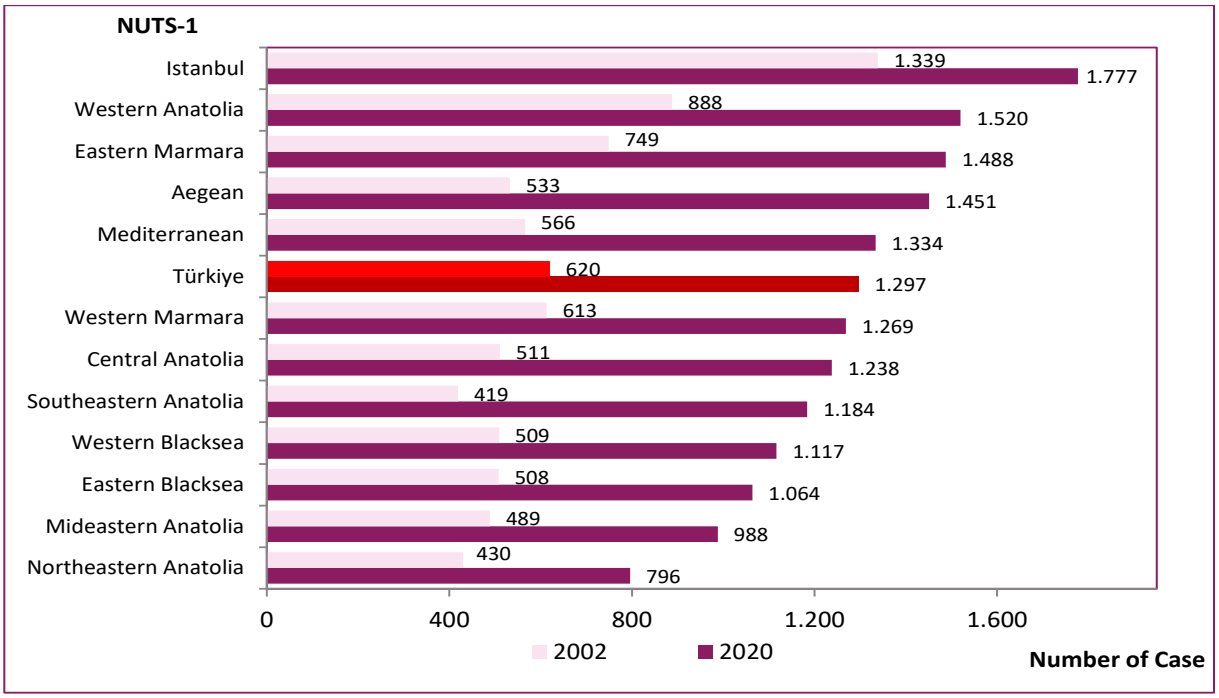
Source: General Directorate of Emergency Health Services

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



Source: General Directorate of Emergency Health Services

Figure 12.11. Total Number of Case per Emergency Care Ambulance by NUTS-1, Ministry of Health, 2002, 2020



Source: General Directorate of Emergency Health Services

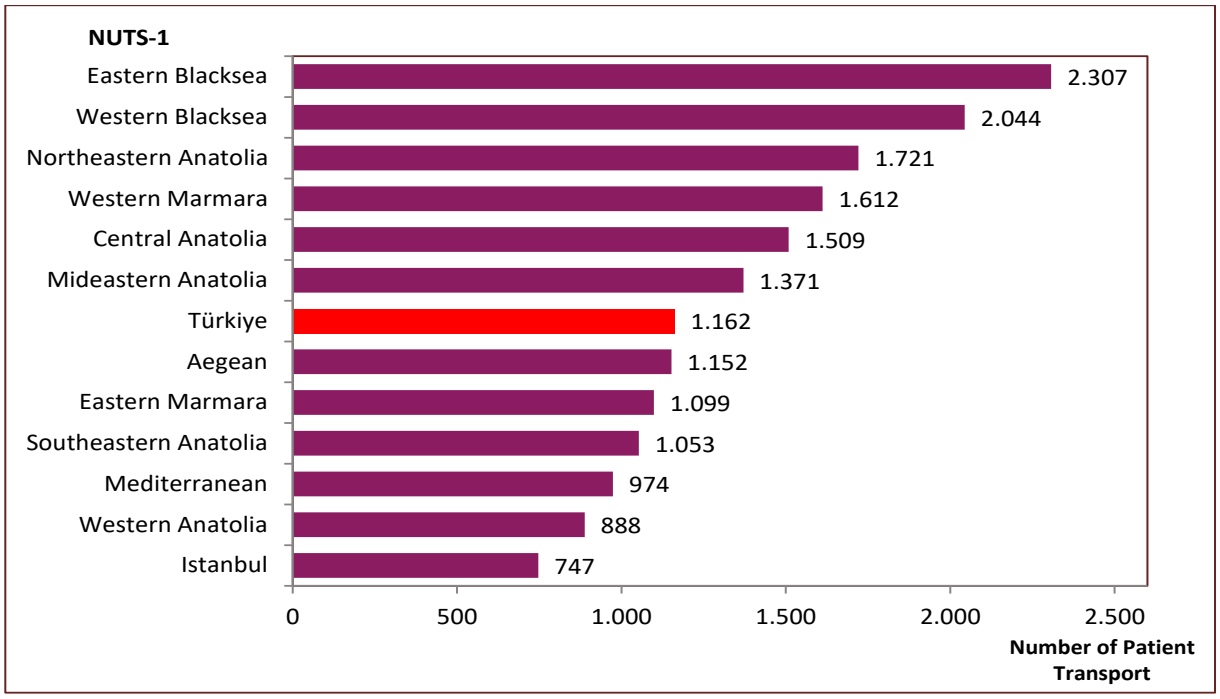
Table 12.1. Number of Vehicle and Transferred Patients by Types of Specialized Ambulance, Ministry of Health, 2020

	Number of Vehicle	Number of Transferred Patients
Snow-Pallet Ambulance	240	302
Intensive Care & Bariatric Ambulance	91	11.911
Motorcycle Ambulance	62	11.626
Ambulance with 4 Stretchers	62	6.609
Snow Track Ambulance	21	49
Helicopter Ambulance	17	2.765
Sea Ambulance	6	3.348
Air Ambulance	3	1.073

Source: General Directorate of Emergency Health Services

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

Figure 12.12. Number of Total Patient Transport per 100.000 Population by NUTS-1, Ministry of Health, 2020



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 Emergency Care Ambulance, (%), Ministry of Health, 2020

Reason	within the City	out of the City
Requirement of Leading Privatized Physician	43,00	42,14
Requirement of Intensive Care	12,19	19,82
Requirement of Specialist Physician	25,46	16,27
Requirement of Medical Equipment	6,80	8,32
No Space	8,87	5,98
Patient Demand	1,33	3,15
Requirement of Subspecialty Specialist Physicians	0,74	1,09
Requirement of Burn Unit	0,09	0,80
Amputation - Replantation	0,05	0,28
Medical-Technical Failure	0,34	0,21
Modifications in Related Service Items	0,23	0,14
Organ Transplant	0,004	0,09
Other*	0,91	1,71
Total	100	100

Source: General Directorate of Emergency Health Services
** 10 new reasons of patient transport were added as of 15.10.2020 and included in "Other".*

Table 12.3. The Rate of Unfounded Incidents to Emergency Call Center by NUTS-1, (%), Ministry of Health, 2019, 2020

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

Source: General Directorate of Emergency Health Services

Table 12.4. Some Health Indicators by Provinces, MoH, 2020

City	Number of Emergency Care Station	Population per Emergency Care Station	Number of Emergency Care Ambulance	Population per Emergency Care Ambulance	The Rate of Unfounded Incidents (%)
Adana	61	37.028	116	19.472	11,0
Adıyaman	33	19.165	53	11.933	4,5
Afyonkarahisar	38	19.392	63	11.697	6,3
Ağrı	21	25.497	50	10.709	9,4
Amasya	21	15.976	39	8.602	4,8
Ankara	160	35.396	253	22.385	20,3
Antalya	64	39.817	93	27.401	9,7
Artvin	21	8.071	50	3.390	4,3
Aydın	37	30.246	67	16.703	4,4
Balıkesir	53	23.402	78	15.901	6,7
Bilecik	15	14.581	36	6.075	3,9
Bingöl	19	14.830	38	7.415	8,2
Bitlis	19	18.473	39	9.000	7,1
Bolu	24	13.117	47	6.698	7,4
Burdur	24	11.129	43	6.211	3,2
Bursa	82	37.827	136	22.808	9,1
Çanakkale	29	18.674	58	9.337	9,0
Çankırı	19	10.128	40	4.811	2,7
Çorum	36	14.726	58	9.140	2,8
Denizli	35	29.740	75	13.879	5,3
Diyarbakır	60	29.724	98	18.198	8,5
Edirne	19	21.461	52	7.842	6,0
Elazığ	34	17.293	64	9.187	6,1
Erzincan	18	13.024	52	4.508	7,0
Erzurum	31	24.461	70	10.833	7,8
Eskişehir	37	24.022	59	15.065	3,4
Gaziantep	53	39.644	110	19.101	8,1
Giresun	30	14.957	57	7.872	7,2
Gümüşhane	15	9.447	42	3.374	6,0
Hakkari	25	11.221	43	6.524	12,1
Hatay	61	27.202	143	11.604	7,2
Isparta	23	19.144	51	8.633	4,0
Mersin	64	29.199	124	15.071	7,6
İstanbul	342	45.212	515	30.024	12,1
İzmir	103	42.667	179	24.551	11,0
Kars	16	17.808	44	6.476	11,9
Kastamonu	34	11.070	65	5.790	4,5
Kayseri	53	26.820	87	16.339	4,4
Kırklareli	21	17.226	48	7.536	6,8
Kırşehir	17	14.297	38	6.396	4,9
Kocaeli	48	41.610	82	24.357	6,9

Source: General Directorate of Emergency Health Services

Table 12.4. Some Health Indicators by Provinces, MoH, 2020 - Continued

City	Number of Emergency Care Station	Population per Emergency Care Station	Number of Emergency Care Ambulance	Population per Emergency Care Ambulance	The Rate of Unfounded Incidents (%)
Konya	80	28.125	127	17.717	5,3
Kütahya	29	19.886	45	12.815	4,9
Malatya	37	21.788	76	10.607	6,5
Manisa	58	25.011	86	16.868	7,2
Kahramanmaraş	46	25.395	81	14.422	6,9
Mardin	26	32.874	61	14.012	8,1
Muğla	56	17.871	88	11.372	9,6
Muş	16	25.695	37	11.111	8,5
Nevşehir	15	20.331	40	7.624	5,8
Niğde	24	15.086	44	8.229	4,4
Ordu	42	18.129	68	11.197	6,4
Rize	24	14.348	47	7.327	3,8
Sakarya	38	27.438	61	17.093	6,0
Samsun	44	30.820	70	19.373	5,0
Siirt	18	18.393	42	7.883	7,9
Sinop	24	9.019	45	4.810	4,6
Sivas	39	16.305	78	8.152	5,6
Tekirdağ	38	28.449	63	17.160	9,1
Tokat	28	21.352	60	9.964	4,1
Trabzon	41	19.802	65	12.491	6,0
Tunceli	14	5.960	34	2.454	7,2
Şanlıurfa	57	37.110	149	14.196	8,6
Uşak	19	19.444	47	7.860	4,9
Van	41	28.033	68	16.902	9,2
Yozgat	26	16.119	60	6.985	4,8
Zonguldak	26	22.739	46	12.852	5,7
Aksaray	22	19.228	45	9.400	7,4
Bayburt	8	10.239	29	2.824	3,1
Karaman	17	14.995	35	7.283	3,5
Kırıkkale	17	16.394	36	7.742	3,8
Batman	25	24.811	43	14.425	7,0
Şırnak	23	23.381	55	9.777	14,5
Bartın	13	15.306	32	6.218	3,9
Ardahan	12	8.013	44	2.185	5,8
Iğdır	8	25.164	37	5.441	8,2
Yalova	11	25.095	28	9.859	4,8
Karabük	15	16.241	40	6.090	4,8
Kilis	12	11.899	57	2.505	7,1
Osmaniye	27	20.317	49	11.195	4,5
Düzce	19	20.825	38	10.413	4,9
Türkiye	3.050	27.415	5.711	14.641	8,5

Source: General Directorate of Emergency Health Services

Explanations for Chapter 12

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

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

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

☑ Prior year data in the chapter may change due to TURKSTAT's population revision.

☑ As of 02/09/2021, calls for police, gendarmerie, fire department, AFAD, forestry and emergency health were merged under the roof of 112.

☑ **Emergency Care Ambulance:** A land vehicle with an ambulance crew, technical and medical device that are able to provide emergency medical intervention in any emergency situation for the sick and injured at the emergency scene and in the ambulance. Number of specialized ambulances except helicopter, air and sea ambulances is included in emergency care ambulance number.

☑ **Other Ambulance:** Ambulances belonging to the General Directorate of Public Health and the General Directorate of Public Hospitals. The private sector ambulances are not included in the total.

☑ **Unfounded Incidents to the Emergency Call Center:** Once the emergency call center gets an emergency health call, ambulance team determines whether an ambulance is assigned. Although assigned ambulance arrives at the specified address, there is no case considered as emergency. This situation is called Unfounded Incidents to the emergency call center.

☑ **The Number of Unfounded Incidents to the Emergency Call Center:** It is calculated as: (Total Number of Emergency Care Ambulance Outputs - Total Number of Emergency Care Ambulance Cases).

☑ **The Rate of Unfounded Incidents to the Emergency Call Center, (%):** It is calculated as: (The Number of Unfounded Incidents x100)/(Total Number of Emergency Care Ambulance Outputs).

☑ **Patient Transport**: Due to requirement of leading privatized physician, specialist physician, medical equipment, advanced examination, intervention, caring services and treatment, lack of hospital beds, it is the process of transporting patients to and from different health care facilities in order to provide necessary health care.

GENERAL INFORMATION ON SOME APPLICATIONS 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 which also serves English language, 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, and share them with physicians or relatives within the framework of determined limits. It is the world's largest and most comprehensive health informatics infrastructure that enables the collection of correct data in a standardized way, increases the quality and speed of the diagnosis and treatment process, ensures the establishment of a strong communication network between citizens and physicians, and can be safely accessed on the internet. This system provides opening health records to the access and control of citizens, including individuals in health service delivery, increasing the level of health literacy, and also strengthening cost-effectiveness capacity and ensuring sustainability in health services in the long term. With the e-Nabız system, repetitive transactions and visits can be minimized, ensuring that the cost-effectiveness principle, one of the most important instruments of health service delivery policies, is realized. On the other hand, active decision support is provided to decision makers and policy makers in developing effective health policies. During the pandemic, it has also provided services such as giving the results of PCR tests, right to vaccine and vaccination card information, querying the risk groups for influenza and the record of administrative leave.

Teleradiology System

Teleradiology System has been established in order to store the examinations, medical image data, radiological reports and clinical documents in the health facilities on the servers of Ministry of Health in accordance with international standards and to access them from different health facilities regardless of location. Physicians can see the medical images of the patients who applied to them, the reports written on these images. They can exchange ideas with their colleagues instantly, and report together on the same radiological image, both visually and audibly with the teleradiology application integrated into the e-Nabız system. Before requesting radiological images, clinicians can access the radiological images of patient for the same purpose in the last one year to eliminate unnecessary examinations.

Health Statistics and Causal Analysis (SİNA)

Health Statistics and Causal Analysis (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.

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, tracking and controlling 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 of Health, 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.

Life Fits Into Home Application (HES)

During the fight against the Covid-19 pandemic, the HES application has been made available to the citizens in order to take advantage of the opportunities offered by information and technology at the highest level and to control the entire process through health information systems. With the HES application, citizens can see the risk status and disease density in the region where they live or where they want to go, on the map. With the Notification Module in the application, the problems that do not comply with the pandemic rules are reported to the Provincial District Epidemic Control Center (İSDEM). Isolation information, source of contamination and contact information of risky people can be seen, and contact notification can be made with this application. Anyone who received the vaccine can access all information related to the vaccine on the part of "My Covid-19 Vaccine Information". Also, vaccination card can be created and downloaded from this part. In case of symptoms after the Covid-19 vaccine, feedback can be made from the "Survey" menu. With the "EU Compliant Health Passport" menu, people are directed to the "HealthPass" application, which allows sharing vaccine, immunity and other health information with country authorities and airline companies during domestic and international travels. With the "HES Code Settings" menu, citizens can view their vaccination status, disease status and test status information as a result of the HES code query if they give permission.

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

www.sbsgm.saglik.gov.tr

Bilkent Yerleşkesi, Üniversiteler Mah. Dumlupınar Bulvarı 6001. Cad. No:9
Çankaya/Ankara 06800

Phone: +90 (312) 471 83 50

Ministry of Health Publication No: 1241

ISBN: 978-975-590-853-3