



REPUBLIC OF TURKEY PRIME MINISTRY
Investment Support and Promotion Agency of Turkey

TURKISH HEALTHCARE INDUSTRY REPORT

AUGUST 2010



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1. Executive Summary

Global healthcare spending in 2009 was USD 5,460 billion, representing a 3 percent decline compared to the previous year, and it is estimated to recover to USD 5,788 billion in 2010. In the same year, 2009, healthcare spending represented 10.1 percent of global GDP, slightly higher than in 2008 (9.9 percent), showing the resilience of the sector during the economic crisis.¹ The main indicators, such as population growth, demographic ageing and treatment demands from patients, along with economic recovery, are expected to generate a recovery of healthcare spending after this temporary downturn in 2009. However, due to government funding constraints and other issues, the share of healthcare spending is forecasted to slowly decline in the global GDP.

The healthcare system in Turkey is being developed under the 2003-2013 Health Transformation Program. The purpose of this program is to increase the quality and efficiency of the healthcare system and enhance access to healthcare facilities with the introduction of a number of reforms.

Turkey's annual healthcare spending in 2009 was USD 38 billion, representing 6.2 percent of total GDP.¹ The pharmaceuticals market, a key component of the overall sector, generated revenue of USD 10.8 billion in 2009.² Turkey ranks as the 16th largest pharmaceutical manufacturer worldwide and the 6th largest pharmaceutical market in Europe, after Germany, France, the UK, Italy and Spain.¹ The prescription market, accounting for 90.5 percent of the pharmaceuticals market, is expected to remain dominant in the years ahead as hospitals and doctors remain the primary access points to healthcare.

The Turkish medical devices market, a promising component of the healthcare industry, is ranked within the top 30 largest markets in the world. In 2010, the Turkish medical equipment and supplies market is calculated to be worth USD 2.1 billion.³

Both public and private sector hospital numbers have been growing strongly in recent years. As of 2008, the number of hospitals and total number of beds are 1,350 and 188,065, respectively.⁴

Turkey's healthcare spending per capita, USD 817 in 2010, is still at a low level relative to more developed countries. However it is expected to grow in line with:

- The gradual introduction of universal healthcare insurance scheme,
- Increase in annual income per head,
- Growing health awareness,
- A steady rise in life expectancy and the size of the elderly population

Moreover, population in Turkey is growing faster than in the EU. Total healthcare spending is forecasted to rise to about USD 63 billion in 2014, but could be substantially higher if the government fails to restrain public spending on health.¹ The total pharmaceutical market is expected to reach USD 22.8 billion² by the end of 2015, while the medical devices market is forecasted to reach USD 3.12 billion.³

Turkey has been attracting many high profile multinational firms operating in different sub-sectors of the healthcare industry, especially since 2004. Many international companies have established production bases in the country to benefit from Turkey's geographical position, highly skilled human resources in production and management and the unsaturated domestic market with high growth potential.

¹ Economist Intelligence Unit, March 2010

² Business Monitor International, Q3 2010

³ Espicom Business Intelligence, 2010 Quarter II

⁴ TurkStat, Turkey's Statistical Yearbook, 2009



Turkey has been introducing incentives to attract foreign investors to invest in the Turkish market:

- ✓ New R&D legislation, providing incentives to invest in pharmaceutical R&D,
- ✓ Abolition of the procedural requirements that were once asked of foreign investors,
- ✓ The transfer of shares or incorporation of companies with foreign capital is no longer subject to the approval of the Foreign Investment General Directorate (FIGD).
- ✓ Foreign investors can choose various resolution systems (including international arbitration) for any commercial dispute arising from transactions in Turkey.

In addition there has always been a basically liberal approach:

- ✓ Freedom to repatriate profits earned by foreign investors in Turkey,
- ✓ Freedom for foreign investors to acquire immovable property or rights in Turkey,
- ✓ Freedom to own up to 100 percent of a Turkish subsidiary.



2. Sector Overview

2.1 Global Sector

In 2008, global healthcare spending reached USD 5,640 billion, accounting for approximately 10.0 percent of worldwide GDP. In 2009, it declined by a moderate 3 percent to USD 5,460 billion. This represented 10.1 percent of 2009 GDP, slightly higher than in 2008, showing the limited impact of the economic crisis on the healthcare sector.⁵

Healthcare spending per capita in mature markets is relatively much higher than in emerging markets, mainly as result of higher income per capita in the mature markets. In 2009, Turkey ranks 35th among sixty countries and 3rd among major emerging markets, including South Korea, Brazil, Russia, Mexico, China and India. (In 2008, Turkey ranked 37th and 4th in the same categories, respectively).⁵ Some of the emerging markets, including Turkey, experienced double digit compound annual growth rates whilst mature markets such as the US and the UK had single digit growth rates from 2004 to 2009. Healthcare spending per person is expected to increase at a faster CAGR between 2008-2013 in Turkey and other developing countries like China and India than in many developed countries in Europe and the US. This is mainly a result of increase in annual per capita income, a gradual rise in life expectancy and improvements in healthcare conditions rendering countries like Turkey a good place to invest.

Figure 1 – Healthcare Key Indicators: World



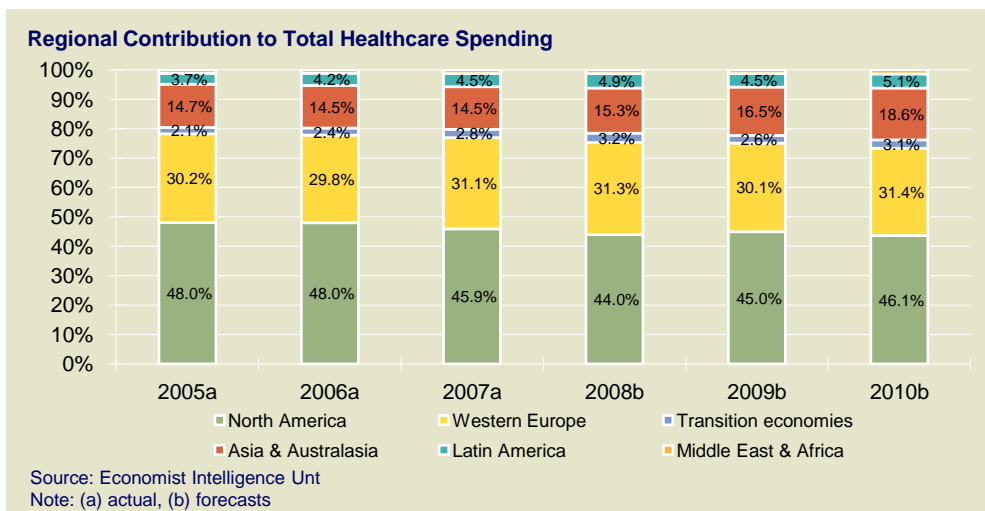
In the future, key drivers such as population growth, demographic ageing and treatment demands from patients along with a recovery in dollar spending are expected to trigger the recovery of healthcare spending after a temporary downturn in 2009. However, public spending will be subject to constraints, including the need to emerge from the deficit spending induced by the global recession, thus resulting in a lower contribution to GDP. By the end of 2014, healthcare spending is forecasted to be USD 7,160 billion representing 9.6 percent of global GDP.⁵

A regional breakdown of healthcare spending between the years 2005 and 2009 indicates that North America accounts for almost half of total global expenditure. In terms of growth rate, North America falls behind the other five regions with a CAGR of 4.1 percent between 2005 and 2009. In the same period, the transition economies demonstrated the highest growth with a rate of 12.3 percent followed by Latin America with a CAGR of 11.5 percent. In conclusion, all regions except North America and Western Europe demonstrated a CAGR above the world CAGR of 5.8 percent between 2005 and 2009.⁵

⁵ Economist Intelligence Unit, March 2010



Figure 2 - Healthcare Spending by Region



Dollar spending is forecasted to increase by an annual average rate of 4.8 percent between 2010 and 2014. The growth will be mainly concentrated in the transition economies and Asia-Pacific region, which is the only region that has not seen any decline in healthcare spending in 2009. However, the healthcare spending growth is forecasted to be low in North America and Western Europe as public spending is expected to be lower due to government bail-outs and reduced tax revenue.⁶

2.1.1 Pharmaceuticals Market

In 2009, the size of the global pharmaceuticals market is estimated to be USD 823.3 billion.⁶ In 2010 this market is forecasted to expand by 4 percent to 6 percent on a constant-dollar basis.⁷ Considering the effect of global GDP growth, innovations and the introduction of new products, wider access to healthcare services and rising funding, the pharmaceutical market is expected to grow at a CAGR of 5 percent to 8 percent through 2014. Global pharmaceutical sales are expected to reach over USD 1.1 trillion by the end of 2014.⁷ Although the economic environment will still be a negative pressure on many developed countries, especially those with increasing budget deficits and publicly funded healthcare systems, stronger demand than expected for 2009, as well as pricing flexibility and inventory management actions in the US market lead to a positive outlook for the global pharmaceuticals market.

Figure 3 - Compound Annual Growth Rates (2008-2013) in Mature and Emerging Markets

CAGR (2008-2013) in Mature and Emerging Markets			
Mature Markets CAGR 2008-2013		Emerging Markets CAGR 2008-2013	
US	(2)% - 1%	China	20% -23%
Japan	1% - 4%	Brazil	7% - 10%
France	0% - 3%	Mexico	4% - 7%
Germany	3% - 6%	Turkey	11% - 14%
Italy	0% - 3%	India	11% - 14%
UK	0% - 3%	S.Korea	7% - 10%
Spain	6% - 9%	Russia	14% - 17%
Canada	3% - 6%	Pharmerging	13% - 16%
Mature	0% - 3%	Global	4% - 7%

Source: IMS Health, 2009

⁶ Economist Intelligence Unit, March 2010

⁷ IMS Health Press Room, April 2010



Emerging markets are expected to be a main driver of the industry growth globally until 2013. Despite the dampening influence of the economic climate on some of these markets, the seven major emerging countries are forecasted to grow by 12 percent – 14 percent in 2010 and 13 percent – 16 percent from 2008 to 2013, in total. The Turkish market stands out for strong and stable expected growth and ranks 3rd according to 2008-2013 CAGR among these major emerging markets.⁸

A number of events in the coming years could have long-term effects on the global pharmaceutical market. These include;

- ✓ Timing and extent of the global economic recovery,
- ✓ Legislative or regulatory actions in other countries,
- ✓ Any recurrence of the swine flu (H1N1) outbreak or other virus,
- ✓ Competition faced from generics after the patent expiry of blockbuster drugs, and
- ✓ Expected imbalances in revenue generation between new products introduced and products losing patent protection.

A comprehensive healthcare reform has passed on March 21, 2010 in the United States. This will also have a major impact on the market. Healthcare reform opens a gateway for biosimilar drugs which will constitute a challenge for biotech companies and an opportunity for generic manufacturers. Additionally, there is high uncertainty in determining the way governmental bodies will approach and interpret reform legislation.

2.1.2 Medical Devices Market

The global healthcare equipment and supplies market grew by 1.3 percent in 2009 and reached a value of USD 296.7 billion. The CAGR of the global market between 2005 and 2009 is 4.9 percent. Disposable equipment and supplies were the driving elements of the global industry representing 40 percent of total revenue in 2009. When looking at a regional breakdown of the market, the Americas accounted for 48 percent of the 2009 market value, outpacing Europe with its share of 32.6 percent.

By the end of 2014, the market is estimated to reach a value of USD 368.5 billion, with a decelerating CAGR of 4.4 percent for the five-year period from 2009 to 2014.⁹

2.1.3 Health Institutions

World average number of beds per thousand people has remained stable at 2.8 in 2009. The world average is forecast to be 2.7 in 2014. Amongst all countries, Japan, Russia and Ukraine have the highest number of beds per thousand people: in 2009 the rates for these countries were 12.7, 9.8 and 9.3, respectively.¹⁰

Similarly, the world average number of doctors per thousand people has remained stable at 1.7 in 2009. The world average is forecast to be 1.7 in 2012. European countries such as Italy, Greece and Austria are within the top three markets. This rate was 6.0, 5.7 and 5.3 for these countries respectively in 2009. Similar to its high rate in number of beds, Ukraine ranks 4th in terms of number of doctors per thousand people.¹⁰

The numbers of hospital beds and doctors per thousand people for emerging markets are summarized below for 2008 and 2009. Turkey ranks 3rd in terms of number of beds per thousand people in 2008 and 2009 amongst major developing markets, slightly ahead of Brazil and China, but the rate in both years is just below the world average of 2.8.¹⁰

⁸ IMS Health, 2009

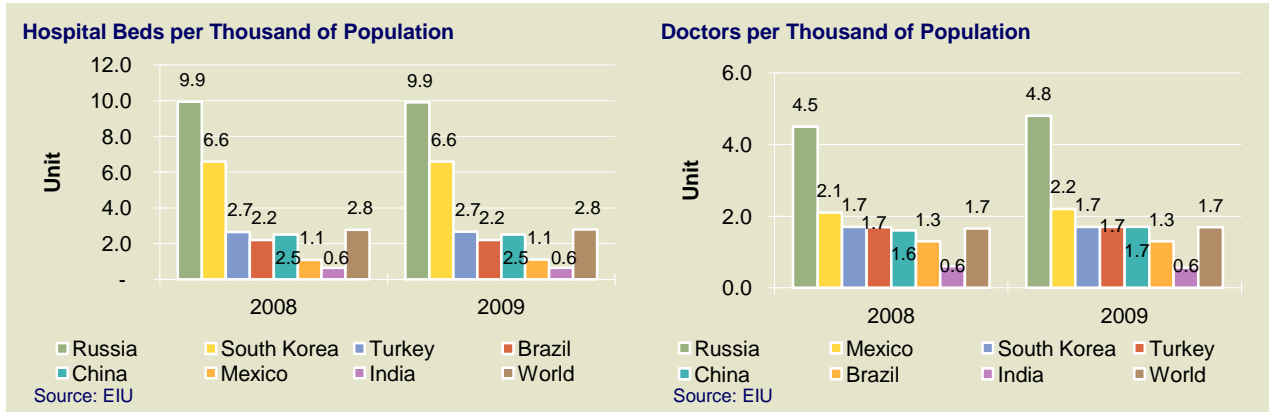
⁹ Datamonitor, April 2010

¹⁰ Economist Intelligence Unit, March 2010



In number of doctors per thousand population, Turkey slightly exceeded the world average of 1.7 in 2008 and 2009. Among other emerging markets, Turkey ranked 4th in 2008 and moved up to 3rd place in 2009 with a rate of 1.7, equal to South Korea and China.¹¹

Figure 4 - Number of Hospital Beds and Doctors per Thousand People

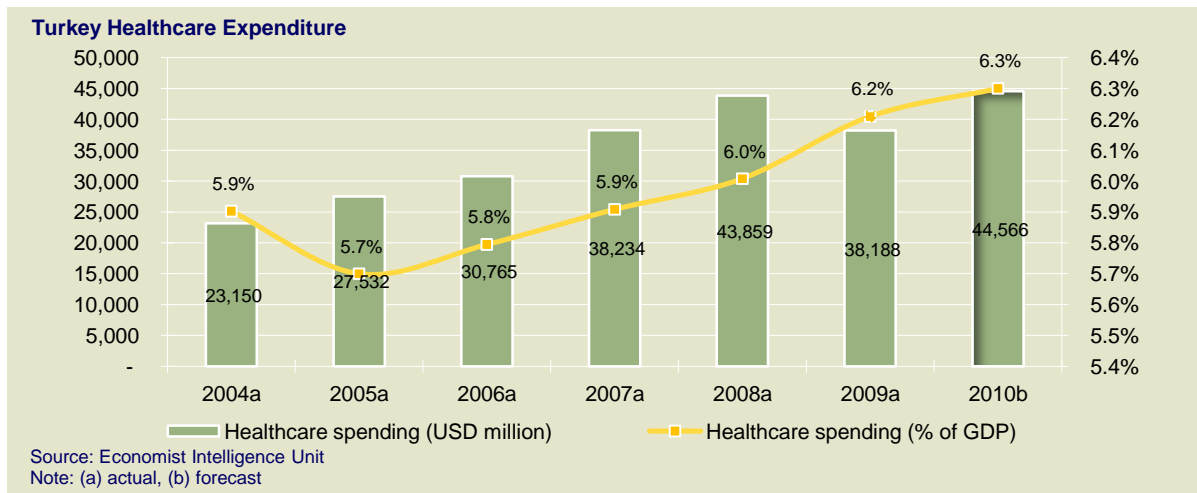


2.2 Domestic Sector

2.2.1 Overview

The healthcare system in Turkey has entered a long period of development under the 2003-2013 Health Transformation Program. The purpose of this program is to increase the quality and efficiency of the healthcare system and enhance access to healthcare facilities.

Figure 5 - Healthcare Key Indicators: Turkey



Total expenditure on health remained slightly under 6 percent of GDP between 2004 and 2007. The ratio edged up in 2009 slightly reaching 6.2 percent, above some other developing countries such as China (4.7 percent), India (5.0 percent) and Russia (5.3 percent).

¹¹ Economist Intelligence Unit, March 2010



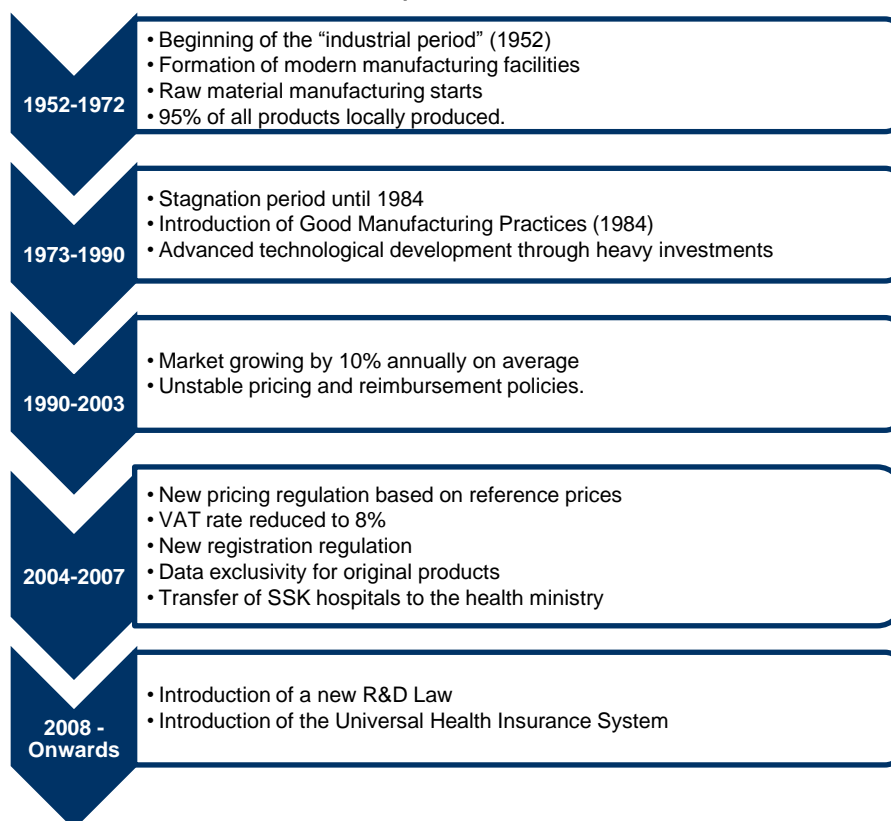
Turkey's healthcare spending growth, approximately 10.5 percent annually, has outpaced total domestic nominal GDP growth of 9.4 percent a year between 2004 and 2009.¹² This places Turkey among the top 20 countries in the world.¹³

Public healthcare spending has tended to overshoot budget targets in recent years relating to wider access, in spite of effective measures to limit the rise in spending on pharmaceuticals. The government share in healthcare spending climbed from 61 percent in 1999 to 72 percent in 2003 and remained in 71 - 72 percent range until 2009.¹⁴ As a percentage of total government expenditure, healthcare spending followed an upward trend in line with the decision by the Turkish government to implement a Universal Health Insurance (UHI) system.

2.2.2 Pharmaceutical Market

Until the 1950s, pharmaceutical manufacturing in Turkey was conducted only in pharmaceutical laboratories. Production started to increase with the establishment of domestic and internationally owned plants at the start of the "industrial period" of the Turkish pharmaceutical market in 1952. From 1984, with the introduction of Good Manufacturing Practices - quality control guidelines for the production of foods, pharmaceutical products, and medical devices - the Turkish pharmaceuticals market expanded steadily and reached modern technological levels.

Figure 6 - Historical Timeline of the Development of Turkish Health and Pharmaceutical Industry



Source: IEIS (Pharmaceutical Manufacturers Association of Turkey) and EIU

¹² Economist Intelligence Unit, March 2010

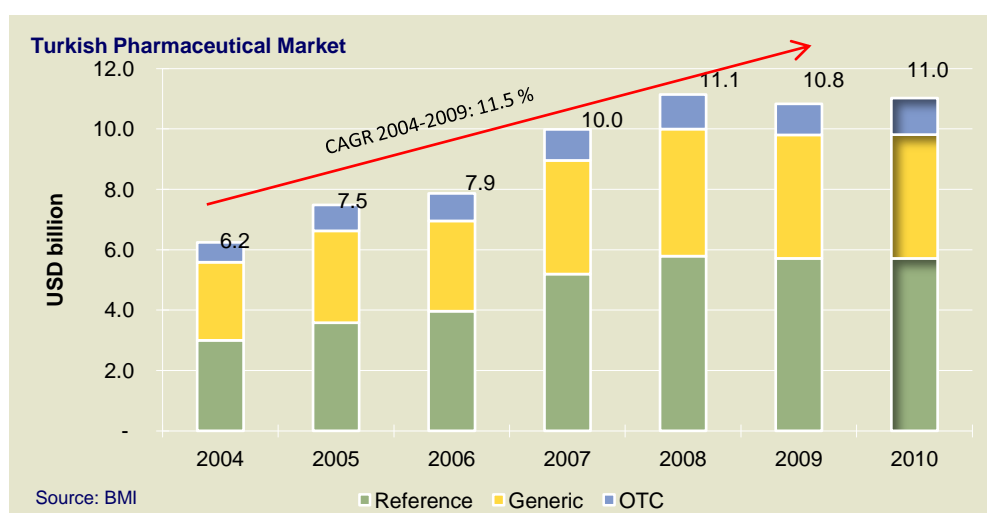
¹³ Espicom Business Intelligence, 2010 Quarter II

¹⁴ Business Monitor International, 2009



Turkey is one of the fastest growing pharmaceutical markets in Europe. Despite a relatively low per capita spending compared to other European countries, Turkey ranks as the 16th largest pharmaceutical producer worldwide and 6th largest pharmaceutical market in Europe, after Germany, France, the UK, Italy and Spain.¹⁵ In 2009, the Turkish pharmaceuticals market was worth USD 10.84 billion, at ex-factory prices, with per capita spending among the lowest in Europe at USD 150.¹⁶ The low expenditure per capita is to some extent a result of differing price levels, but also is derived from lower sales volume in Turkey, especially for expensive drugs.

Figure 7 - Turkish Pharmaceutical Market in Value



Due to negative pricing regulations, which were consequences of the price legislation that was introduced in late 2009, the value of the pharmaceutical market is calculated to have decreased by 3 percent in 2009. Total pharmaceutical expenditure is expected to reach USD 22.8 billion by the end of 2015 with an expected CAGR of 13.2 percent between 2009 and 2015, but per capita spending is forecast to be still low compared to more developed countries¹⁶.

Turkey is a net pharmaceuticals importer. In 2009, imports reached USD 4.07 billion, down by 1.7 percent, while exports rose by 7 percent and reached USD 428 million. The country's export trade was worth around 10.5 percent of drug imports in 2009 up from 9.7 percent in 2007.¹⁷ The country imports pharmaceuticals from various treatment groups, new and hi-tech preparations, vaccines, blood factors, cancer drugs and hormones, as well as APIs. Raw and semi-finished products make up about 25 percent of the total value of pharmaceutical imports and the remainder is the import of finished products.¹⁸ In terms of exports, Turkey markets finished and half-finished products to more than 50 countries.¹⁶ Germany, USA and Switzerland are the leading export destinations for Turkish pharmaceutical products.¹⁹

¹⁵ Economist Intelligence Unit, March 2010

¹⁶ Business Monitor International, Q3 2010

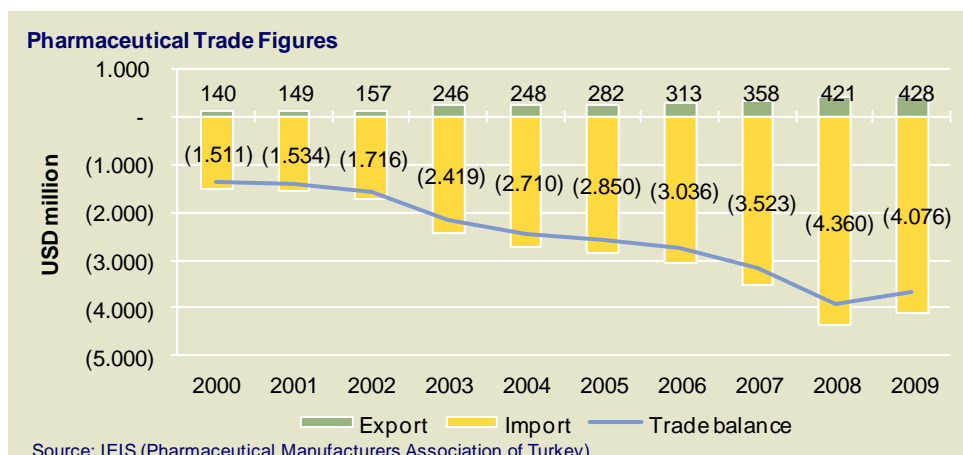
¹⁷ Pharmaceutical Manufacturers Association of Turkey

¹⁸ Economist Intelligence Unit, March 2010

¹⁹ IGEME (Export Promotion Center of Turkey), Pharmaceuticals Report, 2010



Figure 8 - Pharmaceutical Market Import and Export Trends



The worsening trade balance could be improved if the industry invests in raw material production and receives sufficient R&D funding from big pharmaceutical companies. Additionally, specific government policies such as the acceleration of the licensing process for generic drugs and the rapid inclusion of generic drugs on the reimbursement list could help the local sector to develop and reduce reliance on imports for more basic formulations. Improvement in local industry standards in line with EU norms, the increasing level of foreign investment in Turkey and proximity to European and Middle Eastern countries should also boost exports.

Today the pharmaceutical industry is highly concentrated in the Marmara Region especially around Istanbul, Kocaeli and Tekirdag as a result of their better infrastructure, easier availability of technical personnel, wide range of telecommunication and transportation amenities and the concentration of population and health institutions in the region.

The pharmaceutical industry employs approximately 25,000 people. Due to its nature, it is one of the industries with the highest level of university graduated employees.²⁰

Prescription Drug Market

Patented and generic drug sales, which together comprise the prescribed pharmaceuticals market, were worth USD 9.8 billion and accounted for 90.5 percent of the total pharmaceutical industry in 2009.²¹ The prescribed pharmaceuticals market reached 1.422 million units by volume with an compound annual growth rate of 8.3 percent between 2004 and 2009.²⁰

According to BMI data, during the period between 2004 and 2009 patented drugs sales which worth USD 5.7 billion in 2009 increased at a slightly faster rate (CAGR 13.7 percent) than generic drugs sales (CAGR 9.7 percent) which was USD 4.0 billion in 2009.²¹

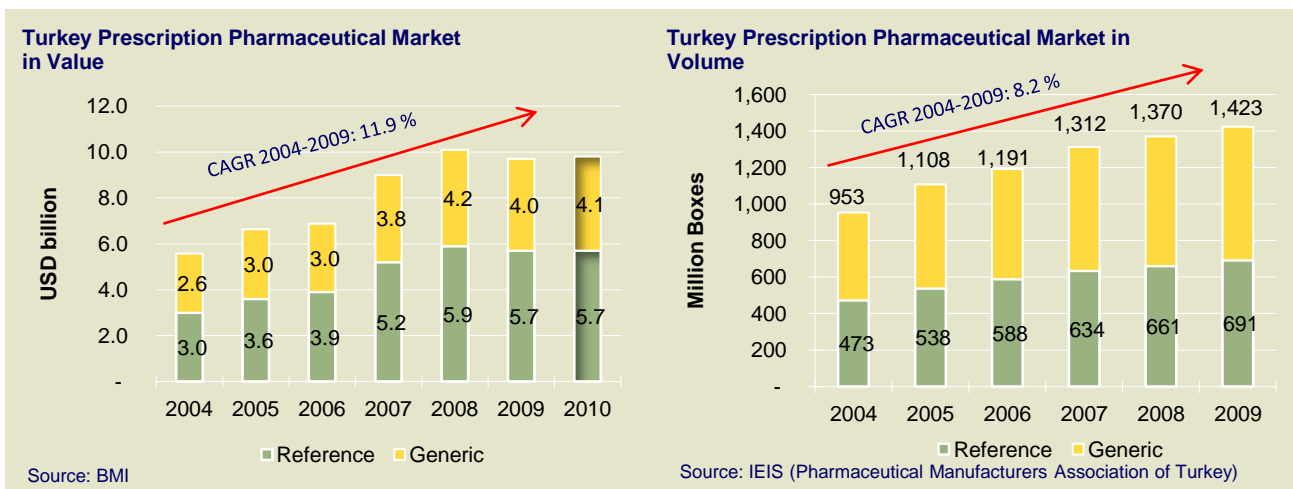
The main driver for the growth rate of generic medicines is the policy incentives to encourage the use of affordable generic drugs. Pressure from the low-income part of the population and the cost-conscious government, the largest purchaser of generic drugs, mean that the generic drug market should grow steadily. In addition, the increasing interest of international investors (like Iceland's Actavis and Czech Zentiva) in the Turkish generic drug market is also expected to boost that section of the market. The generics market is estimated to reach USD 7 billion by the end of 2013, representing a CAGR of 14.2 percent between 2009 and 2013.²¹

²⁰ Pharmaceutical Manufacturers Association of Turkey

²¹ Business Monitor International, Q3 2010



Figure 9 - Turkish Prescription Drug Trends in Dollar and in Volume



Despite the threat from the generics market, the patented drug market still maintains fast growth thanks to market reforms such as patent protection/data exclusivity laws making it difficult to licence and produce copy drugs. The increasing penetration of foreign investors in the local market and the introduction of Western-developed reference drugs are considered to be key factors in the patented drug market increase. The reference drug market was USD 5.7 billion in 2009 and is estimated to reach USD 9.7 billion by the end of 2013 with a CAGR of 14.2 percent from 2009 to 2013.²²

Prescription drugs are expected to remain dominant in the whole pharmaceuticals market as hospitals and doctors remain the primary access points to healthcare. Moreover, rising healthcare funding and improving insurance coverage will ensure the prescribed drug market continues to contribute approximately 90 percent of the entire pharmaceutical expenditures in Turkey.²²

Over-the-counter (OTC) Drug Market

Turkish legislation was passed in 2000 providing formal recognition of OTC pharmaceuticals. However, recognition was somewhat limited. Although many pharmaceuticals can in practice be dispensed over the counter in Turkey, the OTC market is not a major component of the overall pharmaceuticals market in Turkey. By 2009, the OTC drug market was worth USD 1.0 billion forming 9.5 percent of the total market in that year.²² Per capita expenditure of OTC drugs remains low, especially in the eastern regions of Turkey, yet offering a potential growth and investment opportunity.

The OTC market's key growth drivers are increasing disposable income and rising health awareness in Turkey. The government's intention to relax the advertising prohibition on prescription drugs for OTC medicines could also boost the market in future. However, currently new entrants to the market are faced with stiff competition from well-established products that have been on the market for a long period. Therefore, OTC players must look to effectively market their products to doctors and pharmacists in order to succeed in the business.

Additionally, recent initiatives by the government to liberalize the retail sector allowing drug sales outside pharmacies at supermarkets and chain stores, like in the US, could be considered as an important growth catalyst for OTC drugs in the coming years.

By the end of 2013, OTC drug sales are forecasted to be around USD 1.9 billion, representing a CAGR of 17 percent between 2009-2013 and composing approximately 10.5 percent of the overall Turkish pharmaceuticals market.²²

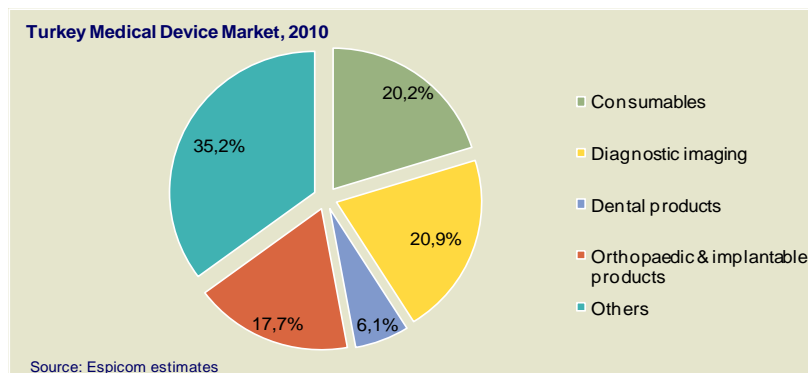
²² Business Monitor International, Q3 2010



2.2.3 Medical Devices Market

Turkey has a gradually growing medical devices market and is ranked within the top 30 markets in the world. In 2009, the market is estimated at USD 1.1 billion (2008: USD 1.3 billion), down by 21.4 percent compared to the previous year and accounting for only 2.2 percent of total health expenditure.²³ In 2010 the market is estimated at USD 2.1 billion which is driven by the heavy investments undertaken by the government in healthcare in light of the establishment of a Universal Healthcare System by 2013 on the pathway to the European Union. Per capita spending is estimated to have increased from USD 15 in 2009 to USD 29 in 2010. The market is forecast to USD 3.12 billion in 2015.²⁴

Figure 10 - Turkish Medical Device Market by Category, 2010



In spite of a large number of domestic medical manufacturers, Turkey produces only a small amount of medical equipment and an estimated 85 percent is supplied from abroad.²³ Domestic suppliers focus mostly on the production of low-technology items such as bandages and syringes. The US remains the leading medical equipment supplier to Turkey, accounting for 30.7 percent of total imports in 2008. Major products supplied from the US are orthopaedic & implantable products and consumables. Germany is the next largest supplier with a share of 19.5 percent in 2008, including (among other areas) the majority of the supply of dental products. Other major import countries include China, Japan and Italy.²⁴

Dental products are the largest export area for Turkish medical exports, accounting for 14.2 percent of total export size in 2008. Turkey exports more than most neighbouring countries but total value is still very small. Key export destinations include Germany, France, Azerbaijan, Italy and Iraq. Turkey's trade deficit in the medical devices sector is calculated to have been around USD 1,636 million in 2008.²⁴

The outlook for the sector will depend on healthcare system modernisation and harmonization with EU standards and the expansion of private sector hospitals and other medical institutions. In addition, in the long term Turkey's accession to the EU would result in increasing trade with member countries.

The total number of workers in medical devices manufacturing is estimated to be around 17,500.²⁵

2.2.4 Health Institutions

Major healthcare providers in Turkey are the Ministry of Health, the Social Security Institution, the Ministry of Defence, universities and private health professionals. Most major treatments are offered at institutions administered by the Ministry of Health and other state institutions, depending on the health scheme coverage of the patient. Consultations and treatments at private hospitals and clinics are on an upward trend mainly in developed and large cities.

²³ Espicom Business Intelligence, 2009

²⁴ Espicom Business Intelligence, 2010 Quarter II

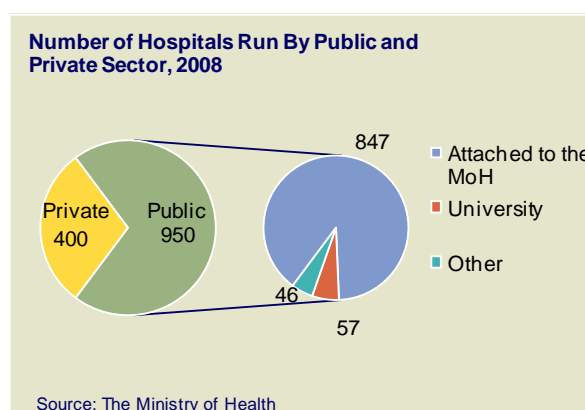
²⁵ The Union of Chamber and Commodity Exchanges of Turkey, 2008



Figure 11 - In-patient and Out-patient Medical Institutions in Turkey

	2007	2008
Hospitals	1.317	1.350
Hospitals	1.317	1.350
Number of beds	186.191	188.065
Primary healthcare facilities	7.079	7.230
Health center	5.430	4.540
Family health center	943	1.765
Center of maternal-child health and family planning	227	225
Population health center	182	373
Tuberculosis control dispensary	247	243
Cancer early diagnosis, screening and training centers	50	84
112 Emergency care station	1.264	1.308

Source: Ministry of Health



Major reform in this sector was realized under a law of January 2005 requiring the transfer of the hospitals under the administration of the Social Security Institution (SSK) healthcare fund to the control of the Ministry of Health in an effort to separate the provision and the financing of healthcare.

Both public and private sector hospitals have been increasing in number in recent years. In 2008, 72.5 percent of 1,350 hospitals were run by the public sector, mostly attached to the Ministry of Health.²⁶ By the end of 2013 the total number of hospitals is expected to reach 1,418.²⁷

According to the EIU forecasts, total number of beds is expected to be 197.9 thousand in 2010.²⁸ The dominance of the public sector in bed capacity is expected to decrease as the sector is moving toward a process to increase the share of the private sector in hospitals around the country.

The number of beds per thousand persons is calculated to be 2.7 in 2008. According to EIU estimates, it is expected to remain constant at 2.7 in 2010. This rate is forecast to remain stable in 2014. As of the end of 2009, the number of doctors per thousand persons is estimated to have reached 1.7 and is forecast to remain constant at this ratio up to 2014.²⁸

In 2008, there were 389,464 health personnel employed in Turkey which includes physicians (29%), nurses (25.6%), health officers (21.5%), midwife (12.2%), pharmacists (6.4%) and dentists (5.1%).²⁶ Total number of registered physicians, including practitioners, was 113,151 representing a rate of 1,58 physicians per thousand population.²⁶ As of year end 2009, number of doctors per thousand people is estimated to have increased to reach 1.7 and is forecast to remain constant at this ratio up to 2014.²⁸

A family practitioner service has been in place since early 2005 aiming at the avoidance of unnecessary hospital visits and the improvement of primary care, especially in rural areas. Under the scheme, a family general practitioner (GP) will function as a gatekeeper to the healthcare system. However, due to lack of sufficient trained GPs, the full implementation of the system is expected to take time.

²⁶ The Ministry of Health, Health Statistics Yearbook 2008

²⁷ BMI Turkey Pharmaceutical and Healthcare Report Q3 2010

²⁸ Economist Intelligence Unit

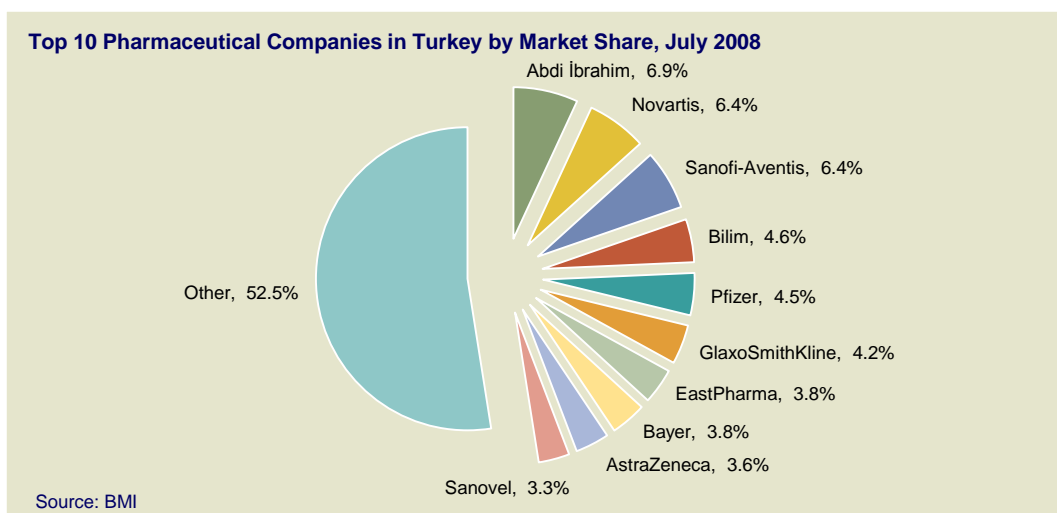


2.2.5 Main Players

Pharmaceuticals Market

Currently the Turkish pharmaceutical market is comprised of approximately 300 entities, of which 43 are manufacturing facilities. 14 of these manufacturing facilities belong to multinational companies.²⁹ The market is highly fragmented and competitive with the top 10 drug producers contributing about 50 percent market share; the top 20 contribute about 70 percent. It is estimated that the market contracted about 11 percent in 2009 due to the weakness of the Turkish lira against the US dollar.³⁰

Figure 12 - Top 10 Pharmaceutical Companies in Turkey



Major local pharmaceutical manufacturers in Turkey are Abdi İbrahim, Bilim İlac, Eczacıbaşı Pharmaceuticals (now owned by Zentiva), İbrahim Ethem Ulagay (now owned by Menarini), Mustafa Nevzat, Fako (now owned by Actavis) and Deva (now part of EastPharma). Multinationals with manufacturing facilities in Turkey are Baxter, Bayer, GlaxoSmithKline, Novartis, Pfizer and Sanofi-Aventis.

Medical Devices

Major local manufacturers are Bicakcilar, Cagdas Elektronik Medikal, Detaysan, Sesinoks Paslanmaz and Tibset. Multinational manufacturers include GE Healthcare and Siemens.

In June 2009, GE Healthcare Turkey, headquartered in Istanbul, announced its intention to invest in a new medical production plant in Ankara.

Siemens opened a new manufacturing facility at a cost of USD 76 million in Gebze Industrial Zone in April 2009.³¹

Health Institutions

As mentioned previously, state-owned hospitals account for almost 72.5 percent of the total number of hospitals in Turkey. In line with the increase in the share of private sector and new private hospital establishments the proportion of hospitals which is state-owned is expected to decrease.

Founded in 1991, Acibadem Hospital is the only publicly traded private health institution in Turkey and has a market capitalization of USD 854 million as of August 31, 2010.

²⁹ IGEME (Export Promotion Center of Turkey), Pharmaceuticals Report, 2010

³⁰ Business Monitor International, 2009 and Economist Intelligence Unit, March 2010

³¹ Espicom Business Intelligence, 2010 Quarter II



The company operates 10 hospitals, 7 medical centres, 3 laboratories and 1 genetic diagnostic center in Turkey. Currently it owns 6 hospitals in Istanbul and others located in Kayseri, Kocaeli, Adana and Bursa. Management announced plans to inaugurate 3 more hospitals in Bodrum, Eskisehir and Istanbul (Besiktas) in the short-term. The Company employs approximately 5,800 personnel and has a capacity of approximately 1,500 beds.³²

Acibadem acquired 50 percent of International Hospital Istanbul in 2005 for a consideration of USD 50 million and at the end 2008 agreed to acquire a further 40 percent for USD 33 million. The company has an option to acquire the remaining 10 percent stake for USD 15 million by 2012.³³

Other major private sector hospital groups in Turkey are summarized below:

Figure 13 - Turkish Hospital Statistics

Hospital Name	Foundation Year	Number of Hospitals	Number of Beds	Number of Intensive Care Unit Beds	International affiliations	Number of employees	Number of Outpatients in 2008	Number of Inpatients in 2008
Acibadem Group	1991	10 hospitals, 7 medical centers, 3 laboratories and 1 genetic diagnostic	+1,500	N/A	Harvard Medical International	5.800	1.374.484	52.362
Medical Park	1995	13	2.000	N/A		6.000	2.239.858	172.894
Anadolu Medical Center	2005	1	209	59	Johns Hopkins Medicine	920	153.212	6.537
Bayindir Health Group	1992	3 hospitals, 1 medical center	347	42	N/A	753	125.170	11.912
Universal Hospitals Group**	1977	1 accredited hospital, total of 83 facilities (hospitals & outpatient clinics)	2,107*	372*	Massachusetts General Hospital	14,000*	2,306,751*	11.912
Florence Nightingale	1989	3 hospitals, 1 Outpatient Clinic	550	82	The Memorial Hospital Houston, Cancer Center Institute New York	2450	368.770	201423
Hisar Intercontinental Hospital**	2005	1	120	35	N/A	500	55.480	3.213
Kent Health Group	1999	1 Hospital, 1 Medical Center	102	21	N/A	430	1.225	123
Memorial Health Group	2000	3 Hospital, 2 Medical Centers	475	42	N/A	997	193.936	14.114
Mesa Hospital**	2005	1	87	23	N/A	636	106.938	10.621
Yeditepe University Hospital	2005	1 General Hospital, 1 Eye Hospital, 1 Outpatient Clinic, 1 Genetic Diagnosis Center	190	26	N/A	806	(for 11 months) 205,000	(for 11 months) 5,614

Source: Ystats and Company Websites

Note: (*) Include the accredited hospital's data, (**) 2007 data used

³² Acibadem Hospital Website

³³ Merger Market



2.3 Regulations and Reforms

2.3.1 Healthcare System

Turkey's Ministry of Health (MoH), founded in 1920, is the largest healthcare provider and is still the country's only preventative healthcare services provider. The MoH is also the main provider of primary and secondary care. Health policy and services are MoH's responsibility at the national level. At a provincial level, health services provided by MoH are administered by provincial health directorates, which are accountable to provincial governors.

2.3.2 Health Insurance

Background of Health Insurance in Turkey

- *Sosyal Sigortalar Kurumu* ("SSK" or Social Insurance Organisation): The scheme covers almost all privately employed and blue-collar public sector workers, retirees and their dependents. The SSK is mainly financed through mandatory contributions from employers and employees. Additional income can be obtained from fees paid by non-members using SSK services (e.g. members of BagKur) and from co-payments.
- *Emekli Sandigi* (Civil Service Retirement Fund): The scheme provides healthcare benefits to currently employed and retired white collar public sector employees and their dependents (active civil servants are separately insured by the Ministry of Finance). Insurance premiums are collected from income and the scheme is subsidised by the government budget for pension and healthcare benefits.
- *BagKur* (Free Enterprise Scheme): The scheme provides insurance for independent traders and the self-employed. A reimbursement system was established and fees are determined independently by the institution. Co-payments of 20 percent from active members and 10 percent from retired members are required for the purchase of drugs, as in the SSK.
- *Green Card*: Introduced by Law 3816 in 1992, the scheme ensures healthcare benefits for those who do not have the means to pay for services and treatment. In order to obtain a Green Card, the applicant must be a Turkish citizen, not covered by any social security system and have a monthly income of less than one third of the minimum wage.

The rest of the population, who are not covered by these schemes, consists mostly of people employed in the agricultural sector, privately insured people and the unemployed.

Private health insurance has been available since 1998. Currently, only about 2 percent of the population in Turkey is covered by private health insurance, but the rate is expected to increase significantly.³⁴ Members of private health insurance schemes are not exempted from the requirement to pay premiums to the appropriate social insurance fund.

Social Security Institution (SGK)

In 2006, the three main social security systems, namely SSK, BagKur and Emekli Sandigi, were combined under one single entity, the Social Security Institution. The population covered with the Green Card health scheme is also covered by the new social security institution in order to make sure that all citizens are supported. There will also be only one payments agency for healthcare, the Universal Health Fund, making the system more efficient and effective. This new system is a part of Turkey's ongoing healthcare reforms and aims to solve many problems in Turkish health system over the years, including low population coverage, reliance on out-of-pocket payments and an uneven distribution of facilities and personnel.

³⁴ Economist Intelligence Unit, March 2010



Pricing and Reimbursement

The General Directorate of Pharmaceuticals and Pharmacies, a part of the MoH, is in charge of the regulation and control of pharmaceutical prices. Manufacturers and importers are obliged to apply for MoH authorization of new product prices, as well as for price increases and decreases.

In February 2004 a new pharmaceutical pricing system, namely the Reference Pricing System, was launched, with further amendment decrees being issued in April & May 2005 and June 2007. Formerly, the system was based on a cost-based pricing method. Under the decree on the pricing of medicinal products for human use dated 30 June 2007 numbered 2007/12325, the reference price of an original product is determined according to the lowest ex-factory price among 5 EU member countries (France, Spain, Italy, Portugal and Greece until the end of 2010, in accordance to the amendment on the regulation).

The retail prices are calculated by adding 8 percent VAT, reduced from 18 percent in 2004, and the wholesaler and pharmacist mark ups to the ex-factory price.

Figure 14 - Pharmaceutical Prices in Turkey

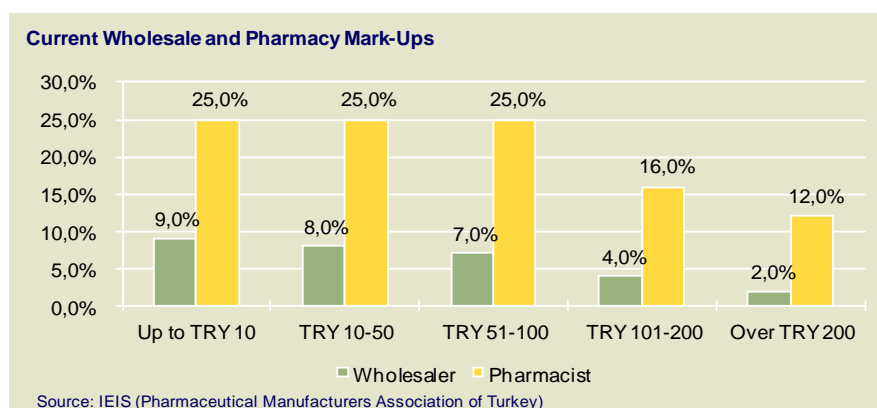
Pharmaceutical Prices in Turkey	
Original Products	Generic Products
Reference price	66% of the Reference price
+	+
Wholesaler and pharmacist mark-up	Wholesaler and pharmacist mark-up
+	+
8% VAT	8% VAT

Source: IEIS (Pharmaceutical Manufacturers Association of Turkey)

On 3 December 2009, the Turkish government approved a law requiring a revision in the pricing of original and generic drugs. Accordingly, the sale price to the wholesaler of original drugs with a similar generic in a market can be only up to 66 percent of the reference price. The sale price of a generic drug to a wholesaler can be a maximum 66 percent of the original drug’s reference price, down from the previous 80 percent.³⁵

Turkish pharmacy mark-ups have been revised according to a decision announced in the Official Gazette dated January 17, 2009.

Figure 15 - Turkish Pharmacy and Wholesale Mark-Ups



³⁵ Deloitte’s Turkish Health and Pharmaceutical Report, December 2009



2.4 Sector Outlook

The gradual introduction of a universal health insurance scheme, an increase in annual income per head and health awareness, a growing population, a steady rise in life expectancy and the size of the elderly population signal higher expenditures on healthcare and pharmaceuticals in the future. Total healthcare spending is forecast to rise from an estimated USD 38 billion in 2009 to about USD 63 billion in 2014, but could be substantially higher if the government fails to restrain public spending.³⁶

In the years ahead, following the recovery of the economy, the Turkish healthcare sector - mainly the pharmaceuticals market - may go through a consolidation stage, including multinationals. The government's drug pricing and reimbursement policy biased towards cheap generic drugs and pressures on pricing could lead to low profit margins for companies but at the same time spark a number of acquisitions.

Turkey's geographical position, highly skilled human resources in production and management and unsaturated domestic market with high growth potential will be key factors in attracting foreign capital inflows and expansion of healthcare, primarily pharmaceutical, industry.

2.5 SWOT Analysis

Strengths

- Falling morbidity & mortality rates,
- Growing population and improving demographic indicators
- Improving healthcare awareness
- Availability of a skilled workforce
- Growing healthcare investments, including growing foreign investment in recent years
- Market regulations increasingly in line with EU
- Government's commitment to healthcare industry improvements

Weaknesses

- Low per capita healthcare spending of USD 817 in 2010, putting Turkey in a position behind many European countries
- Domestic patent law and intellectual property remaining below international standards
- High dependence on the import of hi-tech drugs

Opportunities

- Harmonization with the EU and sector modernization leading to a considerable potential
- Significant scope for growth, given the size of the population and current low consumption rate
- Recent introduction of new R&D legislation, designed to facilitate investment
- One of the fastest growing markets in the world
- Healthcare reforms, such as centralized health insurance/social security, leading to better and wider access to healthcare

Threats

- Negative effect of government price controls/reimbursement lists on market attractiveness
- The costs of modernization to potentially deter the harmonization of the domestic regulatory infrastructure and industry standards with international norms
- Need to address the substantial deficit of the healthcare system

³⁶ Economist Intelligence Unit, March 2010



2.6 Investment Opportunities

The Turkish healthcare sector has a strong industrial base, a large number of manufacturers and well-qualified human resources. It still lacks sufficient capital investment and consequently has minimal R&D. The government aims to address this issue with new R&D legislation and the liberalization of requirements for overseas companies. In April 2008, Turkey introduced a new R&D law offering considerable incentives for global pharmaceutical and other investment in the country. The law comprises:

- ✓ Incentives to be provided without discriminating between the sectors until 2024
- ✓ 100 percent tax assessment reduction for R&D expenditures
- ✓ 80 percent of income taxes calculated on R&D personnel wages will not be collected (90 percent for employees with Ph.D.s)
- ✓ Half of insurance premiums of personnel will be covered by the government budget for 5 years

However, the new R&D law does not offer incentives to small or medium-sized pharma/biotech companies, as a minimum staffing level of 50 researchers is required to be eligible for the package benefits.

Among other incentives, foreign investors are free to repatriate their profits outside Turkey, and to acquire immovable property or rights in Turkey.

Subsequent to the enactment of Law 4875 on FDI, procedural requirements that were once asked of foreign investors have been abolished. The transfer of shares or incorporation of companies with foreign share capital is no longer subject to the approval of the Foreign Investment General Directorate (FIGD). However, the FIGD is to be notified of foreign investment transactions within one month of the completion of the relevant transaction, for statistical purposes.

Furthermore, foreign investors may choose alternative resolution systems for any commercial disputes arising from their transactions in Turkey.

Despite low R&D activities and IP weaknesses, Turkey has been attracting many high profile multinational firms since 2004. Additionally, a number of companies have established production bases in the country recently, including Japanese pharmaceutical firm Daiichi Sankyo (August 2008) and US based GE Healthcare (June 2008). Below is a list of M&A transactions by foreign investors in the Turkish healthcare sector between 2004 and August 2010:

Figure 16 - Selected M&A Transactions in the Turkish Healthcare Sector (2004-Aug 2010)

Acquirer	Origin	Target	Sub-Sector	Date	Stake	Deal Value USD(million)
Argus Capital Partners / Qatar Investment Authority	UK / Qatar	Memorial Health Group	Health institution	6-Aug-10	40,0%	120,0
Sw an Holding	Luxembourg	Dünya Göz Hastanesi	Health institution	11-Jan-10	30,0%	n.a
The Carlyle Group LLC	USA	Medical Park Hospital Group	Health institution	7-Dec-09	40,0%	100,0
Zentiva NV	Czech Republic	Eczacibasi-Zentiva Kimyasal Urunler San. ve Tic. A.S. ; Eczacibasi-Zentiva Saglik Urunleri Sanayi ve Tic. A.S.	Pharmaceutical	21-Jul-09	25% and 25%	n.a
Recordati SpA	Italy	Yeni Ilac	Pharmaceutical	23-Dec-08	100,0%	60,0
Hygeia Diagnostic & Therapeutic Center of Athens SA	Greece	Safak Group	Health institution	8-Dec-08	50,0%	48,0
Partners in Life Sciences (PLS)	UK	Betasan Bant Sanayi	Medical Devices	1-Dec-08	100,0%	n.a
Ebew e Pharma	Austria	EBV Limited	Pharmaceutical	17-Oct-08	99,5%	n.a
Alvimedica ApS	Denmark	Nemed Tibbi Urunler Sanayi Ve Dis Ticaret Ltd Sti	Medical Devices	11-Feb-08	85,0%	6,8
Abraaj Capital Holdings Limited	UAE	Acibadem Saglik Hizmetleri ve Ticaret AS	Health institution	27-May-08	32,3%	443,3
Abraaj Capital Holdings Limited	UAE	Acibadem Saglik Hizmetleri ve Ticaret AS	Health institution	12-Jan-08	21,7%	162,5
GAM Holding Ltd	Sw itzerland	Ozel Safak Hastaneleri	Health institution	25-Nov-07	60,0%	60,0
Eastpharma Holding	USA	Saba Ilac Sanayii ve Ticaret A.S.	Pharmaceutical	6-Jul-07	96,0%	10,0
Global Environment Fund	USA	Dentistanbul	Health institution	19-Apr-07	100,0%	n.a
Zentiva NV	Czech Republic	Eczacibasi-Zentiva Kimyasal Urunler San. ve Tic. A.S. ; Eczacibasi-Zentiva Saglik Urunleri Sanayi ve Tic. A.S.	Pharmaceutical	2-Jul-07	75% and 75%	602,0
Sandoz International GmbH	Germany	Roche Holding AG (Gebze production plant)	Pharmaceutical	31-Mar-07	100,0%	n.a
Citibank Venture Capital Ltd;						
Partners in Life Sciences (PLS)	USA and UK	Biofarma Pharmaceuticals Co. Ltd.	Pharmaceutical	28-Nov-06	100,0%	200,0
White Sw an Corporation B.V.	Netherland	Taymed Saglik Urunleri Ticaret Ltd Sti	Pharmaceutical	1-Sep-06	100,0%	n.a
Partners in Life Sciences (PLS)	UK	Munir Sahin Ilac Sanayi ve Ticaret A.S.	Pharmaceutical	22-Jun-06	100,0%	22,0
International Pharma Ltd.	Bermuda	Deva Holding AS	Pharmaceutical	12-Jun-06	17,9%	50,2
Actavis Group hf (formerly Pharmaco hf)	Iceland	Fako Ilacлари As	Pharmaceutical	23-Jan-06	11,0%	20,4
Euromedic International	Hungary	Yasam Ozel Saglik Hizmetleri	Health institution	1-Oct-05	100,0%	2,7
Euromedic International	Hungary	Falkon	Health institution	1-Jan-05	100,0%	1,5
Actavis Group hf (formerly Pharmaco hf)	Iceland	Fako Ilacлари As	Pharmaceutical	19-Jan-04	90,0%	63,0

Source: Merger Market and Deal Watch

2.7 Sector Establishments and Institutions

Establishments and Institutions			
Name	Code	Description	Website
Ministry of Health of Turkey	TCSB	The Ministry of Health has crucial tasks within health sector. The Mission of the Ministry of Health is the continuous improvement of the health of the citizens, through the prevention of disease, and the provision to every citizen of high level health care.	www.saglik.gov.tr
Turkish Medical Association	TTB	Turkish Medical Association (TTB) is the organized voice of physicians in Turkey, under the constitutional guarantee. It's a public association founded with law bearing the number 6023 and %80 (83.000) of country's physicians are members of TTB. It's main income source is membership fees and it doesn't get any aid from government.	www.ttb.org.tr
Private Hospitals and Health Institutions Association	OHSAD	Private Hospitals Association, Health Institutions Association, Tourism Regions Health Institutions Association and Southeast Anatolia Private Health Institutions Association have united to found Private Hospitals and Health Institutions Association. Through this merger, 80% of hospitals within private health sector and 850 of other health institutions have been gathered under one association.	www.ohsad.org
Health Establishments Association	TUSIDER	Health Establishments Association has 900-member of health enterprises.	www.tusider.org
Pharmaceutical Manufacturers Association of Turkey	IEIS	IEIS is the representative body of the Turkish generic pharmaceutical industry. It was founded in 1964 in Istanbul with the purpose of sustaining the development of the local pharmaceutical industry. It plays an important role in healthcare policy-making and promotes the use of generic medicines. It currently has 43 member companies.	www.ieis.org.tr
Social Security Institution	SGK	Social Security Institution was established by the Social Security Institution Law No:5502 and brings the Social Insurance Institution, General Directorate of Bağ-kur and General Directorate of Emekli Sandığı under a single roof.	www.sgk.gov.tr
Health Industry Employers' Association of Turkey	SEIS	Companies operating in the medical devices sector have been organized under Health Industry Employers' Association of Turkey (SEIS), local organizations and Federation of Medical Device Manufacturers and Suppliers Association (TUMDEF). The aim of SEIS is to operate as a nation wide non-governmental organization to represent the medical sector and gather the companies under the association.	www.seis.org.tr
Federation of Medical Device Manufacturers and Suppliers Association	TUMDEF	Established in 2004, TUMDEF operates as a non-governmental organization with 16 member associations and over 1,500 companies under these associations.	www.tumdef.org
Association of Research-Based Pharmaceutical Companies	AIFD	Established in 2003, by research-based pharmaceutical companies operating in Turkey, AIFD pursues its activities through its head office in Istanbul and its representative office in Ankara. Its mission is to contribute to the healthcare sector in Turkey, by enhancing access to "innovative" products, technology and information in the Turkish medical field and creating an "ethical and transparent" environment in the healthcare sector.	www.aifd.org.tr
The Healthcare Producers Manufacturers & Representatives Association	SADER	SADER is a nonprofit association which was founded in 1993 by 14 firms leading in the Turkish medical sector. SADER's main objective is to "provide co-ordination between, encourage and raise awareness of persons or firms engaged in importation, exportation, representation, maintenance, repairing, sale in-bulk or in retail of any medical materials, devices & equipment in addition to protecting the rights and interests of such persons and/ or firms to the extent envisaged by relevant laws." It also "provides society with useful works and achievement through direct assistance in education, health and in several social aspects or through assistance to existing organizations."	www.sader.org.tr



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**ABBREVIATIONS**

API	Active Pharmaceutical Ingredient
CAGR	Compound Annual Growth Rate
EU	European Union
GDP	Gross Domestic Product
GP	General Practitioner
IMF	International Monetary Fund
IP	Intellectual Property
ISPAT	Republic of Turkey Prime Ministry Investment Support and Promotion Agency
R&D	Research and Development
UK	United Kingdom
USA	United States of America
USD	US Dollars
VAT	Value Added Tax

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