



December 2017

Turkey Healthcare Landscape

TOBB introduction & objectives



Introduction

This report is prepared and published by **TOBB Healthcare Providers Industry Council**, with analytics and expertise support from industry experts and consulting companies including McKinsey & Company

TOBB Healthcare Providers Industry Council is composed of executives from both **private healthcare service providers** and **regulatory bodies**

The Council hopes this report to be **useful** for all **sector players** and interested **parties**



Objectives

Create a **common ground** for **discussions** across all sector players with aligned set of **data** and **analyses**

Assess objectively **private healthcare provider sector** outlining key **trends, opportunities** and **challenges** addressing possible domestic/foreign investors as main audience



Abbreviations



20XXF	Forecast of year 20XX	PHI	Private health insurance
CAGR	Cumulative annual growth rate	PPP	Public private partnership
DALY	Disability adjusted life year	SSI	Social Security Institute
EUR	Euro	SUT	Service price index (Sağlık Uygulama Tebliği)
GDP	Gross Domestic Product	TKHK	Turkish Public Hospitals Association (Türkiye Kamu Hastaneleri Kurumu) ¹
GP	General Practitioner	TL	Turkish lira
HCP	Healthcare Personnel	TUFE	Consumer price index (Tüketici fiyat endeksi)
IVF	In Vitro Fertilization	TURKSTAT	Turkish Statistical Institute
JCI	Joint Commission International	UK	United Kingdom
MoH	Ministry of Health	USA	United States of America
OECD	Organization for Economic Co-operation and Development	USD	Dollar
OHSAD	Özel Hastaneler ve Sağlık Kuruluşları Derneği (Association of Private Hospitals and Institutions)	WHO	World Health Organization
OOP	Out of pocket	Yo	Years old
p.a.	Per annum		
Pharma	Pharmaceuticals		

¹ Refers to the agency prior recent organizational restructuring at Ministry of Health

Executive summary (1/2)

1

Stable and growing healthcare market...

- Turkey's healthcare expenditure has been **steadily growing with 10%** per annum since 2009, reaching to TL 105 billion in 2015, without any dramatic changes in sector dynamics
 - **Sources of funds:** Both public and private payors' share in total expenditure is growing at 10% annual rate, suggesting a **stable environment in payor landscape**
 - **Destination of funds:** Providers are growing with 14% annual rate, showing **strong real growth**, whereas pharma is growing only with 4%

2

Health expenditure to grow further...

- **Healthcare demand** will grow due to aging population and consequent shift in disease burden to more chronic/complex diseases
- **Healthcare supply**, especially medical staff will further grow given OECD benchmarks and current pipeline for admissions

3

Private providers as the integral part of the system...

- **Private provider sector** has grown with 13% p.a. since 2009 and maintained a **stable share** of ~25-27% in total provider expenditure
- Private provider sector is essential for Turkish healthcare sector given already undertaking **~1.6 million operations** per year, performing **~53% of most complex surgeries** and contributing to **overall advancement of the sector**
- Private providers are well **positioned** to **cover different socio-economic patient segments**
- Private sector, especially **large hospital** chains have been **investing** in the sector through geographical expansion or acquisition

Executive summary (2/2)

4

Regulatory environment to remain stable...

- On the financials, there have not been major regulatory changes since 2009, indicating a **stable reimbursement environment** but also necessity of further revisions:
 - Government has taken steps to slightly improve **sustainability** through **minor changes** in the **pricing** scheme
 - However, increase in **SUT** prices **is expected** either through a procedure based **price uplift** or **holistic reform** of the payment mechanism (not likely in near term) due to changing macro and economic conditions

5

Private provider expected to grow further...

- **Affluent segment** is expected to **grow further**, indicating **increase** in **demand** for private providers
- Launch of **complementary health insurance** will not only create **additional demand** for SUT contracted private providers but also help them uplift their **surcharge levels**
- Turkey has witnessed **15% growth** in yearly **medical tourist admissions** and sector is expected to grow further given **cost** and **service quality advantage** and public & private **interest**

6

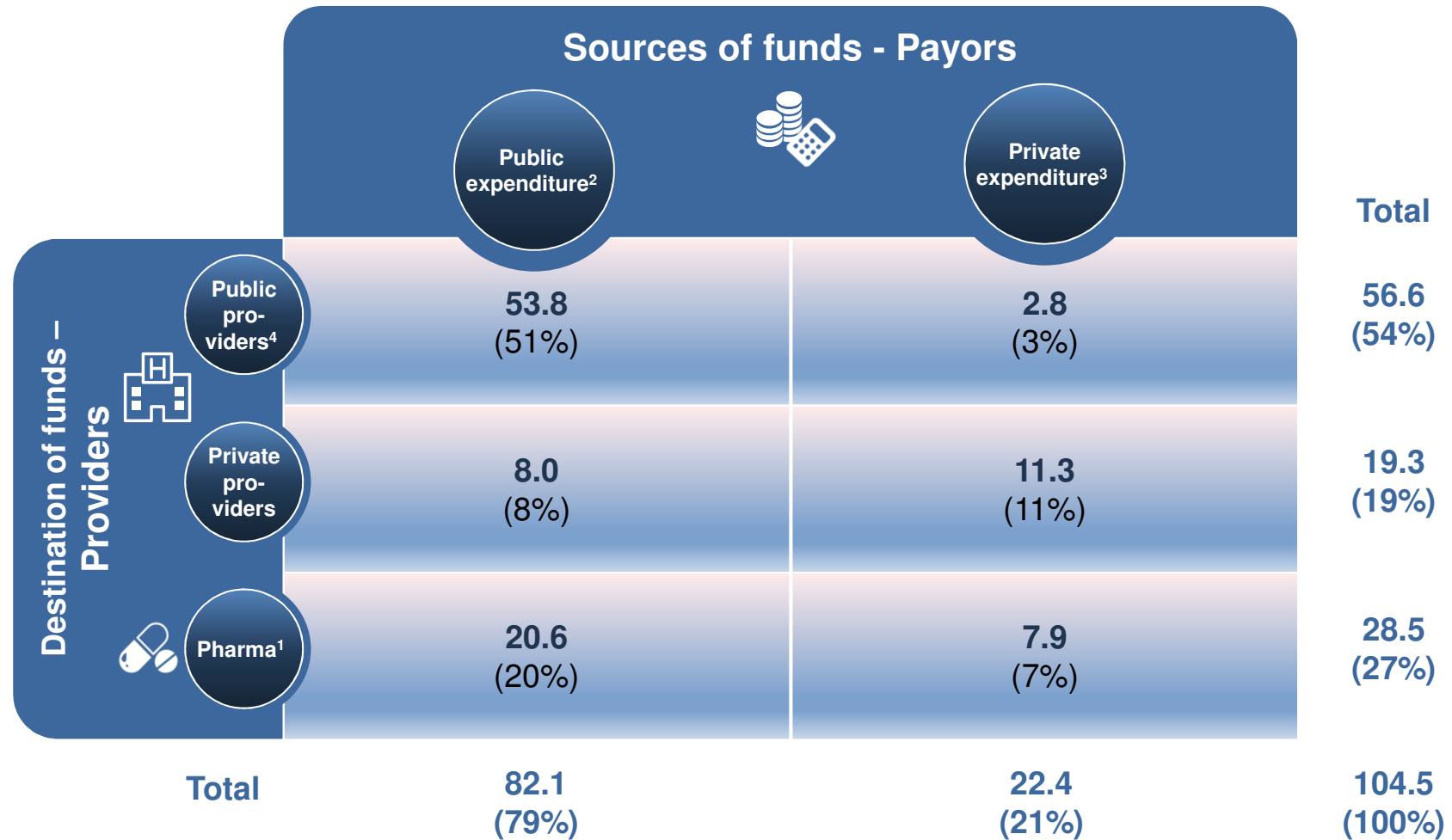
Recent developments to have limited impact on private providers...

- **City hospitals:** Despite adding a sizeable capacity to overall hospital landscape; the real impact of city hospitals on private providers will depend on: achieved quality, HCP employment, changes in patient behavior
- **Primary Care:** Government continued investing in primary care; however, demand shift to primary care will depend on structural changes (e.g., referral mechanism) as well as achieving sufficient capacity

Turkish healthcare market landscape

2015, TL billion

Percent in total healthcare expenditure (x%) Healthcare expenditure, TL billion



1 Including other expenditure such as medical, dental equipment

2 MoH central budget and SSI

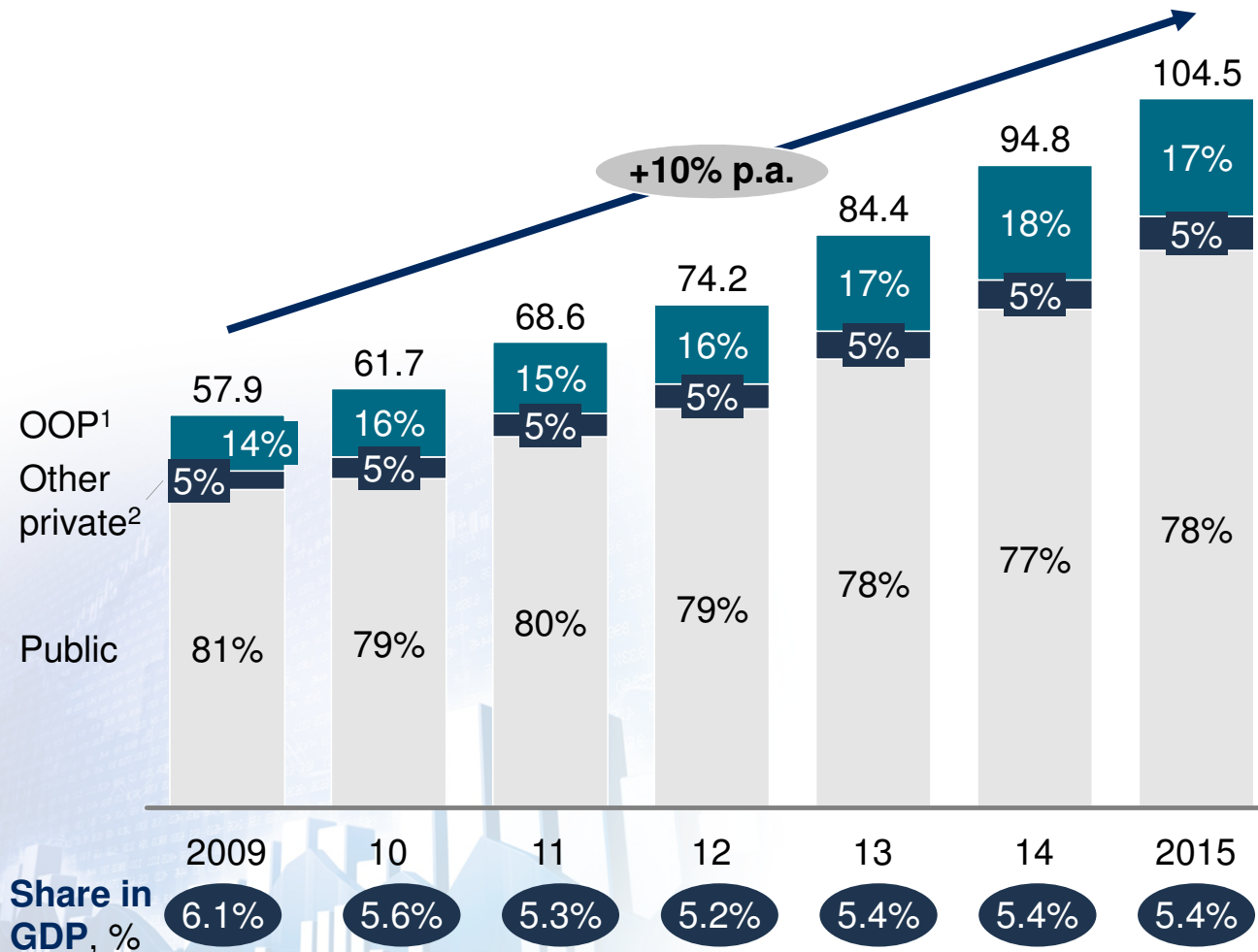
3 OOP payments and PHI

4 Includes university hospitals

1 Healthcare landscape has been stable since 2009 with consistent growth rates and payor profile

Healthcare expenditure by payor type

TL billion



1 Out of pocket payment 2 Including private insurance

SOURCE: 2015 MoH Health Statistics Year Book, TURKSTAT

Destination of funds	Sources of funds - Payors	
	Public	Private
Public	53.8 (51%)	2.8 (3%)
Private	8.0 (8%)	11.3 (10%)
Other	20.6 (20%)	7.9 (7%)




Key takeaways

- Payor profile in healthcare expenditure have been stable since 2009, indicating a stable economic environment within source of funds:
 - Healthcare expenditure share in GDP has been stabilized around 5.4% since 2009
 - Public share in total expenditure is 79% in 2015 and has not dramatically changed since 2010
 - Similarly, out-of-pocket and PHI share has been stable since 2009 (17% and 5% respectively in 2015)

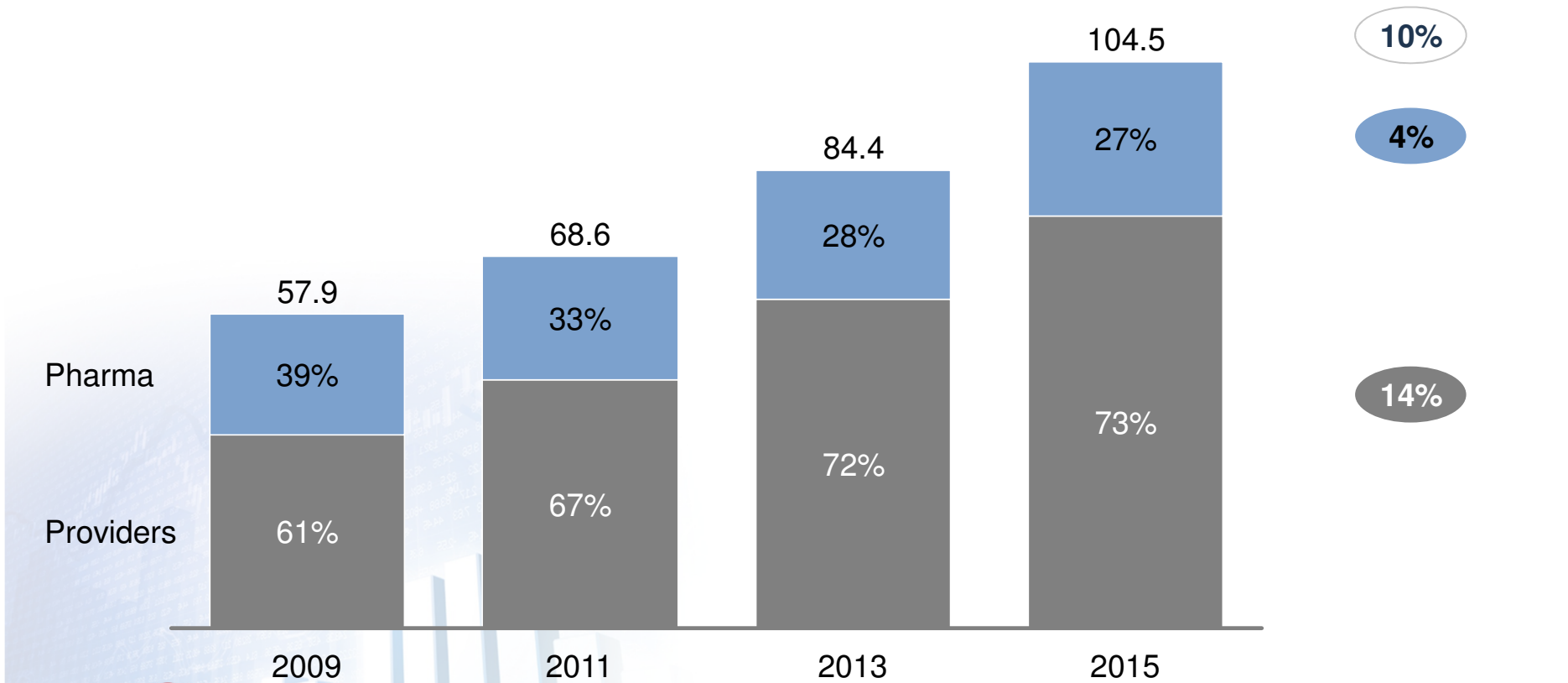
1 Healthcare expenditure in providers has been the main driver of growth

Destination of funds	Sources of funds - Payors	
	Public	Private
Public	53.8 (51%)	2.8 (3%)
Private	8.0 (8%)	11.3 (10%)
Private	20.6 (20%)	7.9 (7%)



Healthcare expenditure by destination of funds
TL billion

CAGR 2009-15
Percent



10%

4%

14%

! Pharma market growth is limited due to pricing regulations (e.g., price cuts, fixed exchange rate) however market volume is increasing

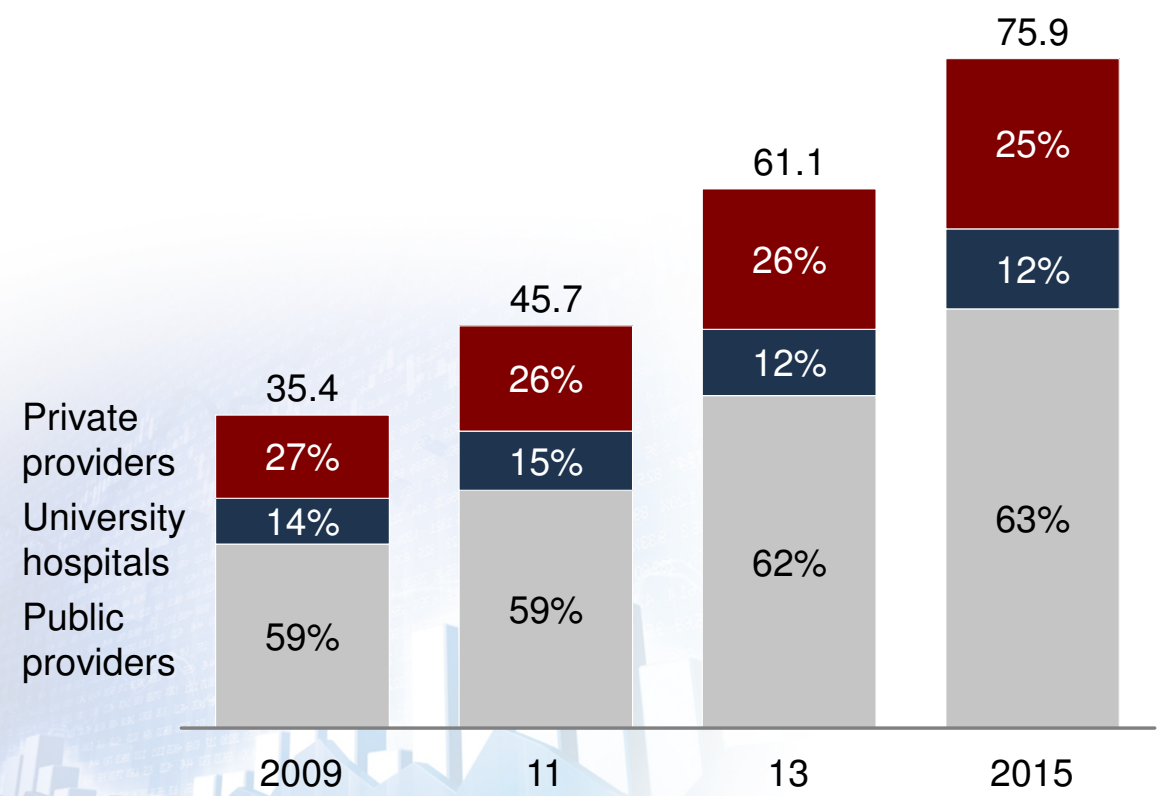
1 Medical equipment, dental etc.

1 Share of private in total provider sector has been around 25% since 2009

Destination of funds	Sources of funds - Payors	
	Public	Private
Public	53.8 (51%)	2.8 (3%)
Private	8.0 (8%)	11.3 (10%)
Private	20.6 (20%)	7.9 (7%)



Total health expenditure in providers¹
TL billion, Percent



CAGR
2009-15
Percent

- 14%
- 13%
- 10%
- 15%

Key takeaways

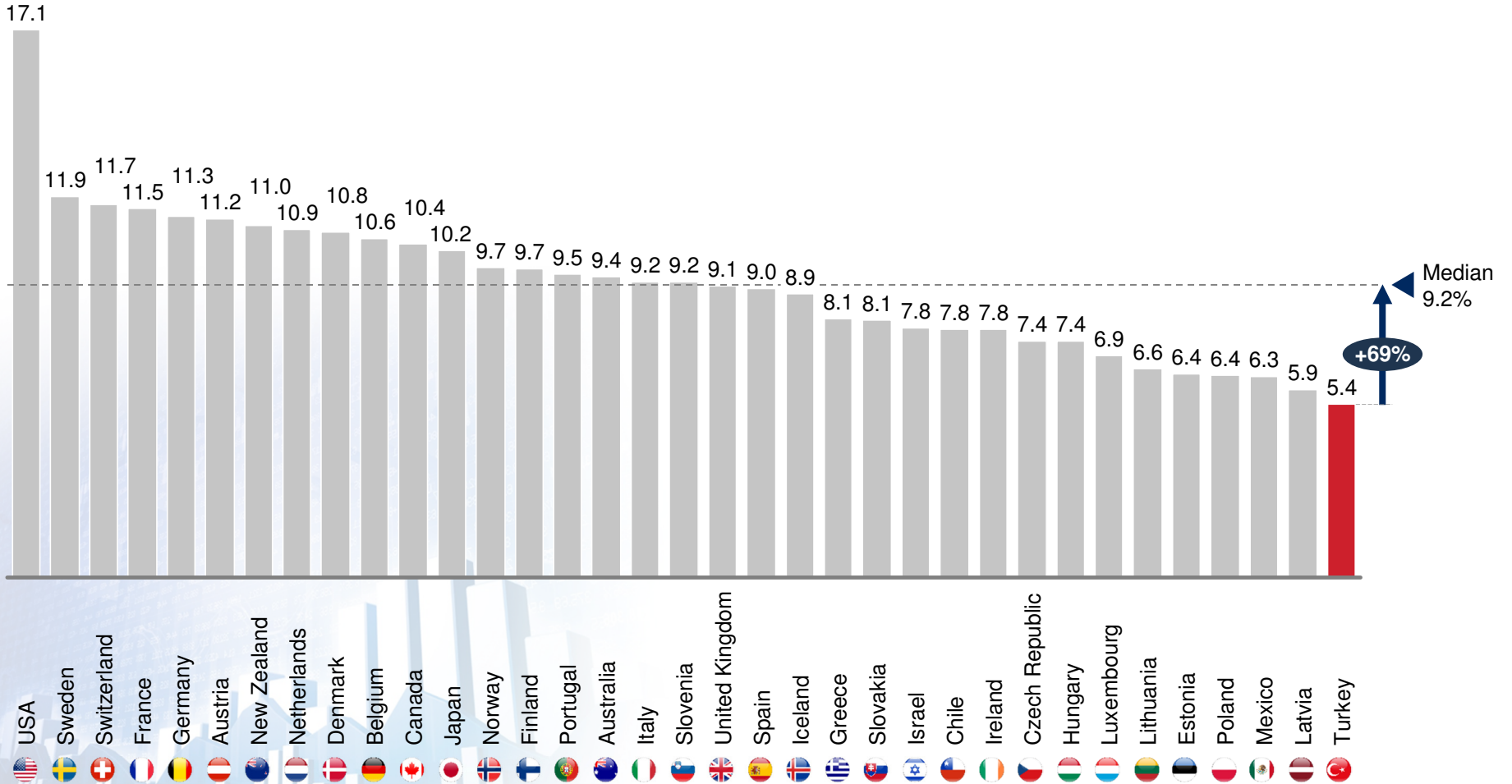
- Expenditure to private providers is growing at par with overall provider sector since 2009, indicating economic stability in the market
- Share of public providers has been slightly increasing mostly due to shift from university hospitals to public hospitals

¹ Excluding pharma



2 Healthcare expenditure share in GDP is still lower than that of other OECD countries showing further growth potential

Healthcare expenditure share in GDP
2014 percent

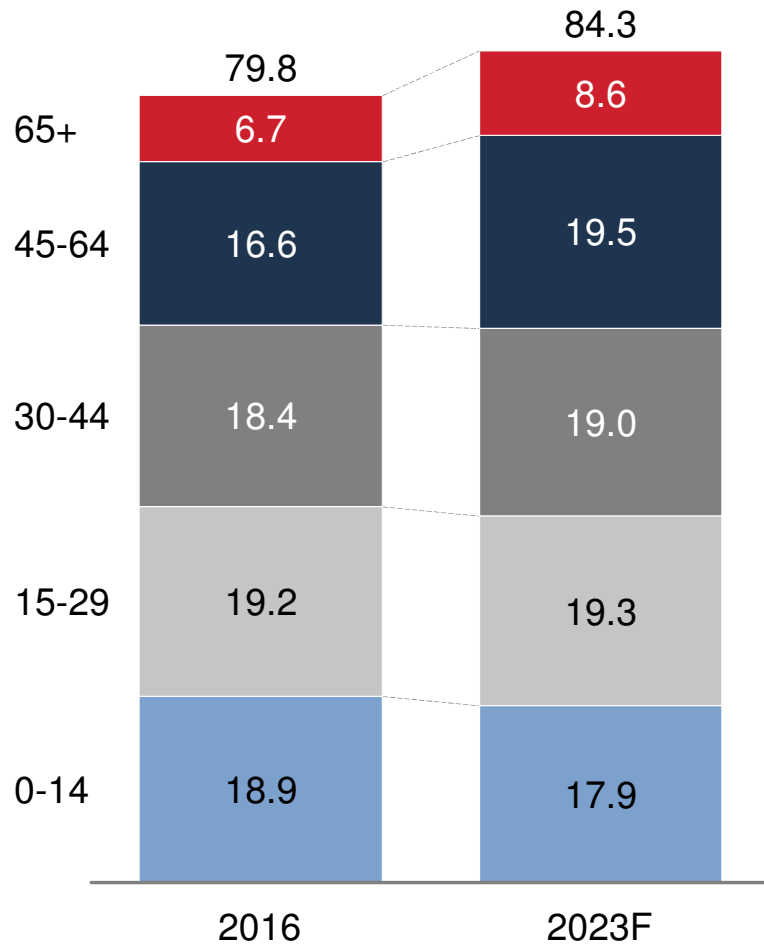




2 Healthcare demand will evolve due to aging population and consequent changes in disease burden

Population distribution based on age buckets, millions

CAGR (2016-23)
Percent



0.8%

3.8%

2.3%

0.4%

0.1%

-0.8%

Key takeaways

- Older and higher risk age groups in Turkey are growing faster than age segments indicating expected increase in healthcare expenditure
- Aging population indicates increase in chronic conditions, suggesting potential increase in healthcare demand
- Implementation of preventive measures to diminish risk factors and strengthening primary care
- Demand for complex, integrated, and long-term condition management
- Revision of healthcare system blocks such as allocation of talent, focus of medical education, performance mechanisms

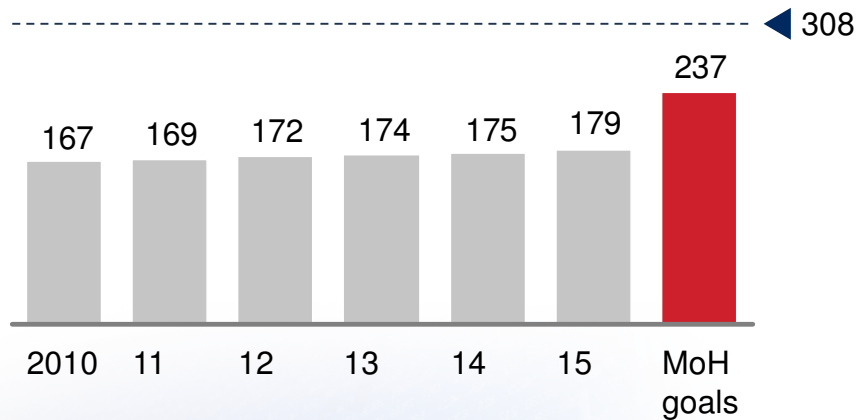


2 Healthcare supply, especially medical staff will further grow given OECD benchmarks and current pipeline

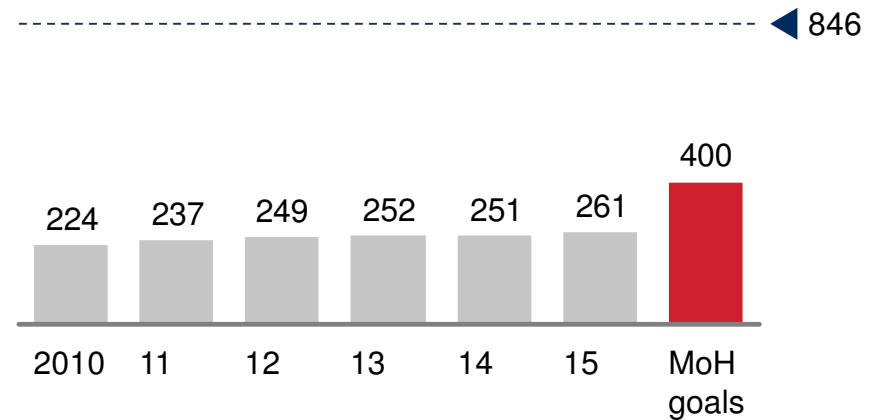
Number of medical staff/bed¹ per 100,000 population

----- OECD 2014 average number per 100,000 population

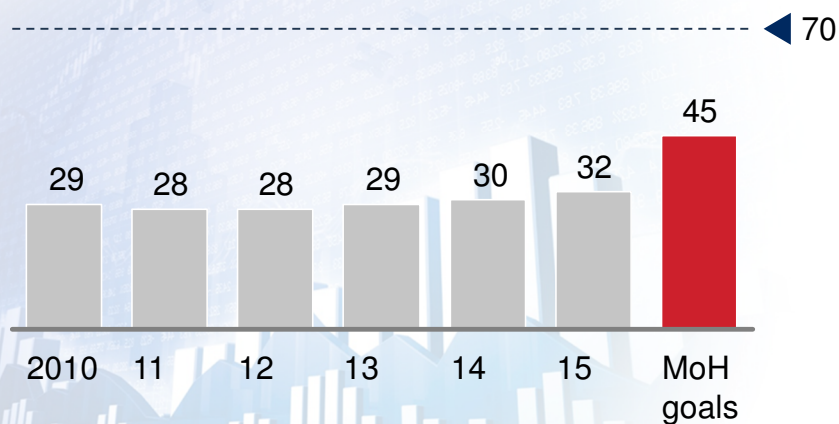
Doctors



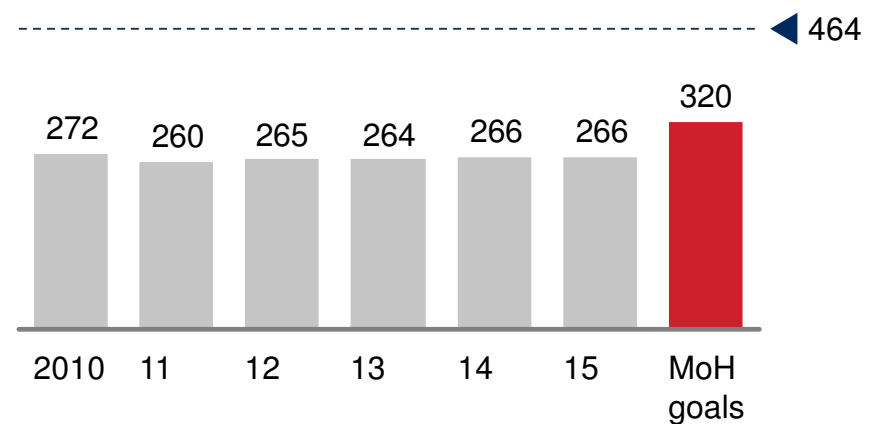
Nurses/Midwives



Dentist



Hospital beds



¹ All system, including public and private providers

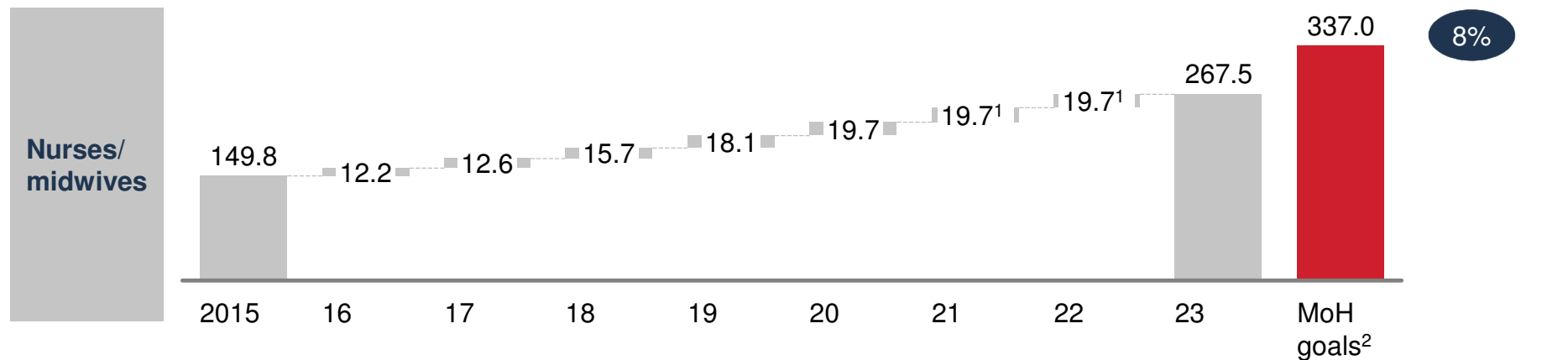
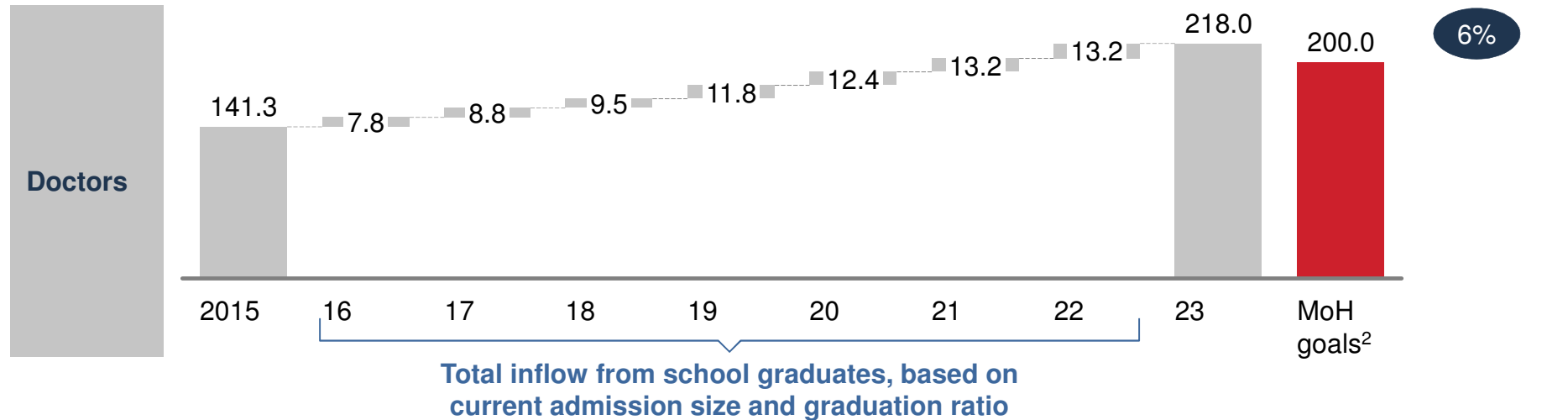
2 Healthcare personnel supply is expected to increase in the next 5-10 years



CAGR
2015-23
Percent

Number of healthcare professional and in flow from graduates

Thousand



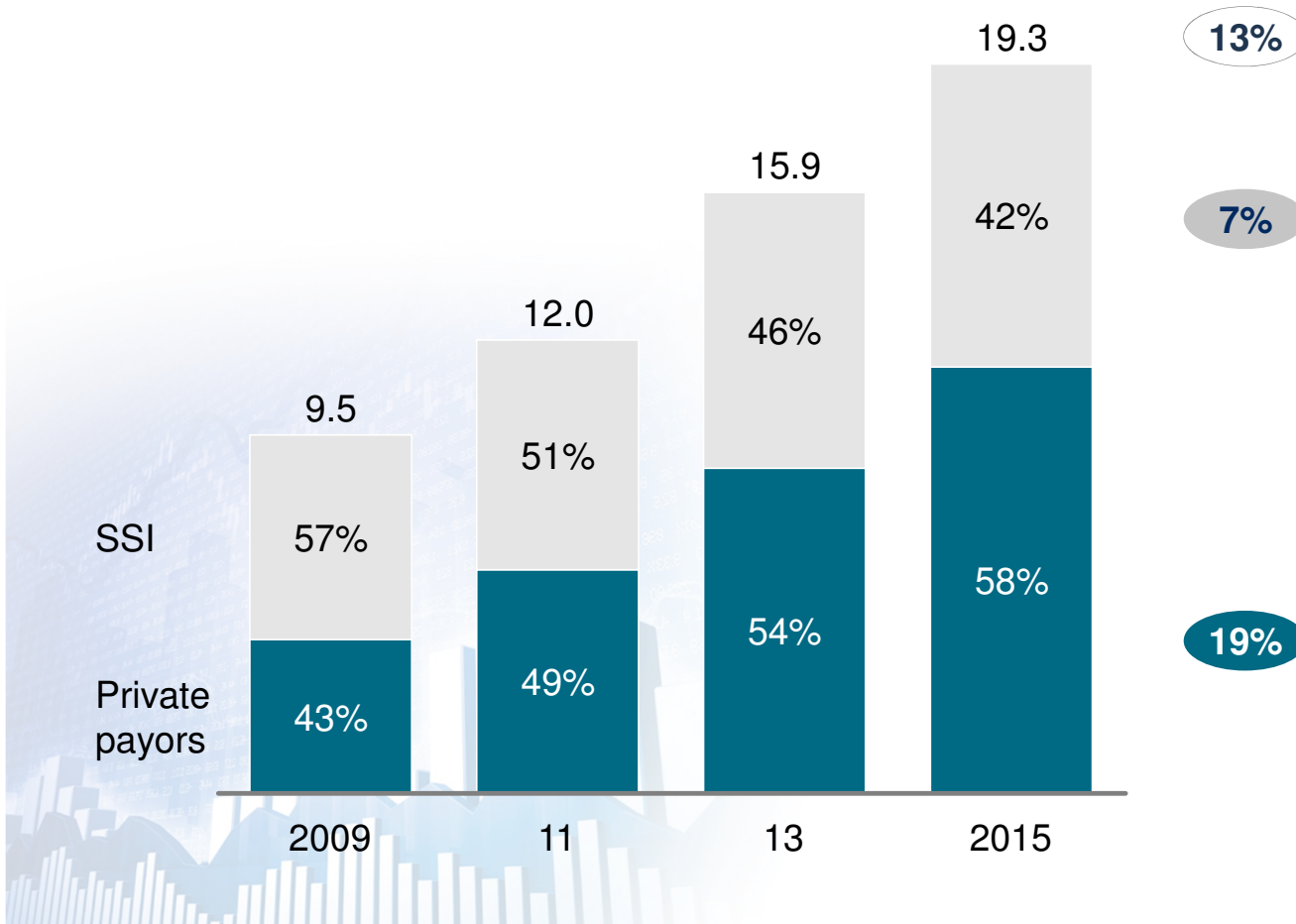
¹ No admissions data available after 2016, hence graduation assumed to be same as 2020

² Calculated based on population projection of 2023 from TURKSTAT

3 Private provider sector has reached to TL 19.3 billion in 2015, where private funding share is increasing substantially since 2009

Healthcare expenditure in private providers by payor type
TL billion

CAGR
2009-15
Percent



Destination of funds	Sources of funds - Payors	
	Public	Private
Public	53.8 (51%)	2.8 (3%)
Private	8.0 (8%)	11.3 (10%)
Total	20.6 (20%)	7.9 (7%)



Key takeaways

- Private provider sector witnessed significant growth until 2009, driven by increasing public expenditure
- Since 2009 sector started growing at 13% annual rate and private funding share has increased by 19 percentage point

3 Private providers have been an integral part of Turkish healthcare market

Private providers...



Undertake significant load from the healthcare burden

- Serving Turkey from **562 hospitals** with **44k hospital beds** (37% and 21% of total respectively)
- Performing **77 million outpatient examinations** and **1.6 million operations**, (18% and 34% of total respectively)



Perform complex procedures requiring high capability

- Operating **~53% of most complex surgeries** in the market
- Owning **43% of all intensive care beds**, playing an important role in **emergency care**
- Having most **state of the art technology** and **high capability** medical staff



Set the bar for sector in terms of quality and efficiency

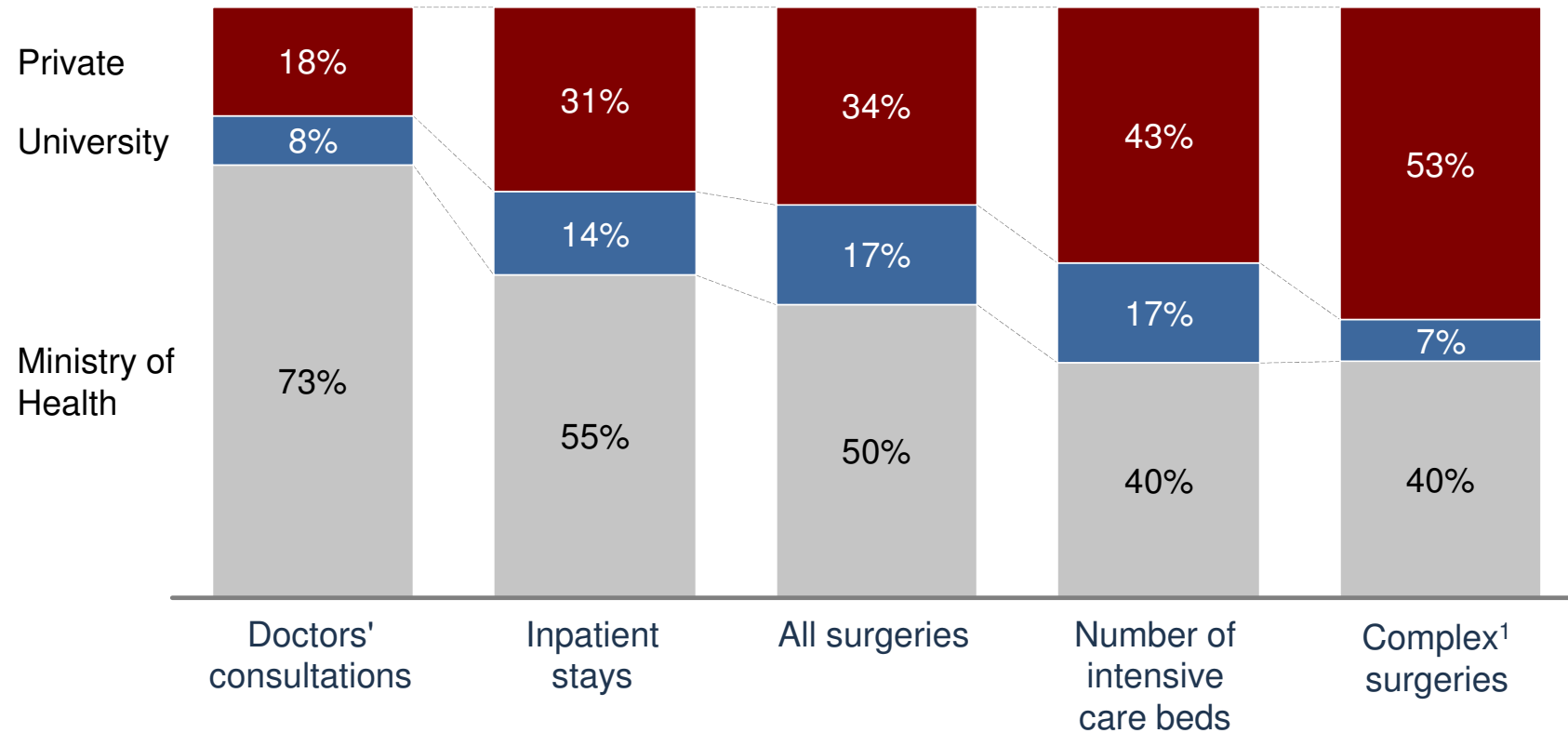
- Contributing to overall **advancement** of the sector by **investing on service quality and efficiency**



3 Private providers perform almost third of all surgeries and more than half of complex procedures

Distribution of healthcare demand across sectors

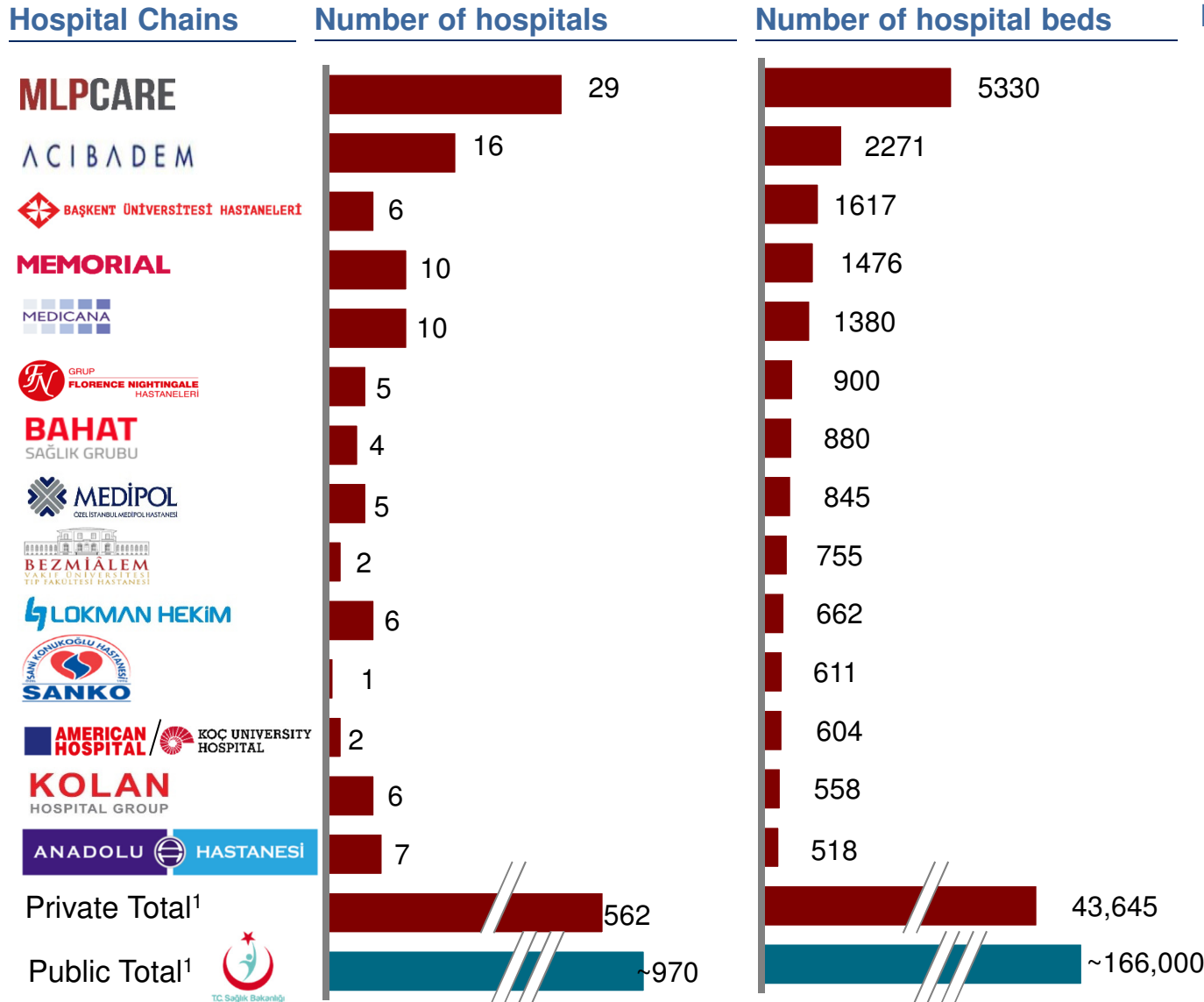
2015, million



¹ A1 type surgeries e.g., organ transplants, 2014 numbers due to data availability

3 Top 5 private hospital chains make up for ~28% of total private hospital market in terms of number of beds

NOT EXHAUSTIVE



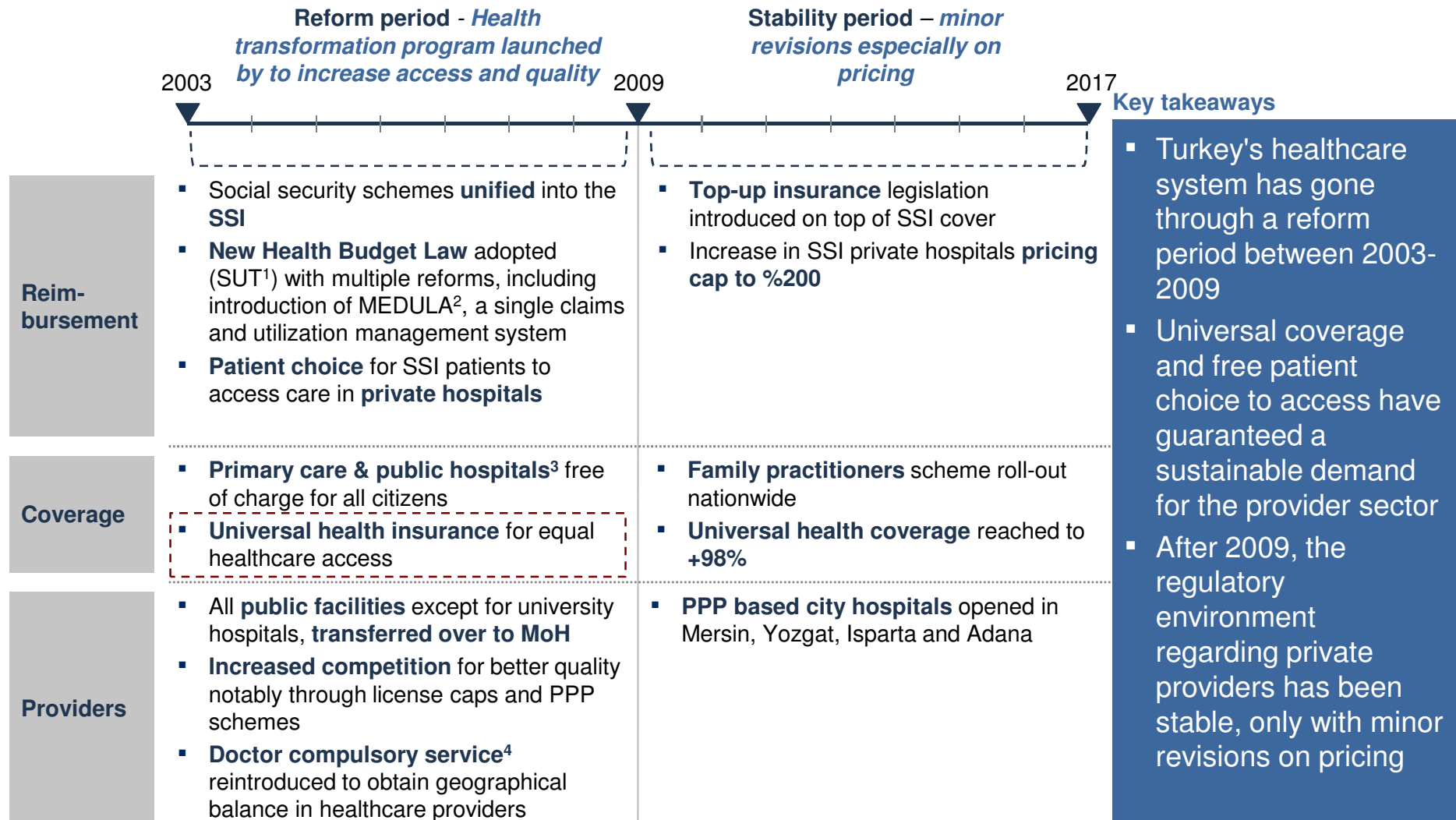
- #### Key takeaways
- Number of private hospitals have reached to **562** in 2015 where approximately **13%** of these hospitals consists of top 5 hospital chains
 - Top 5 hospital chains have more than **2x** average hospital bed capacity compared to other private hospitals – 170 beds vs. 78 beds per hospital
 - Top hospital chains are building greater and more comprehensive healthcare services, with larger facilities

¹ Totals are 2015 Ministry of Health numbers; individual hospital numbers are from company websites or company sources. Private hospital groups with over 500 beds are included in this chart. SOURCE: Press Searches, Company Websites, Company Sources, Turkish Ministry of Health, SSI, Health Statistics Yearbook 2015

4 There has been a stable regulatory environment for private providers since 2009



Detailed next



1 MoH standardized health operations price list 2 SSI prescription approval system 3 Public hospitals with co-payments for certain procedures 4 Compulsory program for new graduates to work in MoH assigned location within Turkey



4 Turkey's single public payor offers a comprehensive coverage for both public and private providers and coverage scheme is expected to remain stable

● Not covered except for special case ◐ Partially covered ● Fully covered

	Eye check	Health check	Influenza	Maternity (regular delivery)	Dental care	Optical glasses	Prescription drugs
Turkey	●	●	●	●	◐	●	◐ ¹
Japan	●	◐	◐ ²	◐	●	◐	●
Switzerland	◐	●	◐	◐	◐	◐	●
Germany	●	●	◐	●	◐	◐	●
Canada	◐	◐	●	●	◐ ³	◐	◐
Denmark	◐	◐	●	●	◐ ³	◐	◐
Sweden	◐	◐	●	●	◐	◐	◐
U.K.	◐	●	◐	●	◐	◐	◐

Key takeaways

- SSI coverage is very extensive in Turkey compared to other developed markets
- Given relatively sustainable healthcare expenditure levels in Turkey, there is no reason for the government to lower coverage

1 Chronic diseases (e.g., diabetes) patients are fully covered

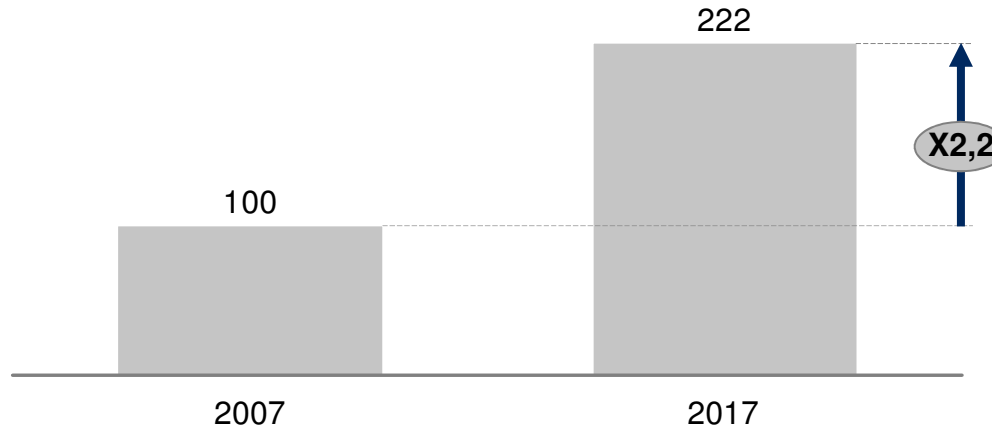
2 Influenza fully covered, vaccination is partially covered

3 Dental care covered for children/youth and adults with special needs; specialized dental surgery covered by the healthcare system



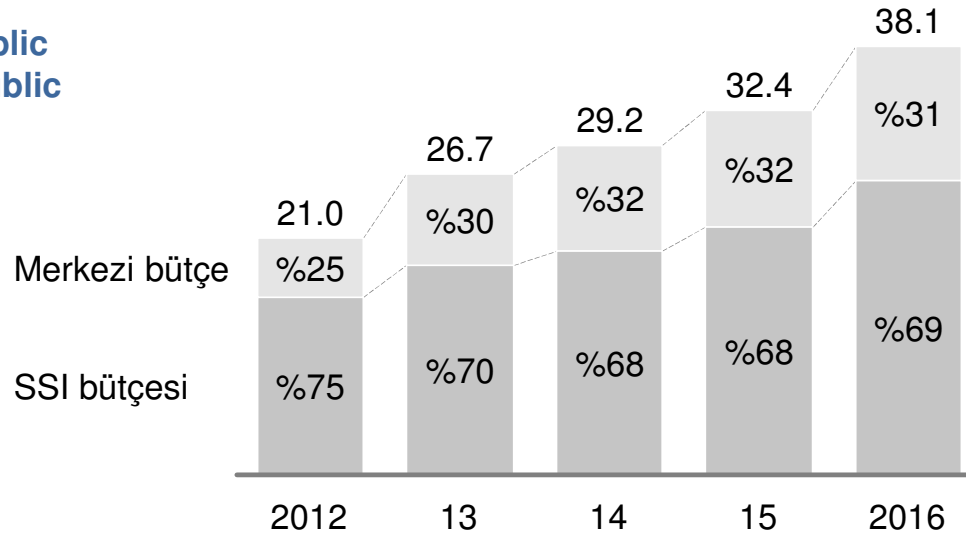
4 SUT prices may be subject to upward revision based on certain sector indicators

A Consumer price index change between 2007-17 Index



- The list prices have not changed since 2008 while private hospital cost base is increasing (e.g., inflation, price index changes)

B Evolution of public payments, to public hospitals TL billion



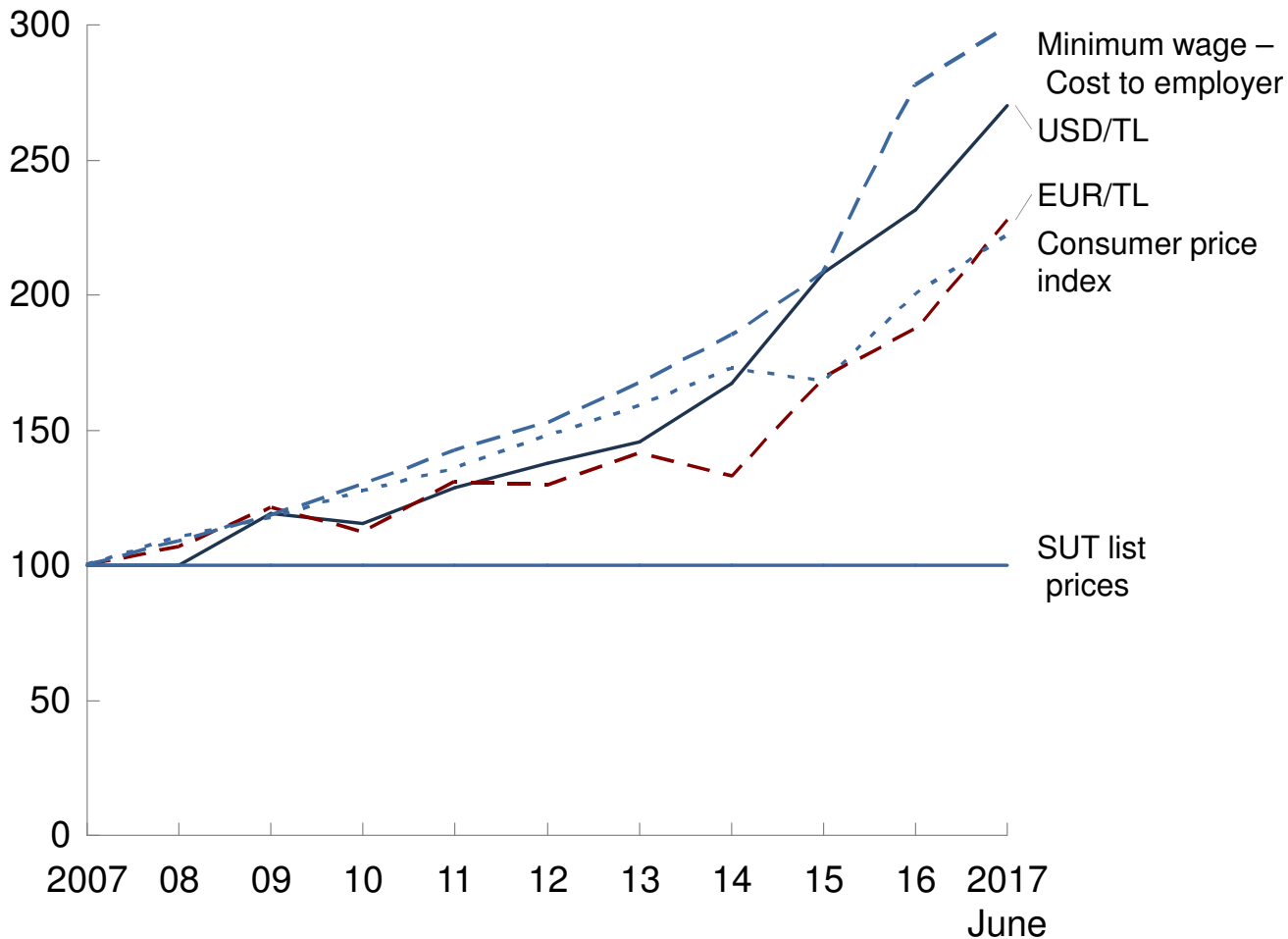
- MoH hospitals are compensated by central budget payment which is increasing by 23% per annum vs. healthcare expenditure growth of 11%

4A SUT prices have not increased with respect to price index against rising exchange rates, inflation and costs



Evolution of key financial indicators

Price index, 2007 = 100



Key takeaways

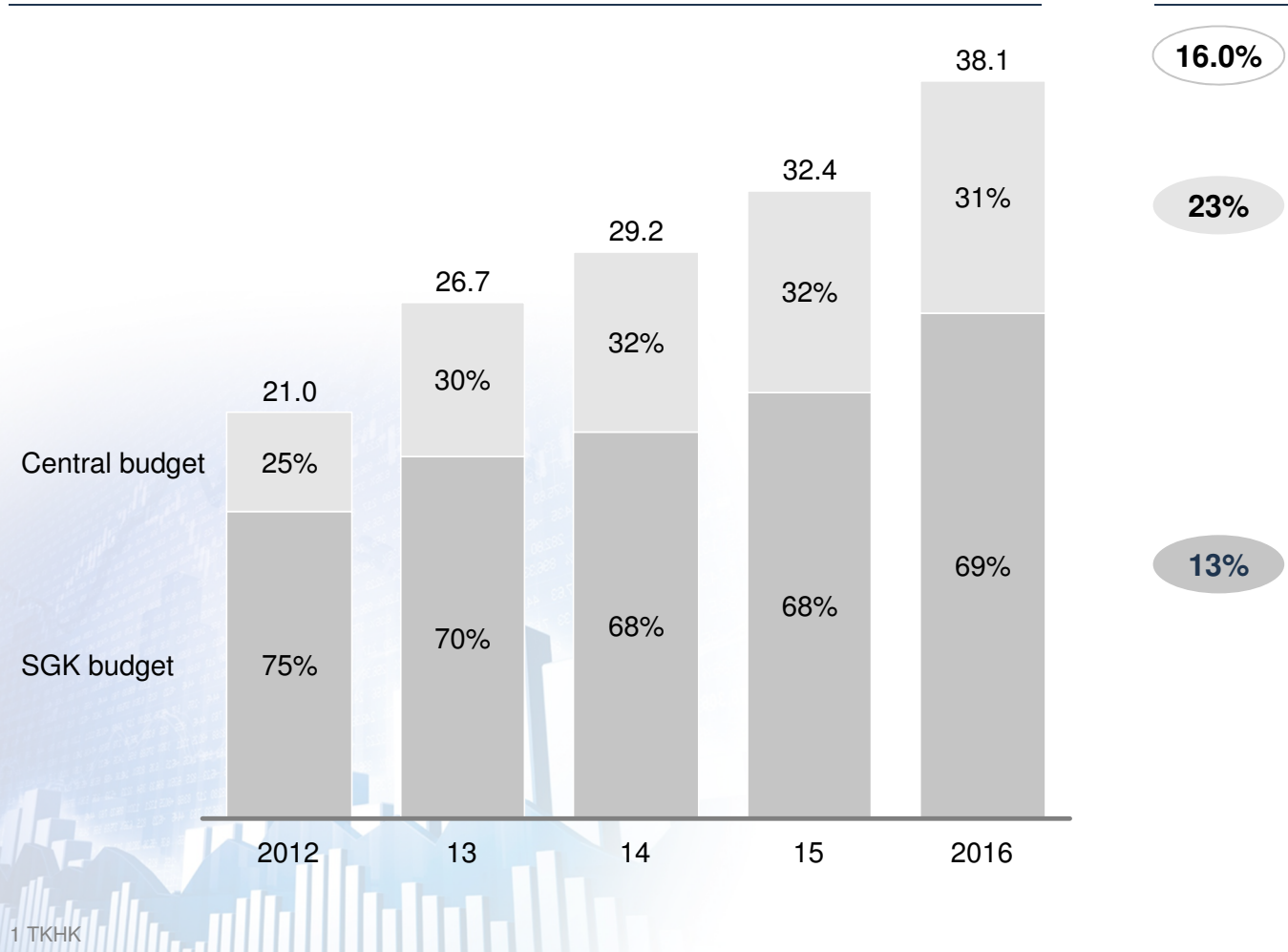
- SUT prices have been mostly kept stable since the system was first launched in 2007
- Since 2007:
 - The exchange rate reached to 2.3–2.7X
 - Minimum wage reached to 3X
 - Consumer Price Index reached to 2.2X
- The discrepancy between SUT prices and the changing market rates has increased private providers' dependency to private expenditure



4B MoH payment to hospitals has been increasing faster than SSI payments, suggesting financial sustainability issues of MoH hospitals

x% CAGR 2012-16

Payment to Public Hospitals¹
Billion TL



Key takeaways

- MoH central budget is increasing by 23% per year, higher than SSI budget growth (13%)
- Faster growth suggests public hospitals require additional funding other than SSI funding (defined by SUT prices)
- SUT prices will be subject to upward revision – But due to budgetary concerns, highly unlikely to implement complete uplift, more ad hoc adjustments

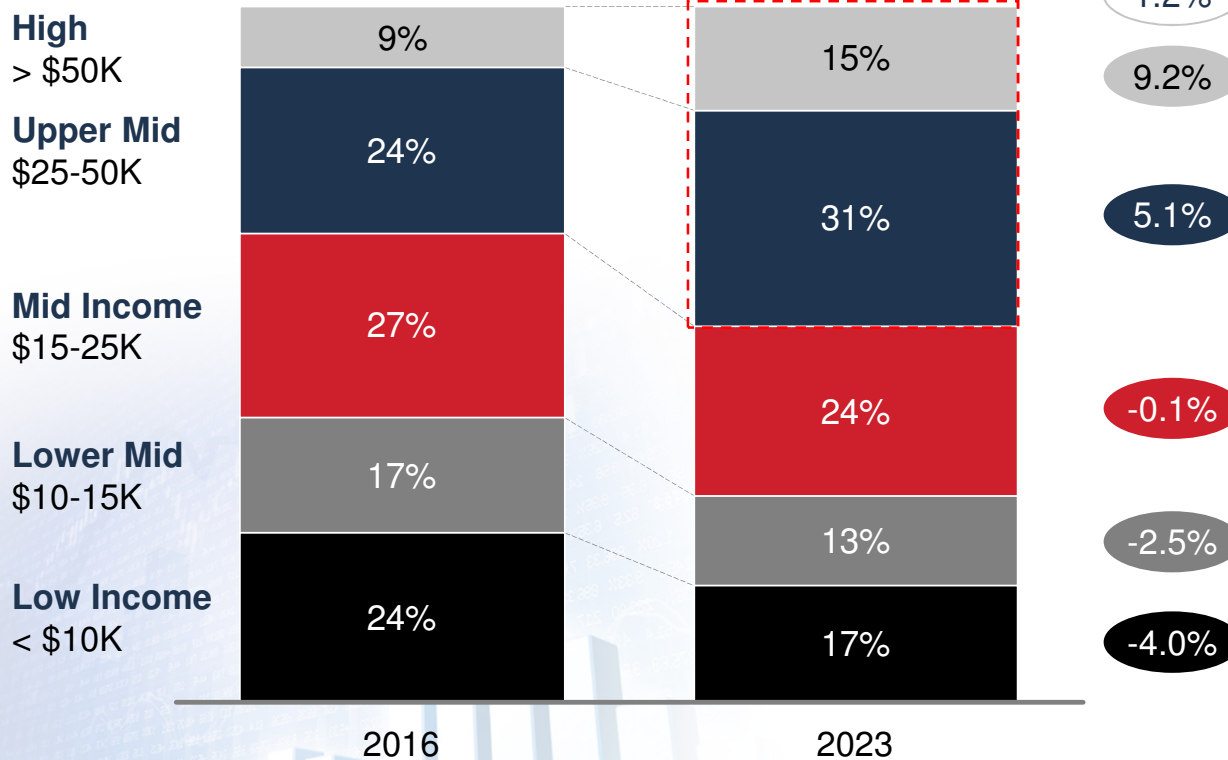
¹ TKHK



5 Demand for private providers is expected to increase due to faster growth in upper mid & high income households

Breakdown of households by income category
US\$ per annum

CAGR 2016-23
Percent



PHI eligible population will reach to 35 million in 2023 (vs. 23 million in 2016)

Key takeaways

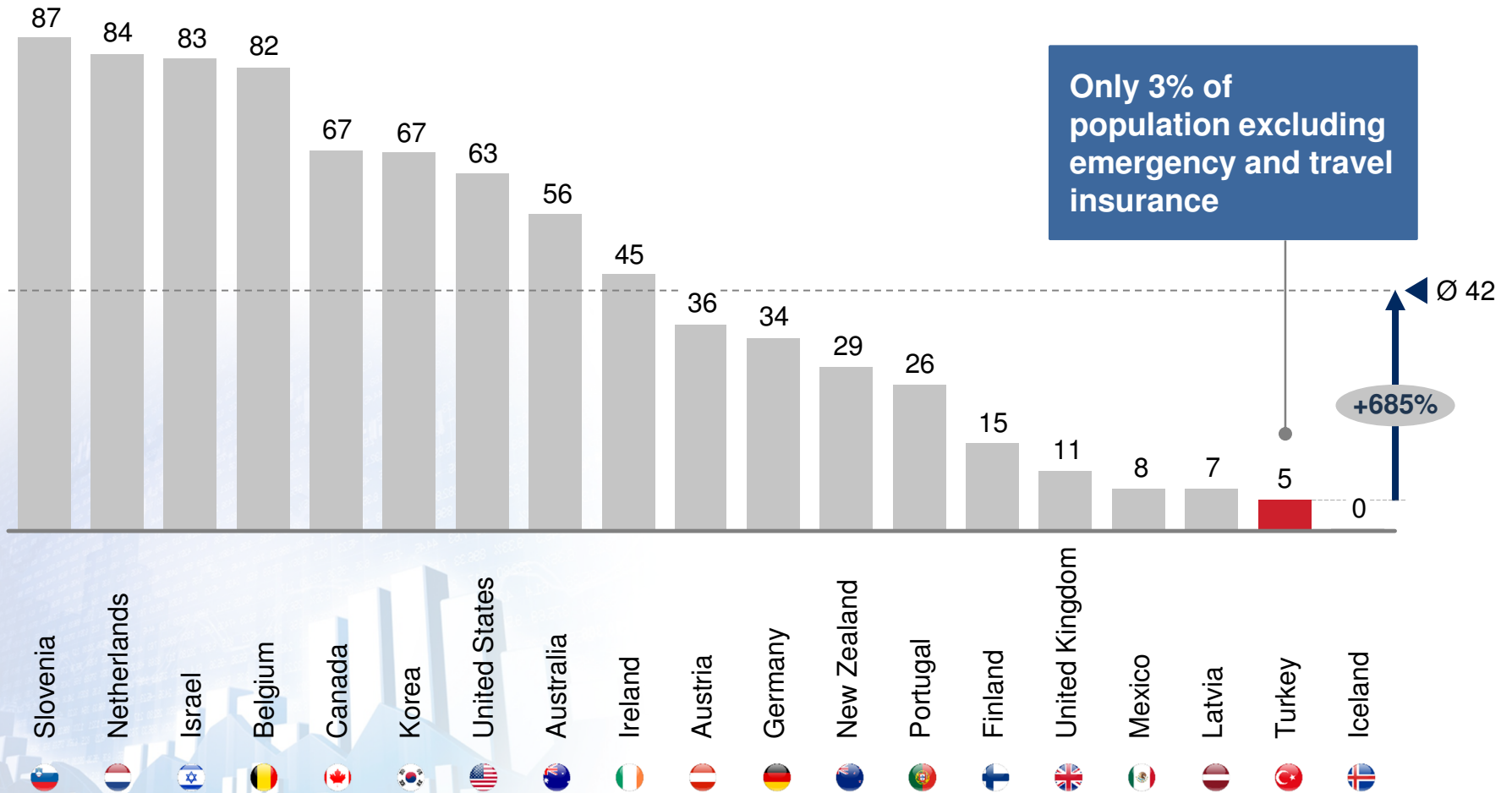
- While population is growing by 1%, high and upper-mid segment population is growing at a faster rate of 9% and 5% respectively
- Growth of higher income households will increase private provider demand
 - More disposable income available for healthcare expenditure
 - Customer preference of higher quality and effective service
 - Better health insurance awareness



5 PHI penetration in Turkey is low compared to benchmark countries and suggests growth potential

PHI penetration

Percent of population, 2015

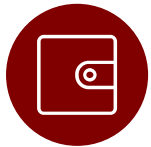




5 Complementary health insurance has been launched in 2014 and is more affordable than comprehensive insurance

Complementary health insurance

Comprehensive health insurance



Premium

~500 TL

~1,700 TL



Coverage

- On top of SSI coverage, complementary health insurance covers:
 - Inpatient: any other expenses that are not fully covered by SSI
 - Outpatient co-payments

- Inpatient coverage
- Typical add-on options for:
 - Outpatient
 - Birth
 - Dental



Provider

SSI affiliated



Other private



(depth of provider coverage depends on customer choice)



Co-payment

- No co-payment required for both inpatient and outpatient treatments
- Number of visit limitation for outpatient services

- Inpatient generally fully covered
- Outpatient, dental with copayment or deductible charges¹ and with usage limitation (i.e., maximum outpatient expense amount per year)

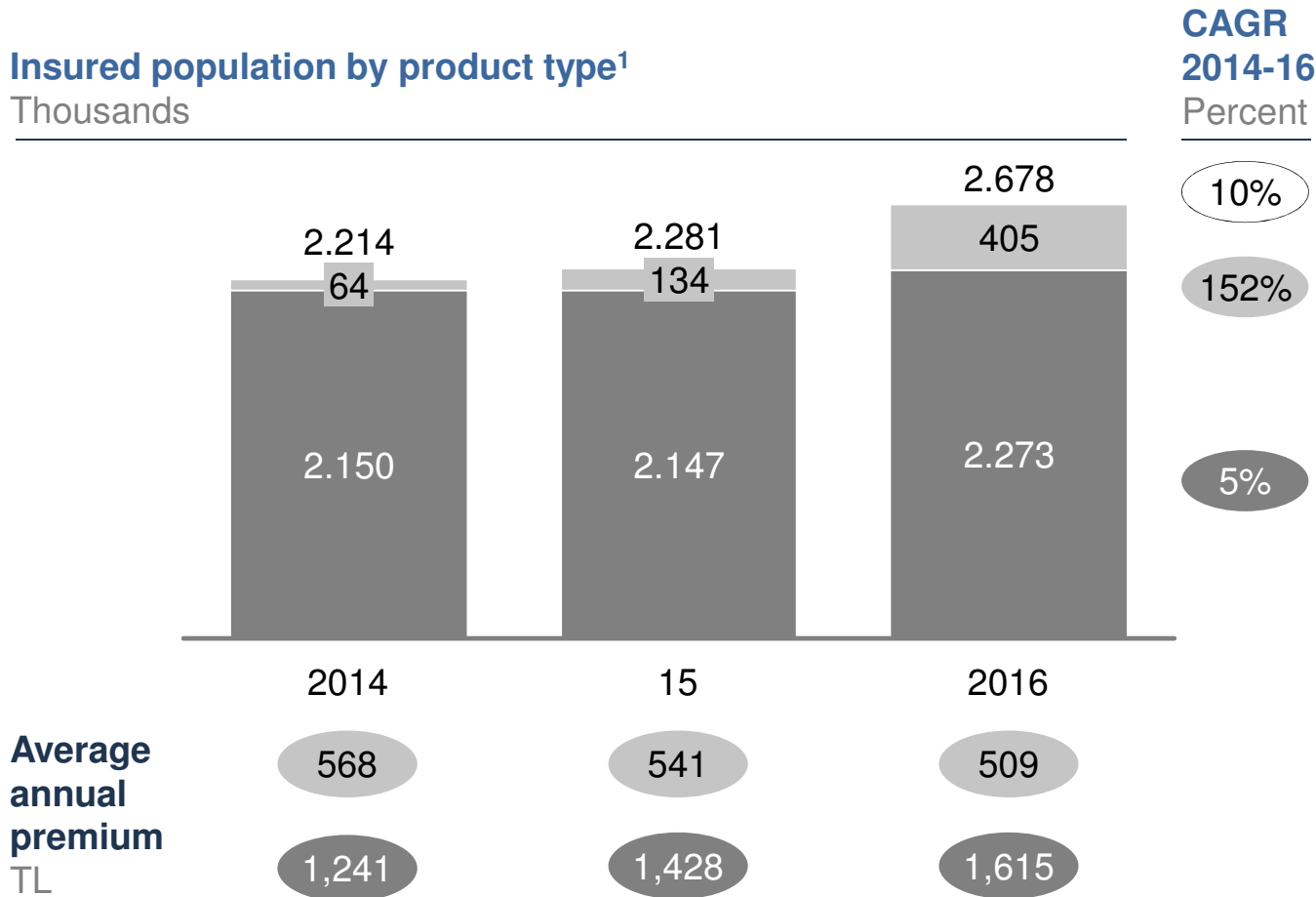
¹ Insurance kickoff coverage after a certain amount of payment



5 Introduction of complementary health insurance in 2014 has created a boost for PHI market

■ Complementary insurance ■ Comprehensive insurance

Insured population by product type¹
Thousands



Key takeaways

- Complementary has been the main growth driver of the insured population reaching to 405k insured in 2016, cumulative new addition of 340k vs. 124k of comprehensive insurance
- Complementary prices have dropped between 2014-16 mainly due to competition and larger insured pool; 2017 prices are expected to increase in line with inflation

! Population with complementary insurance expected to reach to 700-750K by the end of 2017

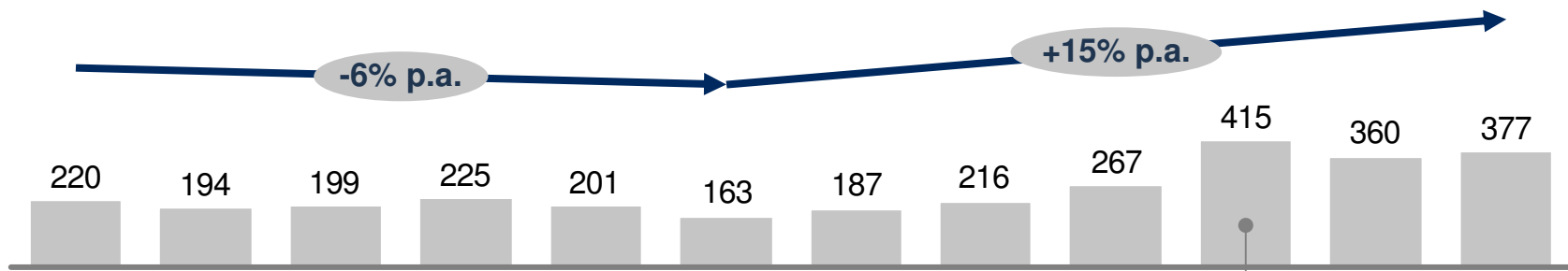
¹ Excluding emergency & foreign insurances considered



5 Medical tourism market in Turkey is growing at 15% in terms of visitors representing significant potential for private providers

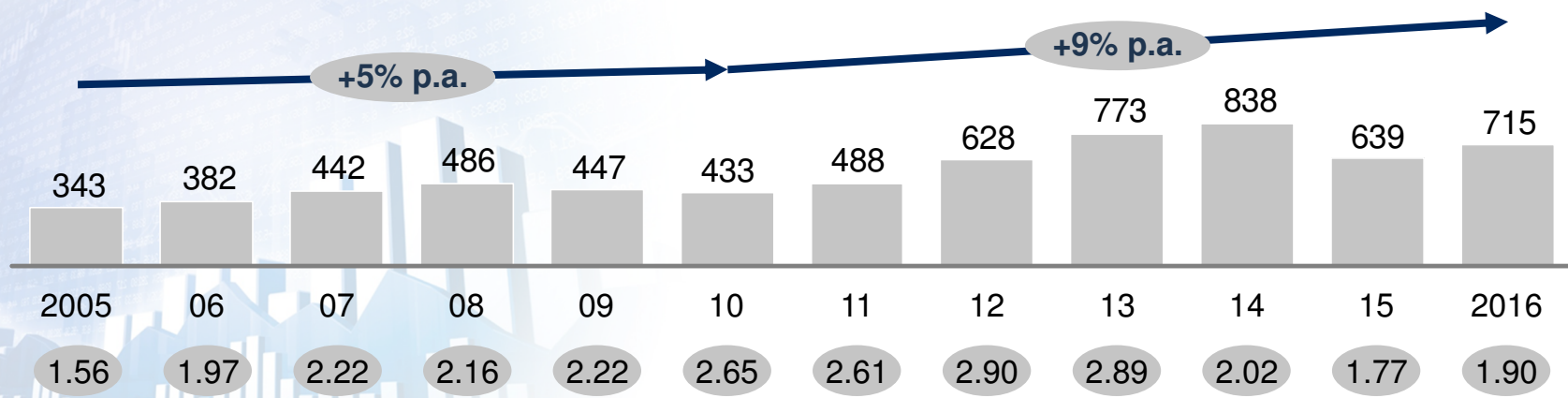
Number of departing visitors with health/medical related purpose of visit
Thousands

(X) Expenditure per person,
Thousand USD



- Significant increase in 2014 due to inflow from Libya
- 2015 volume negatively impacted by visa requirements for neighbour countries (e.g., Iraq)

Total tourism income of health expenditure
Million USD

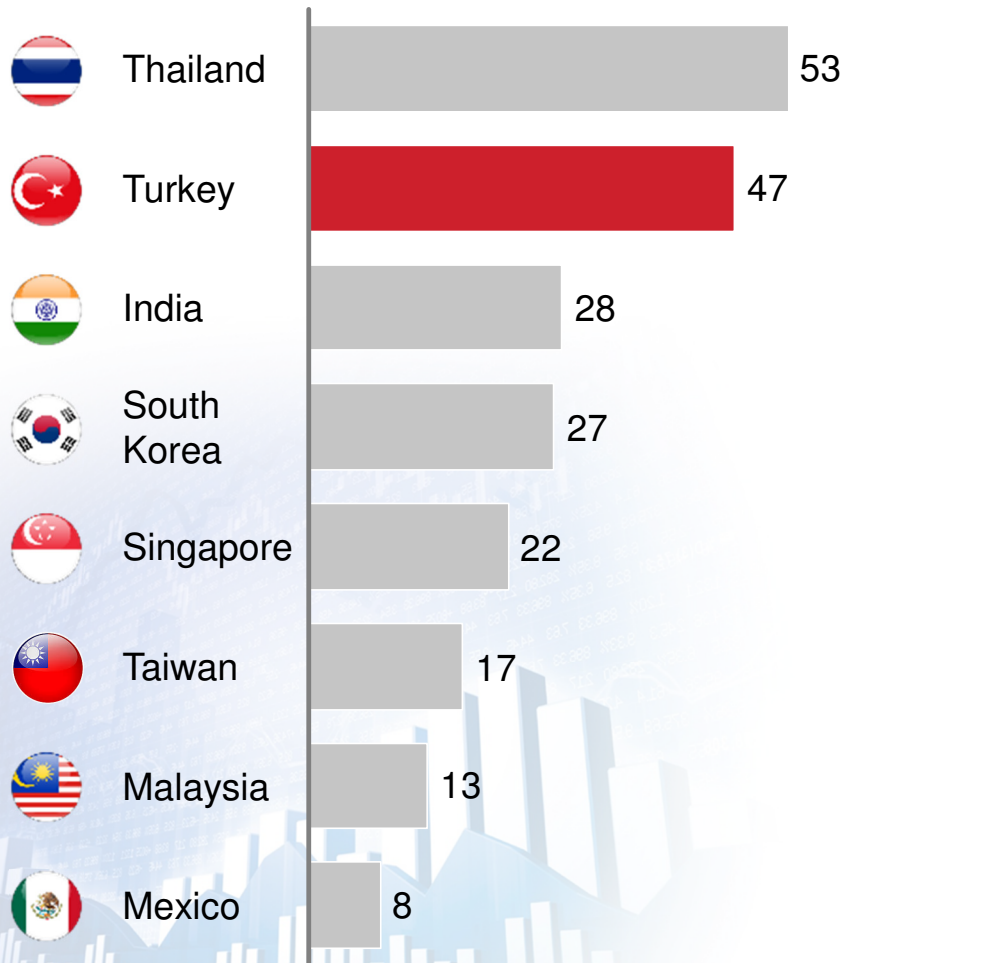




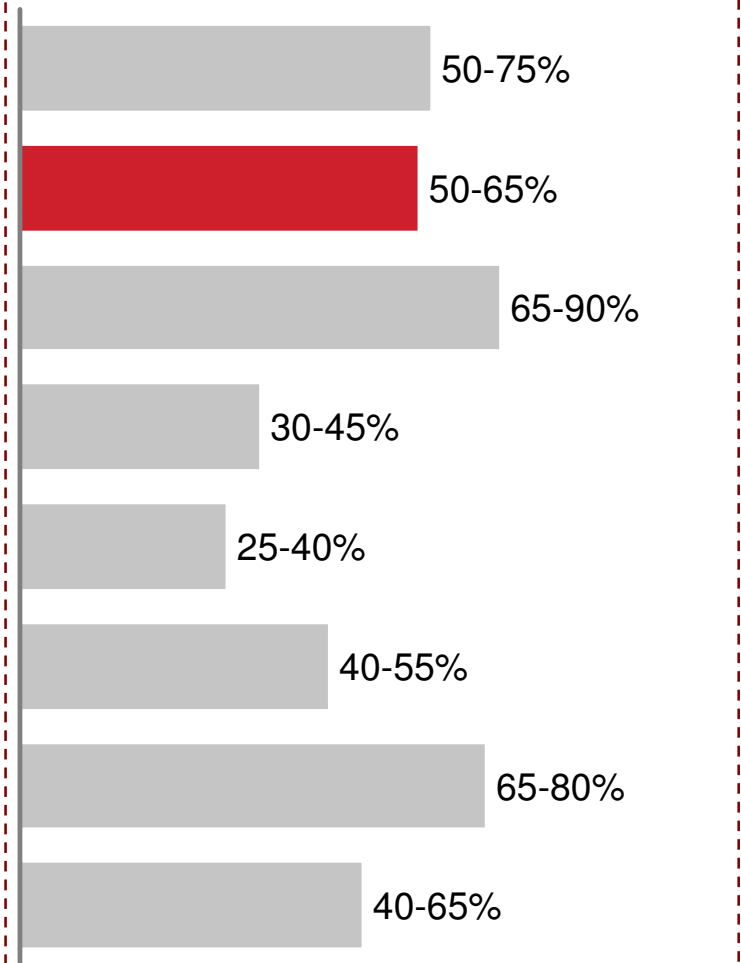
5 Turkey is well positioned to attract medical tourists due to high service quality and cost advantage

Detailed next

Number of JCI – accredited health providers



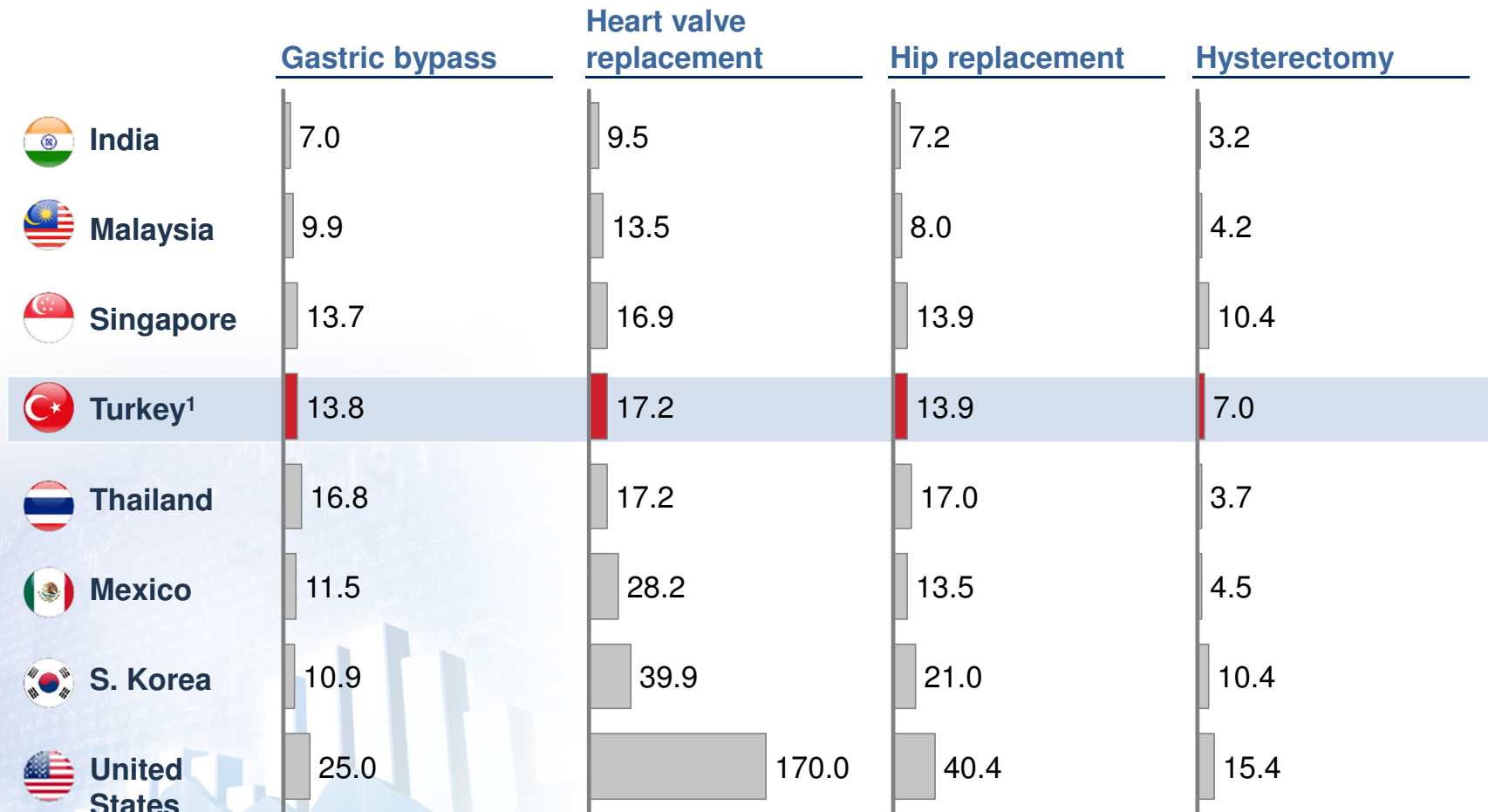
Estimated savings vs. cost of treatment in USA, Percent





5 Turkey has an advantageous position in medical tourism market, offering competitive prices for most common operations

Treatment cost comparison – USD thousands



¹ Turkey prices in affluent segment private hospitals



5 Government will further prioritize medical tourism also implied by recent regulatory initiatives

Initiative

Organization and governance

- “**Department of Medical Tourism**” and “**Medical Tourism Coordination Board**” are established under the Ministry of Health
- “Ministry of Development” **prioritized** “Medical tourism” as a **top agenda matter** in “10th Development Plan and 2023 targets”
- “International Patient Registry System” is created to enable better **data tracking**

Financial incentives

- All medical doctors are now **insured** against **malpractice risk**
- **50%** of **income** from medical services provided to residents outside of Turkey can be **deducted** from **taxable income**
- **Compensation** is provided for:
 - Intermediary services
 - Fair, congress, and sponsorship activities
 - Translation and consulting services
- Support for **international operations** (e.g., rent support, consulting services)
- **Airline transportation** costs for patients

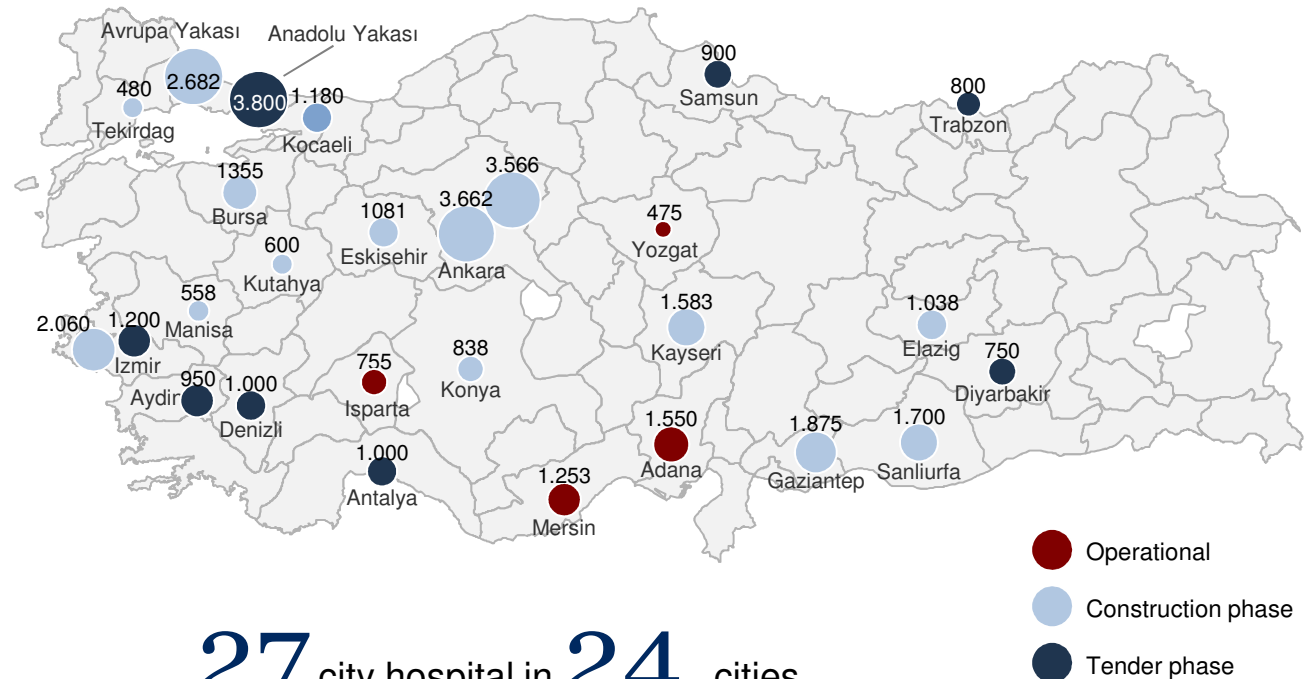


6 27 city hospitals will be built in 24 cities, with a total of 40K bed capacity

Context

- Ministry of health aimed to renew hospital infrastructure in a relatively short time frame
- The investment model for this effort was determined as public-private partnership in order to:
 - Minimize upfront capital investment
 - Deliver in a short time frame
- Outsource hospital construction and facility services to private contractors

Locations and bed capacity of city hospitals planned



27 city hospital in 24 cities

\$10 Billion investment

40K bed capacity



6 City hospitals' potential impact on private provider landscape will depend on the success in three key themes

Key themes

Considerations



Operational excellence

- City hospitals are mega health complexes requiring operational excellence to ensure financial sustainability and top quality
- Turkish MoH needs to ensure right governance system in place to manage city hospitals given it is the first PPP investment experience



Healthcare personnel

- MoH needs to staff city hospitals with right quantity and quality of medical staff
- Given current shortage of healthcare personnel, some public hospitals may need to be closed and staff to be re-located
- Re-location of medical staff may pose some risk due to remote location of city hospitals



High service quality

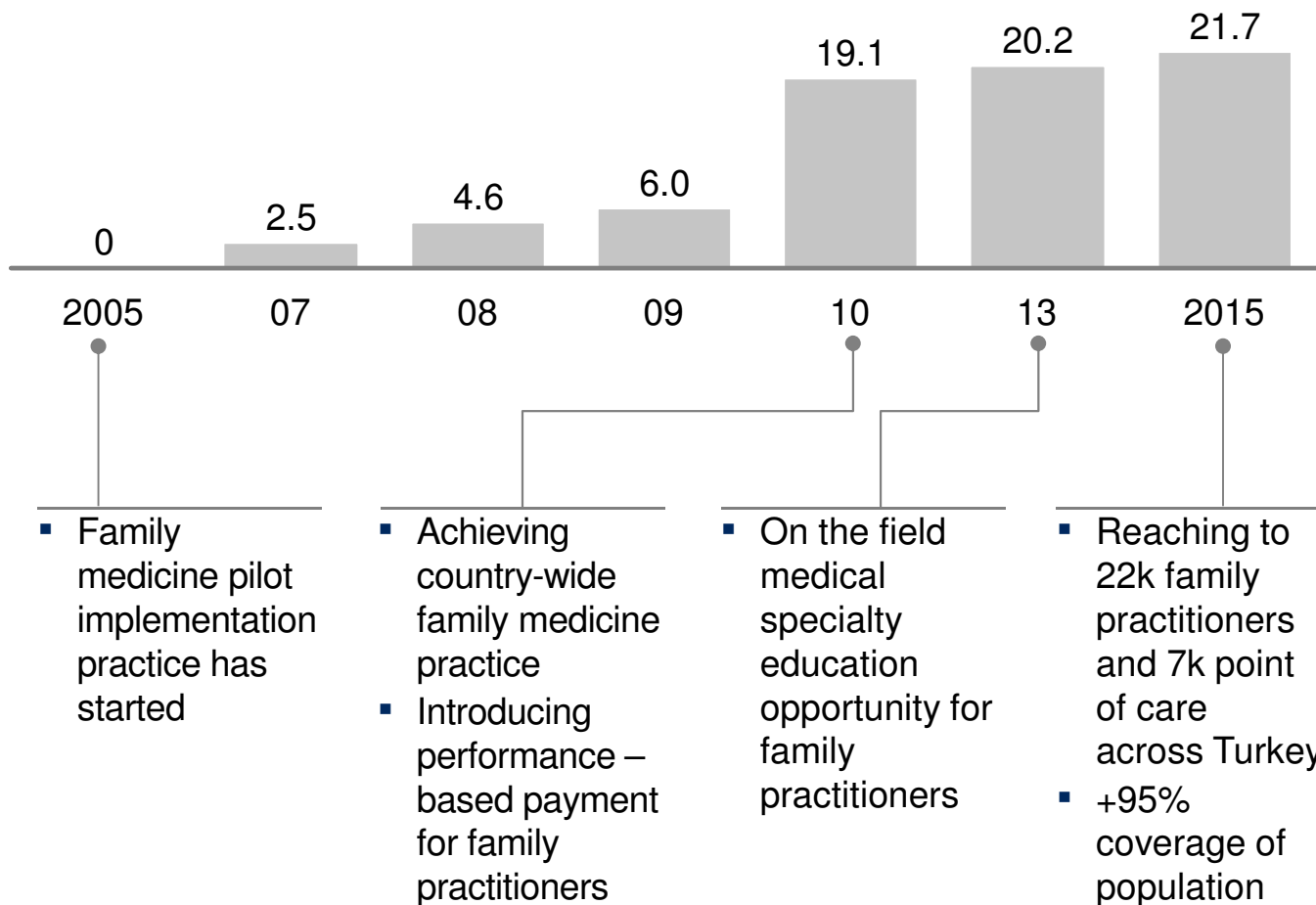
- MoH needs to ensure patient demand through high quality service
- Even with high quality, there may be reduced demand due to significant increase in citizens' travel time, especially for outpatient or unplanned visits



6 In the last 15 years, Turkish Ministry of Health continued investments in primary care and achieved +95% public coverage across Turkey

Number of family practitioners

Thousands



Key takeaways

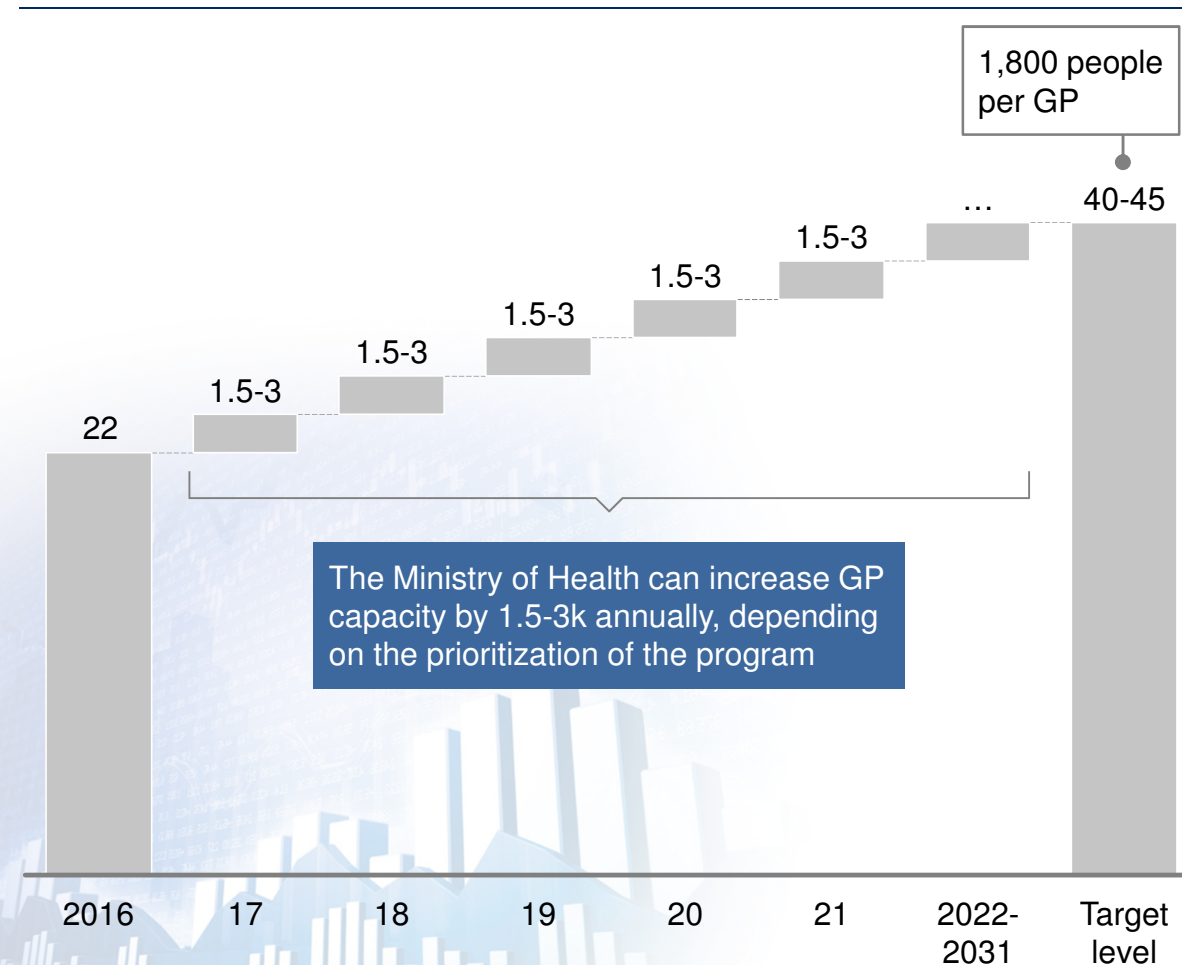
- The Ministry of Health has continued to strengthen family medicine system since 2005
- The family medicine system is believed to have a significant impact on the improvements in maternal/perinatal related morbidity and mortality
- Currently, +95% of the population is registered with a family practitioner



6 Turkish Ministry of Health could achieve a full-fledged primary care system at par with developed countries in 6-15 years

Number of General Practitioners in Turkey (working in family medicine)

Thousand



Improvement areas on top of capacity

- In order to achieve full-fledged primary care system, certain capacity and capability should be developed:
 - Approximately double the General Practitioner (GP) capacity to reach the optimal level
 - Quality of care – Healthcare personnel and physical infrastructure
 - Education and training of family practitioners
 - Public perception of primary care and patient preference
- Demand shift to primary care will not be possible in near-mid term given there will not be any major structural changes such as referral mechanism

Afterword

- Turkish Private Healthcare Sector has grown in parallel with the development of healthcare services across Turkey over the last 15 years and **is expected to continue to maintain this strong position in the upcoming period**
 - 14% annual growth brought about a market share of approximately 25-27% in terms of value, and this rate is above 50% in qualified services
- It is expected that the need for healthcare services and thereby for private healthcare services will continue to increase with the increase in the elderly population and the diseases' becoming chronic; **transitions of qualified health personnel from public to private industry, the increase in population with high purchasing power, increase in the number of complementary health insurance users project that the role of private sector will increasingly go on in the upcoming period**
 - Population growth above the age of 45 is 3-5 times faster than the general population growth on an annual basis
 - Population with an annual income level above US\$50,000 is increasing by 9% per year
 - Complementary health insurance penetration has grown at an average rate of 152% in the last 3 years
- There are **private-public partnerships that will support the development of Turkish healthcare industry** in the following period:
 - The success of **our city hospitals** is highly significant for all health industry stakeholders; so, larger-scale partnerships may be considered with the private industry stakeholders regarding administration and the delivery of healthcare services
 - **Health tourism** is a very important improvement area for Turkey; considering both elective services and long-term healthcare services, there are numerous investments and partnerships that can be initiated with private-public partnerships



Fact pack

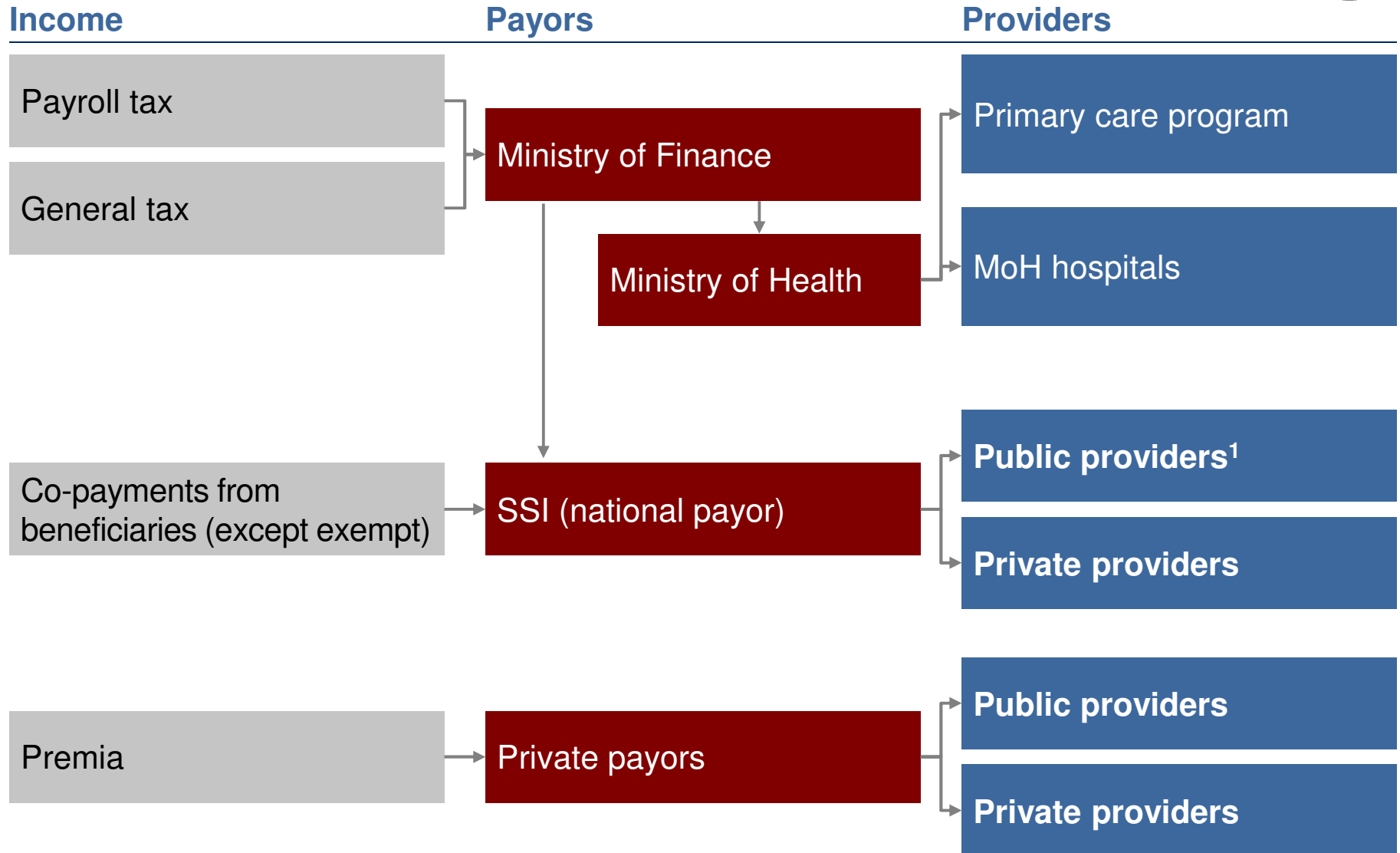
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- **Overview of healthcare players**
- Healthcare supply
- Healthcare demand
- OECD benchmarks

Turkish healthcare market - Overview



→ Flow of funds



¹ MoH and university hospitals

SSI is the state-run single payor of healthcare services



Structural archetype	Organizational structure	<ul style="list-style-type: none"> Consolidated state-run payor body: SSI SSI is also administering pension and unemployment schemes
	Premiums	<ul style="list-style-type: none"> Income-related payroll deductions or payment of premiums (self-employed) Government contributes for non-contributing members (e.g., veterans and pensioners) Contribution of 12.5% of income: 5% paid by the employee, and 7.5% paid by the employer
	Co-payments	<ul style="list-style-type: none"> Co-payments for outpatient visits and co-insurance for medication Level of co-payments differ by segments, i.e., contributing/non-contributing members
Covered services	Access to providers	<ul style="list-style-type: none"> Contracted providers (all public providers) as default Contracted private providers can be accessed
	Range of services	<ul style="list-style-type: none"> Comprehensive and standardized benefits package: Public health services, emergency care, inpatient and outpatient, and maternity care fully covered, and extensive pharma positive list Limitations for dental care (50% of the cost covered for patients between 18-45 years-old)
	Differentiation of package	<ul style="list-style-type: none"> No differentiation – All segments (e.g., self-employed, employed or contributing, and noncontributing) have the same access to providers and benefits package
Reimbursement method	MoH providers	<ul style="list-style-type: none"> SSI pays global budgets (prices set by the Reimbursement Commission) MoH pays for personnel and infrastructure with line-item budget allocations
	Private providers	<ul style="list-style-type: none"> SSI reimburses the contracted private providers using SUT prices Right to charge +200% on SUT prices on all services (except emergency, intensive care and high cost treatments)
	Primary care	<ul style="list-style-type: none"> Fixed capitation paid to GPs through central MoH budget (not financed through SSI)

SSI beneficiaries have co-pays for outpatient exams, treatment tools and equipment, and outpatient medication



		Type of beneficiary		
		Active contributors and their dependents	Passive members and their dependents	Green Card holders
Type of co-payment	Outpatient exam	<ul style="list-style-type: none"> Current level of co-payments are as follows: <ul style="list-style-type: none"> First-line healthcare: free Second-line healthcare: 6 TL¹ Public research hospitals: 7 TL University hospitals: 8 TL Private hospitals: 15 TL 		
	Treatment tools and equipment	<ul style="list-style-type: none"> 20% 	<ul style="list-style-type: none"> 10% 	<ul style="list-style-type: none"> 10%
	Outpatient medication	<ul style="list-style-type: none"> 20% 	<ul style="list-style-type: none"> 10% 	<ul style="list-style-type: none"> 10%
Collection mechanism		<ul style="list-style-type: none"> No payment at the provider site Co-payment deducted from salary 	<ul style="list-style-type: none"> No payment at the provider site Co-payment deducted from salary 	<ul style="list-style-type: none"> No payment at the provider site Co-payment paid at the pharmacy afterward

¹ Turkish lira

² Based on Council of State decree

Contents

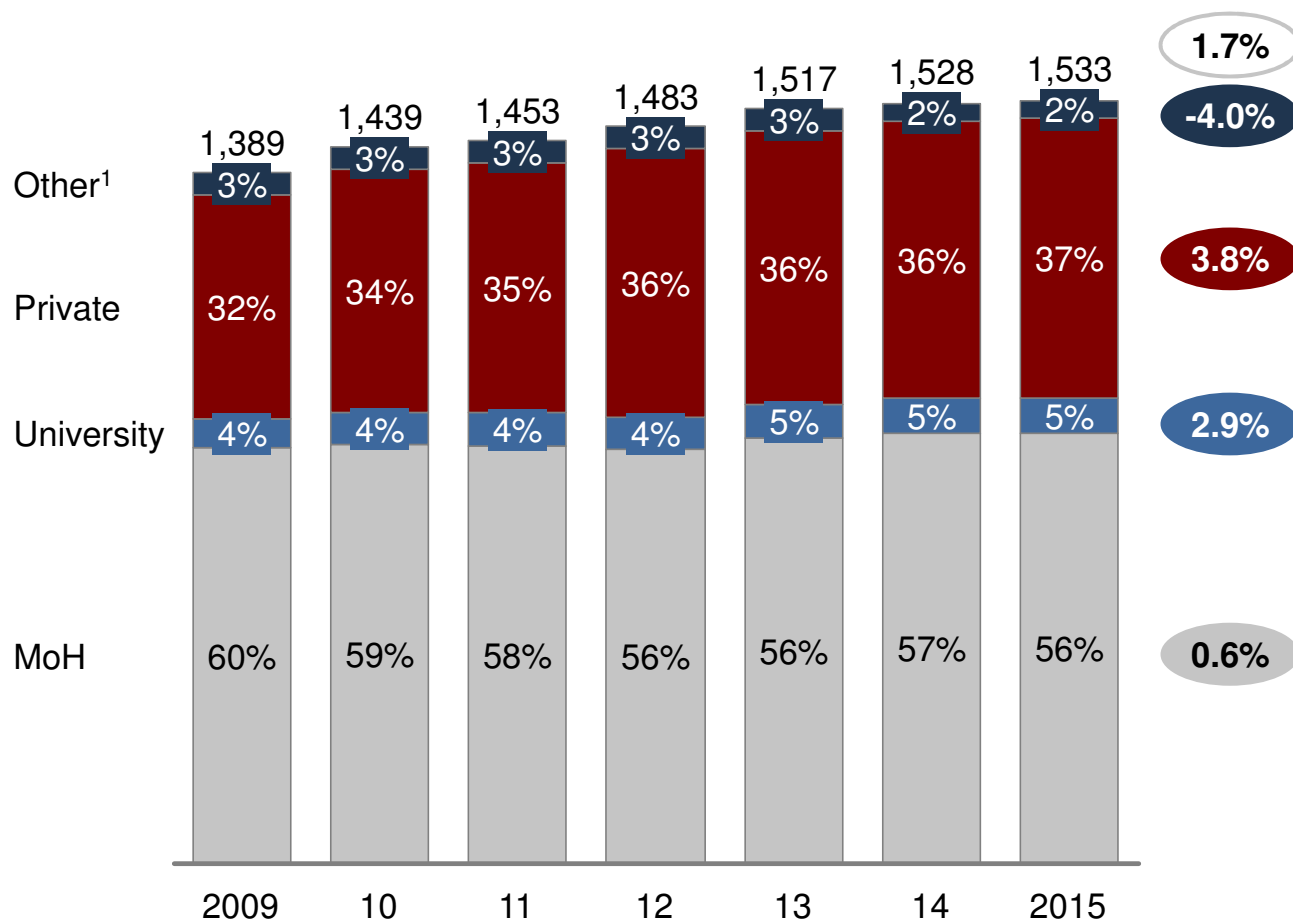
- Overview of healthcare players
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Evolution of hospitals



Number of hospitals based on sector,
Thousand

CAGR
2009-15
Percent



Key takeaways

- Number of hospitals have reached **1533** in 2015 with **~2% annual growth rate** between 2009-15
- Public hospitals still hold the **largest share** in number of hospitals (56%), despite losing share in recent years
- Private providers'** share in total number of hospitals has risen to **37%**, growing approximately **2 times faster** than market total (3.8% vs. 1.7%)

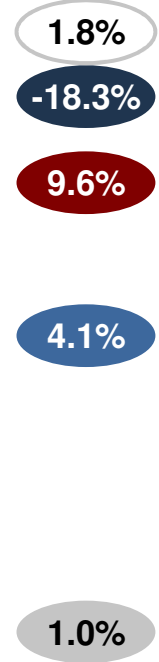
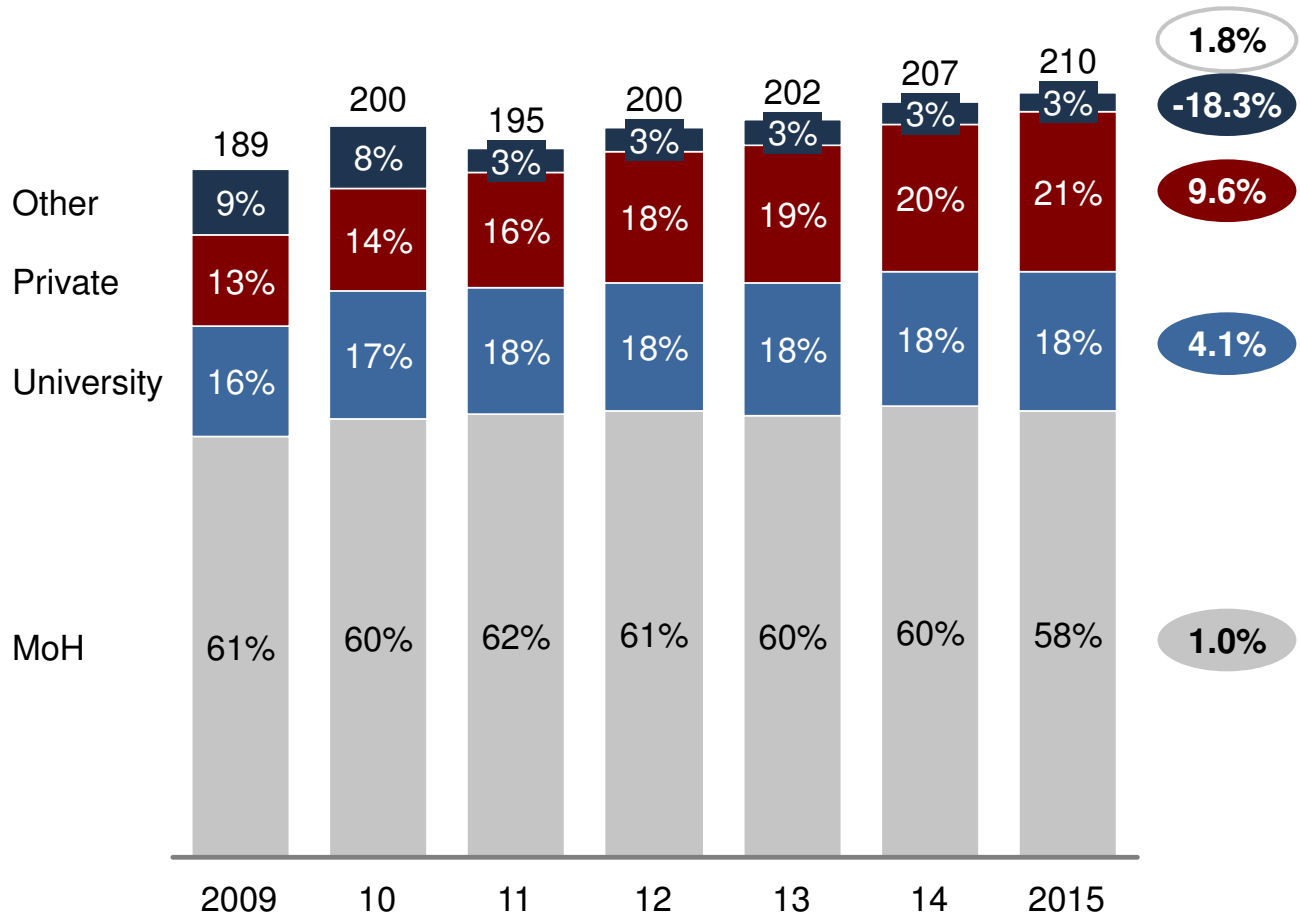
¹ Hospitals of Ministry of Defence, Municipalities and other public institutions

Evolution of hospital beds



Number of hospital beds based on sector,
Thousand

CAGR
2009-15
Percent



Key takeaways

- Hospital capacity has reached **210K** beds, growing at **~2% annually** between 2009-15
- Public hospitals hold the **largest share** in number of beds (58%) however they are **losing share** to private providers
- **Private providers'** share in total number of bed has risen to **21%**, growing approximately **5 times faster** than market total (9.6% vs. 1.8%)

1 Hospitals of Ministry of Defence, Municipalities and other public institutions

Evolution of qualified & intensive care unit beds

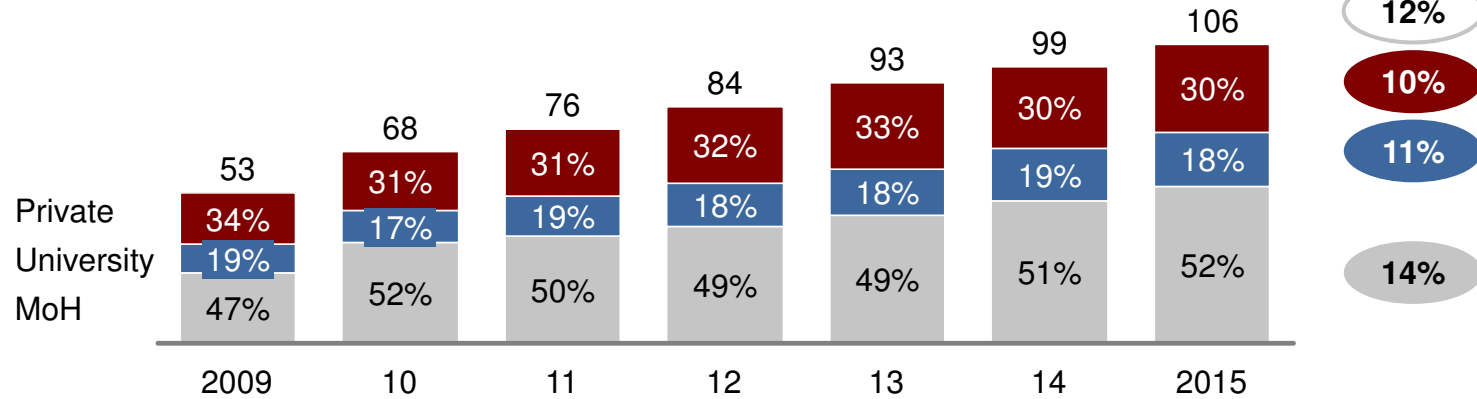


Number of hospital beds based on type
Thousand

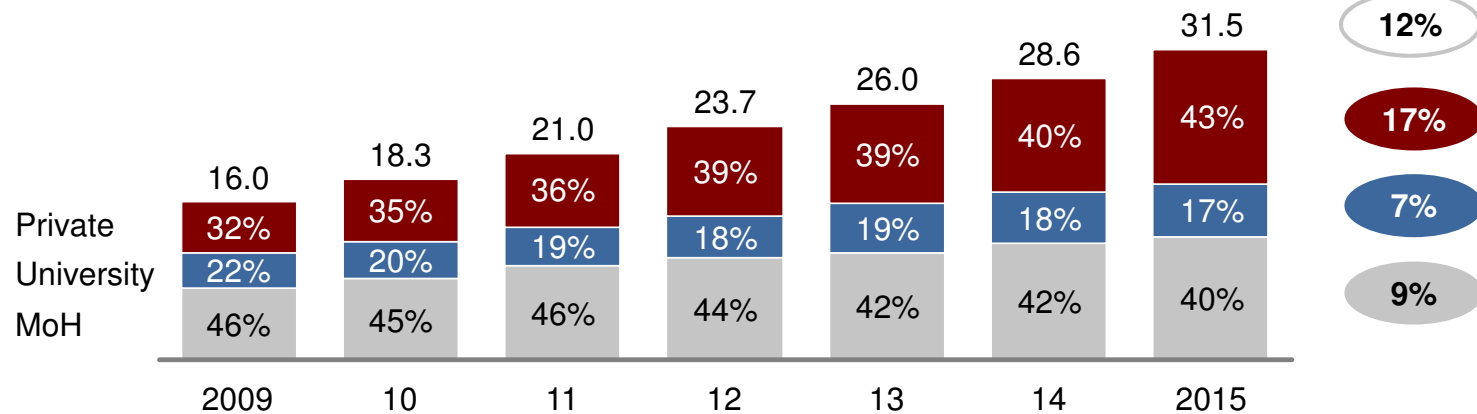
CAGR 2009-15
Percent



**Number of hospital beds in qualified rooms¹,
Thousand**



**Number of hospital beds in intensive care beds¹,
Thousand**



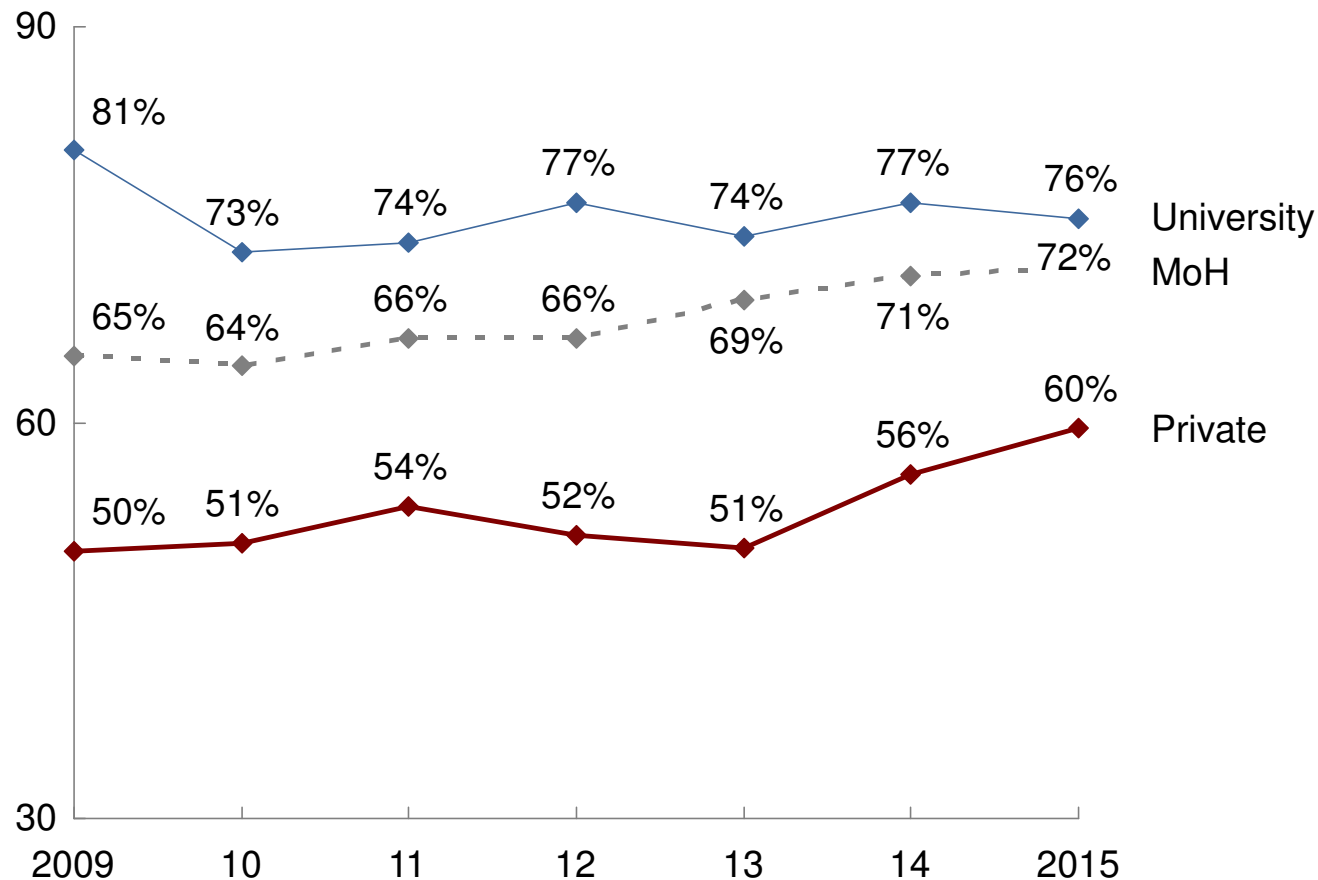
¹ Hospitals of Ministry of Defence, Municipalities and other public institutions

Hospital bed utilization



Hospital bed utilization based on provider

Percent



Key takeaways

- Hospital bed utilization across sectors is at an average of %72
- Hospital bed utilization is **highest in university hospitals**
- Bed utilization is **lowest in private hospitals** but is also growing at the **highest rate** among all sectors

Allocation of healthcare professionals across providers

Thousands, 2015



		Ministry of Health	University	Private	Other
Doctor	Practitioner	44	14	6	0
	Physician	39	15	23	1
	Total	83	29	28	1
Other health staff	Nurse	102	23	26	3
	Midwife	48	1	4	0
	Other medical staff	102	11	32	0
	Other staff and outsource	206	13	20	3
	Total	458	48	82	6

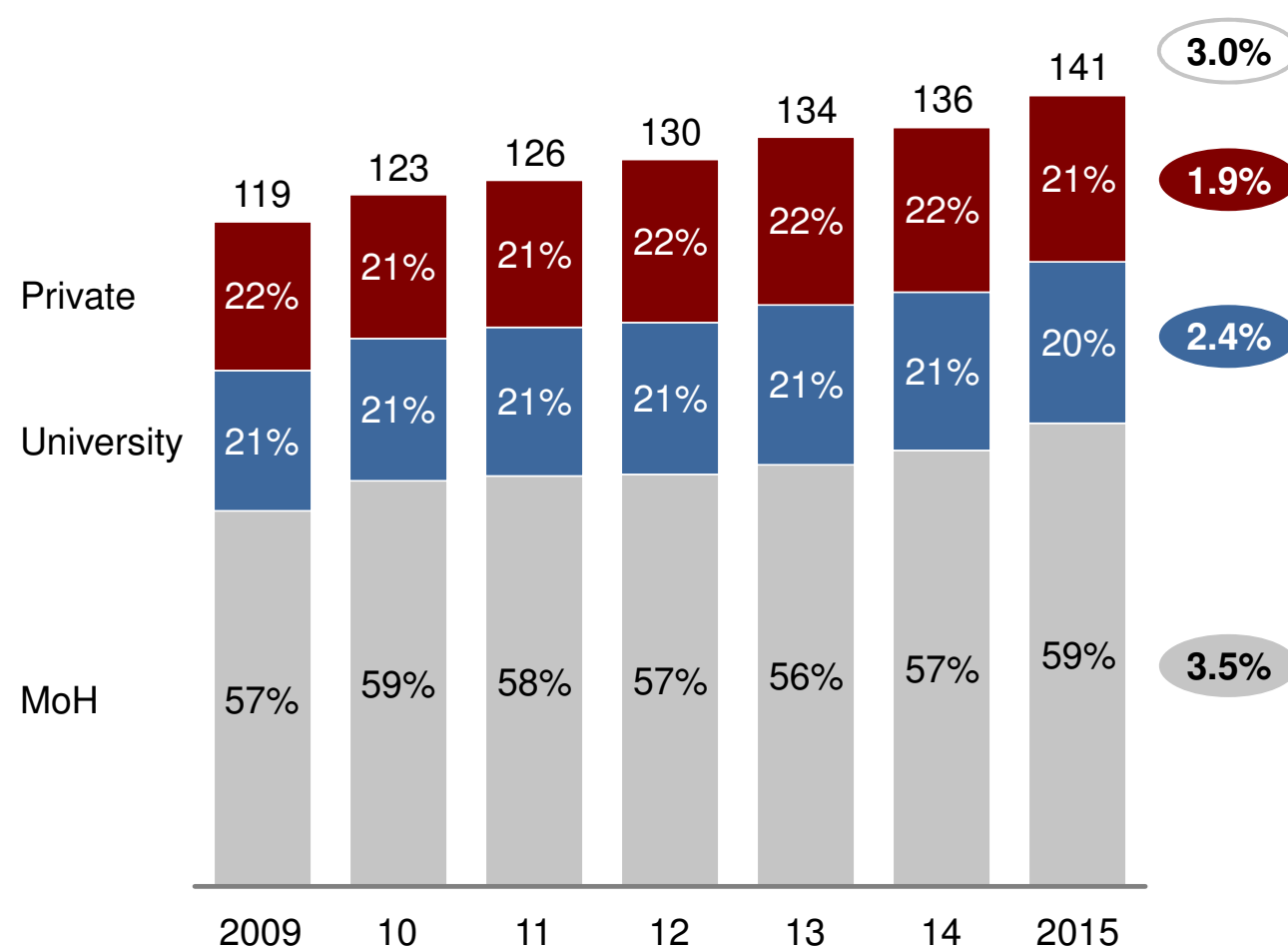
Evolution of number of doctors



Number of doctors based on sector
Thousand

CAGR
2009-15
Percent

Key takeaways



- Number of doctors is growing at **3.0% annual rate**
- The **distribution of doctor supply** across sectors has been relatively **stable** since 2011

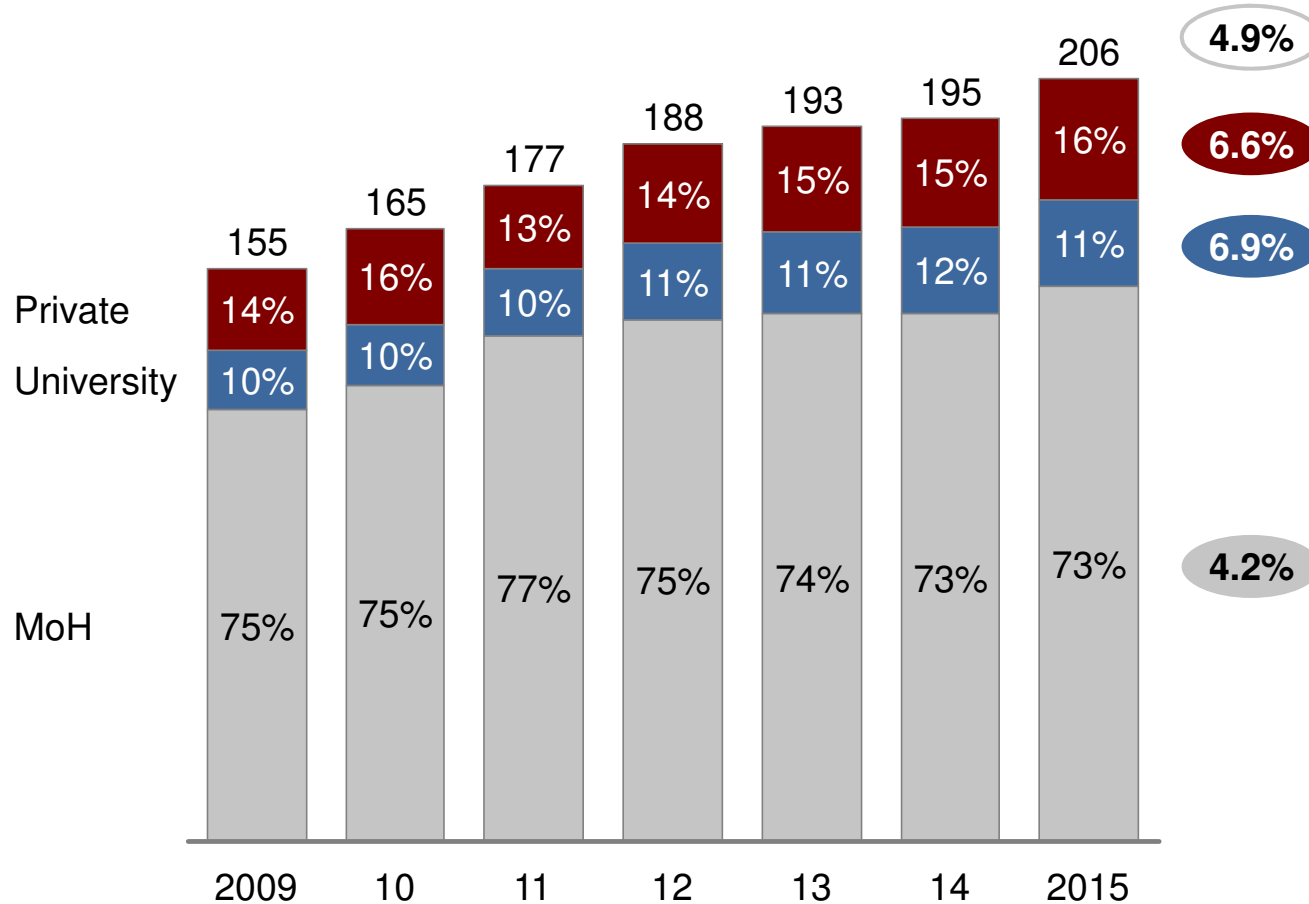
Evolution of number of nurses



Number of nurses based on sector
Thousand

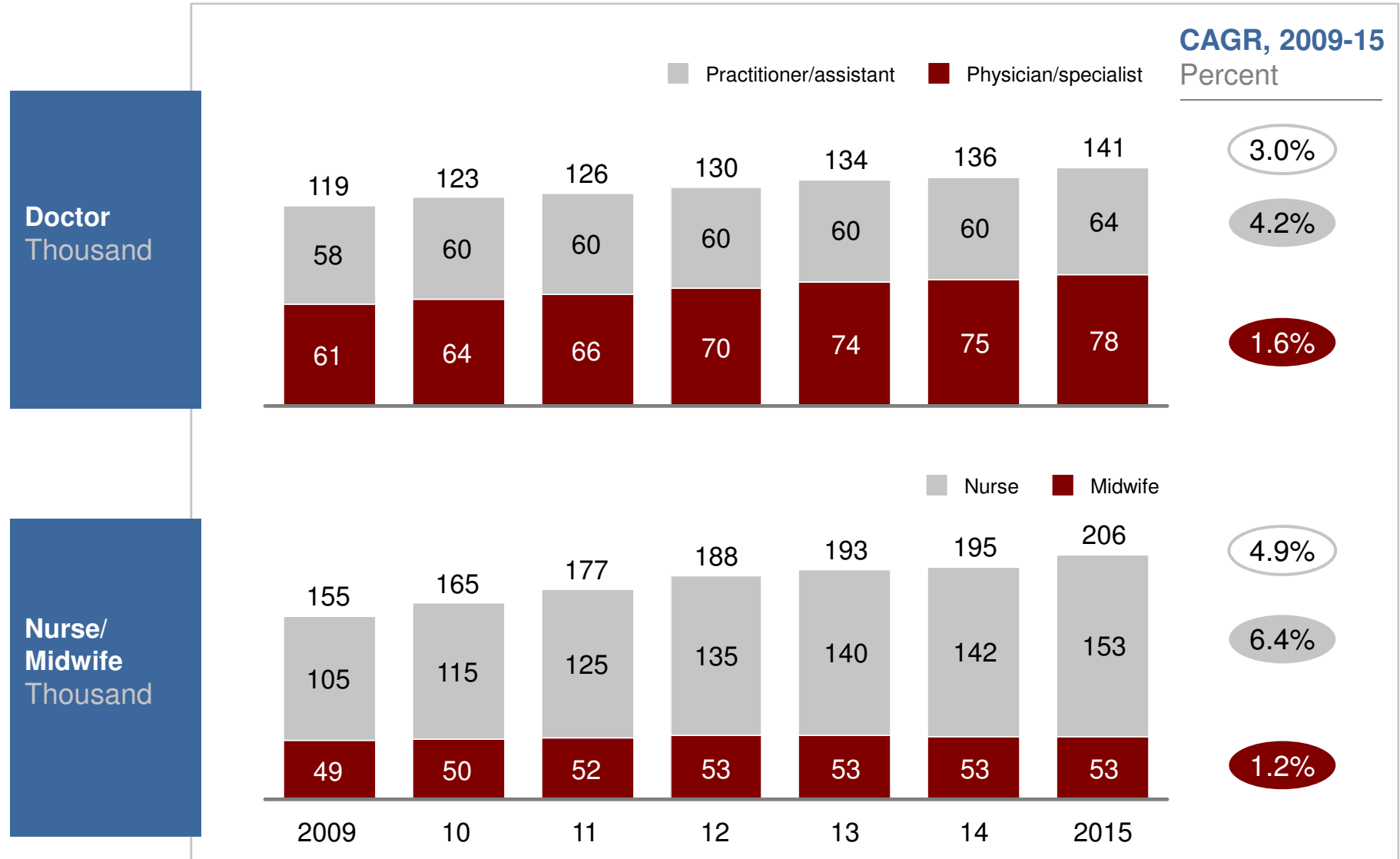
CAGR
2009-15
Percent

Key takeaways

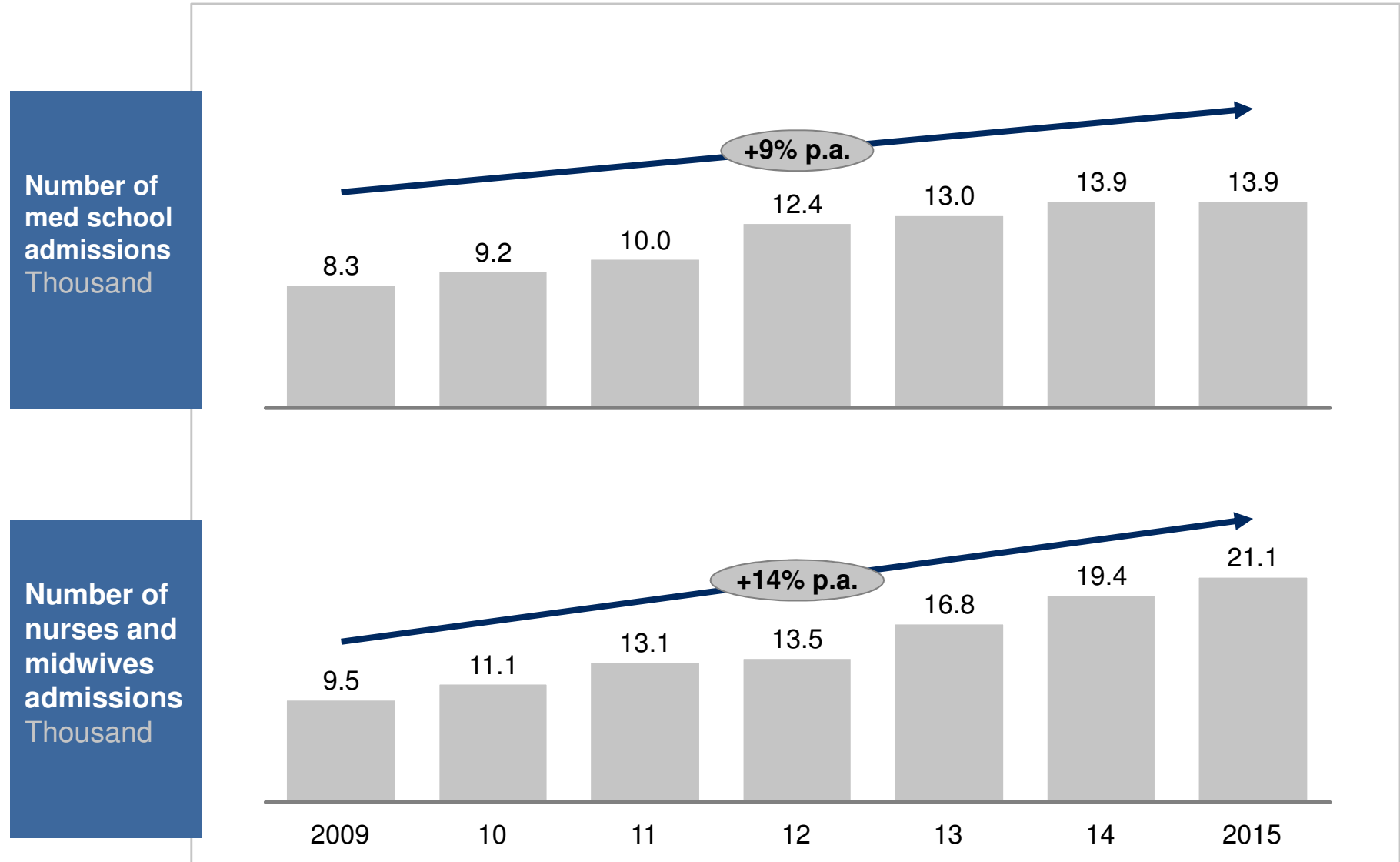


- Number of nurses is growing at **4.9% annual rate**
- Number of nurses working in **university and private hospitals is growing significantly faster** than the sector average
- Share of nurses **employed in Ministry of Health is decreasing** over the past 5 years

Evolution of healthcare personnel by type



Evolution of healthcare personnel admissions



Contents

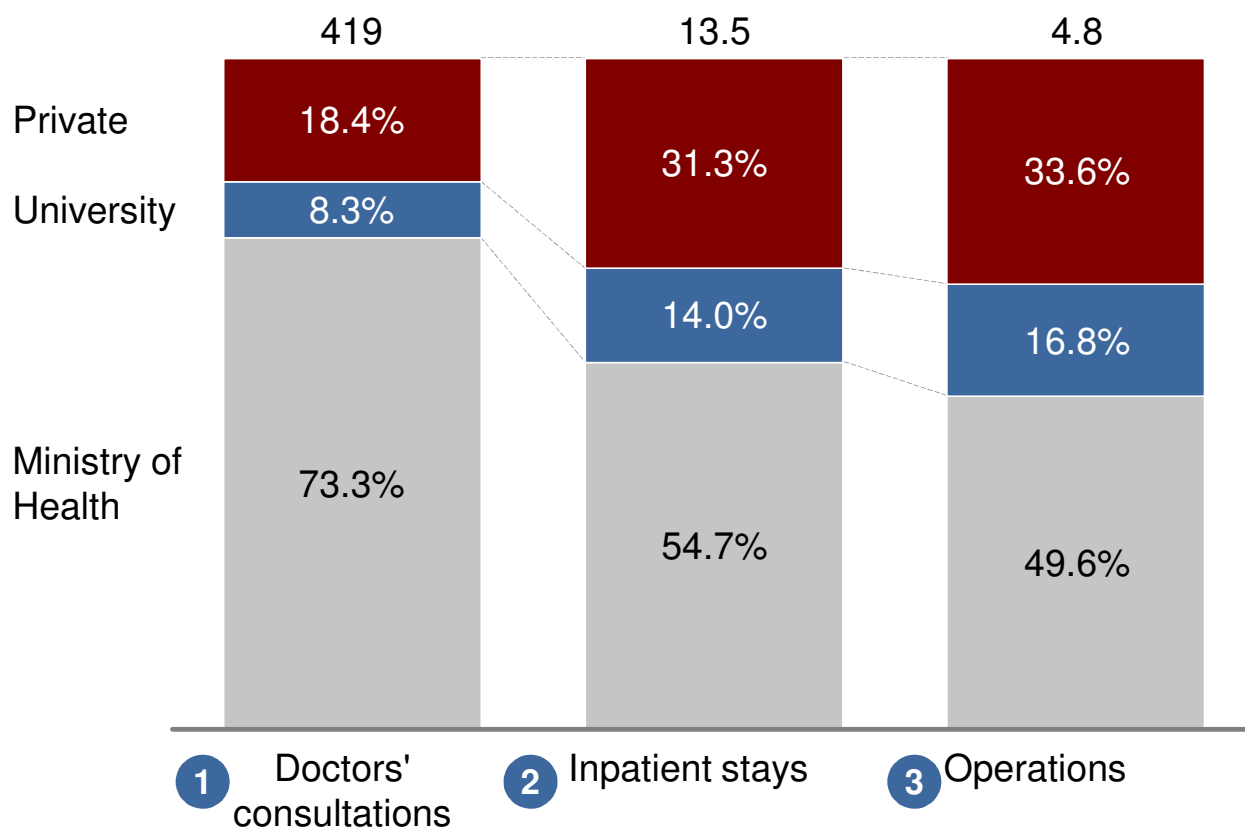
- Overview of healthcare players
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Distribution of healthcare demand across sectors



Distribution of healthcare demand across sectors

Million, 2015



Key takeaways

- Ministry of Health hospitals have the **majority of share** in all metrics shown
- Share of **university and private hospitals significantly increases** for inpatient and surgical healthcare services
- Ministry of Health** hospitals are **preferred more for consultations** rather than inpatient or surgical healthcare services

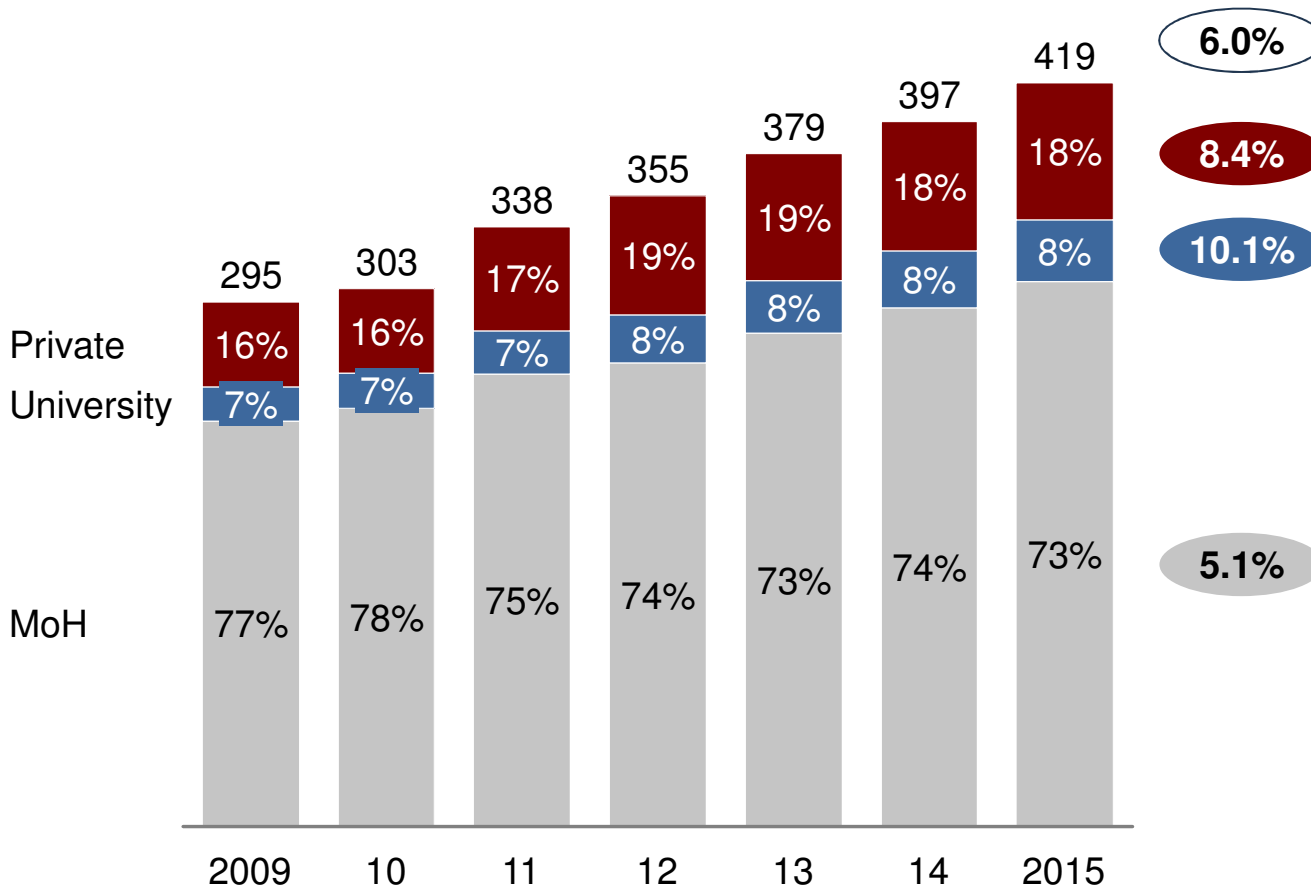
1 Number of doctors' consultations based on sector



Number of doctors' consultations based on sector

Million

CAGR
2009-15
Percent



Key takeaways

- Share of Ministry of Health in doctors' consultations is by far the **majority**, but **slightly decreasing** over the years
- University hospitals have the **highest growth rate** with **10.1%**
- Private hospitals are growing **faster** than the **sector average** with **8.4%** annual growth rate (vs. 6.0%)

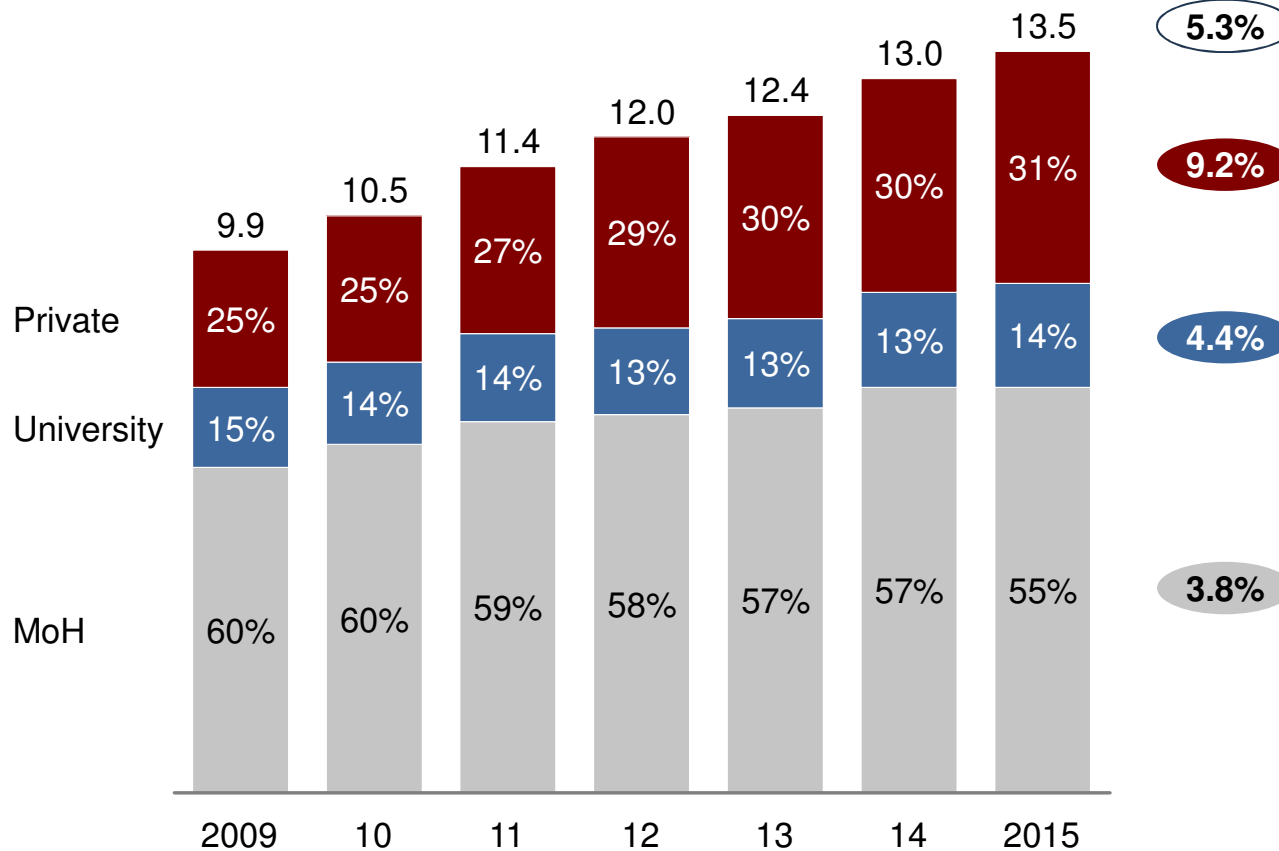
2 Number of inpatient stays based on sector



Number of inpatient stays based on sector

Million

CAGR
2009-15
Percent



Key takeaways

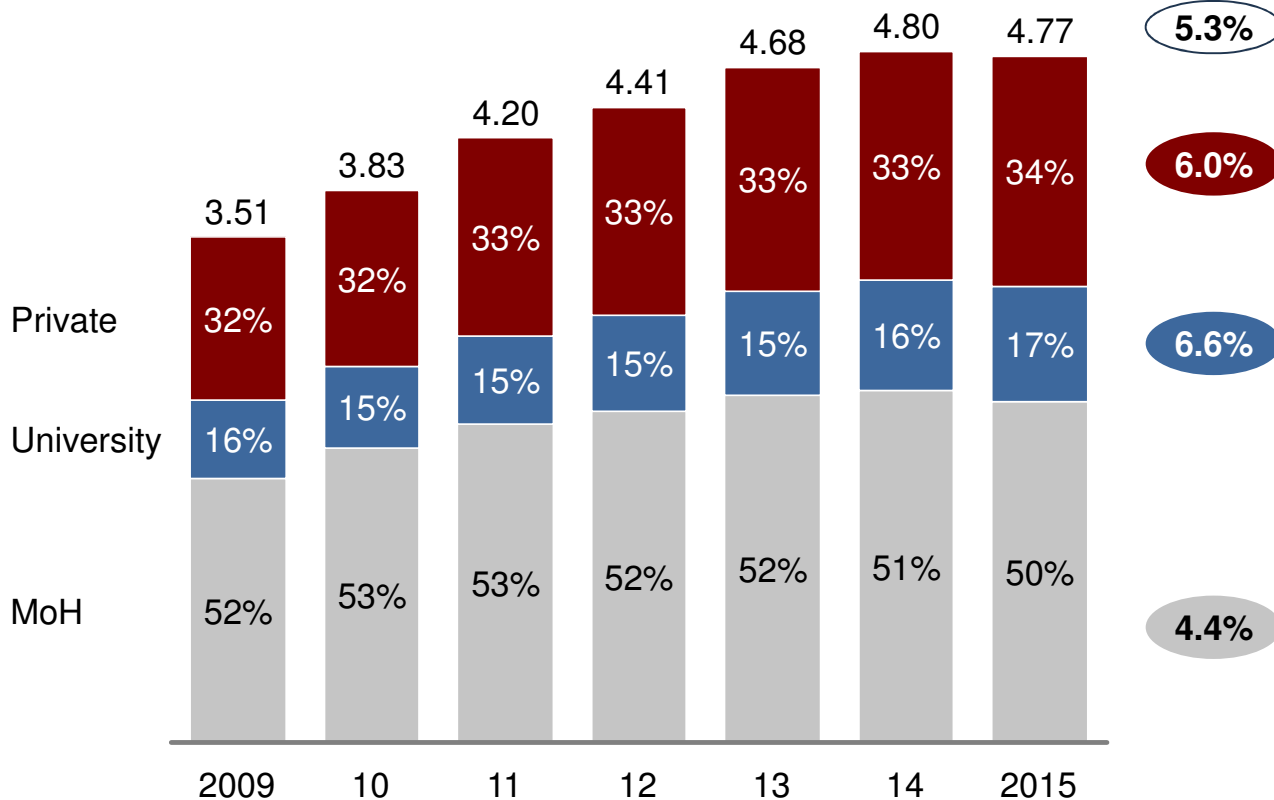
- Ministry of Health holds the majority of inpatient stays but its share is decreasing
- Share of university hospitals in total inpatient stays has remained stable at 13-14%
- Inpatient stays in private hospitals is growing at 9% annual rate, almost double the sector average

3 Number of operations performed based on provider type



Number of operations performed based on provider type
Million

CAGR
2009-15
Percent



Key takeaways

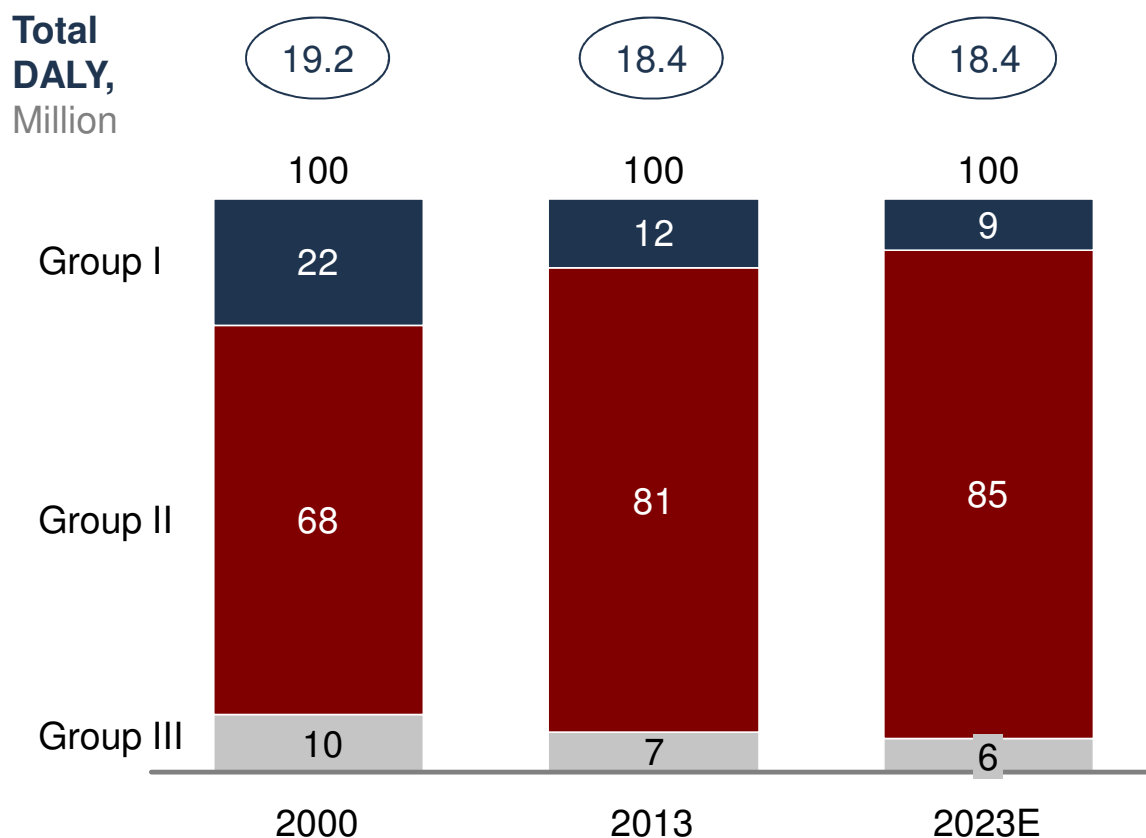
- Ministry of Health holds the **majority** of operations performed but its **share is decreasing slightly**
- Share of university hospitals in total operations performed has the **highest growth rate** with **6.6%**
- Operations performed in **private hospitals is growing** at **6%** annually, **higher** than the sector average

Disease burden expectation by disease type



Share of disease groups in total disease burden

Percent



Context and methodology

- DALY (disability-adjusted life year) is a measure of disease burden
- DALY disease groups:
 - **Group I:** Communicable diseases, maternal-perinatal reasons and malnutrition related reasons
 - **Group II:** Non-communicable diseases; cardiovascular diseases, respiratory diseases, metabolic diseases and other¹
 - **Group III:** Accidents and injuries

¹ Sensory organ disorders, genitourinary diseases, malignant neoplasm diseases, musculoskeletal disorders, neurological disorders, neuropsychiatric disorders, dental disorders

Turkey population by age buckets



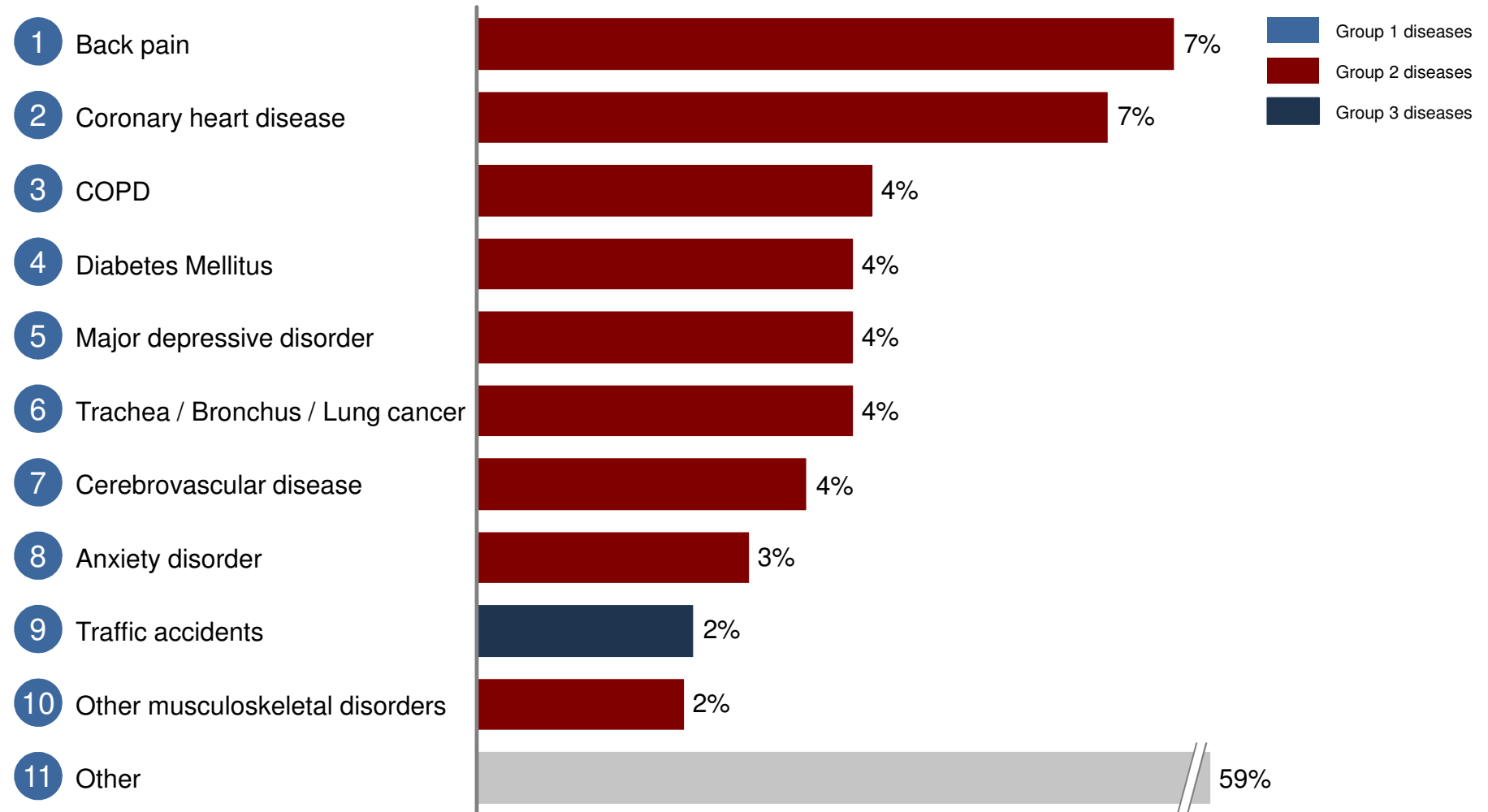
■ Highest growth age-groups

Population per age bucket

	2013 Million	2016 Million	2023F Million	CAGR, 2016-2023 Percent
0-14	18.8	18.9	17.9	-0.8%
15-29	19.0	19.2	19.3	0.1%
30-44	17.6	18.4	19.0	0.4%
45-64	15.2	16.6	19.5	2.3%
65+	5.9	6.7	8.6	3.8%
Total	76.5	79.8	84.2	

Top 10 expected reasons for disease burden in 2023 and share in total

Percent, 2023



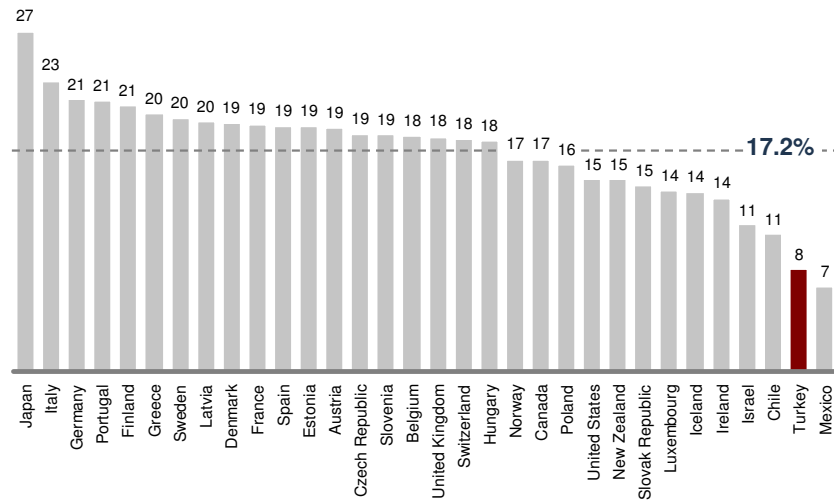
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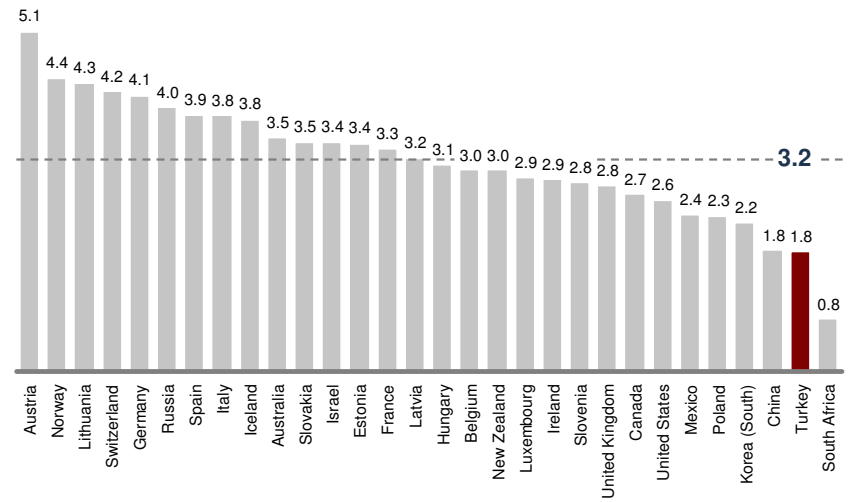
OECD benchmarks summary



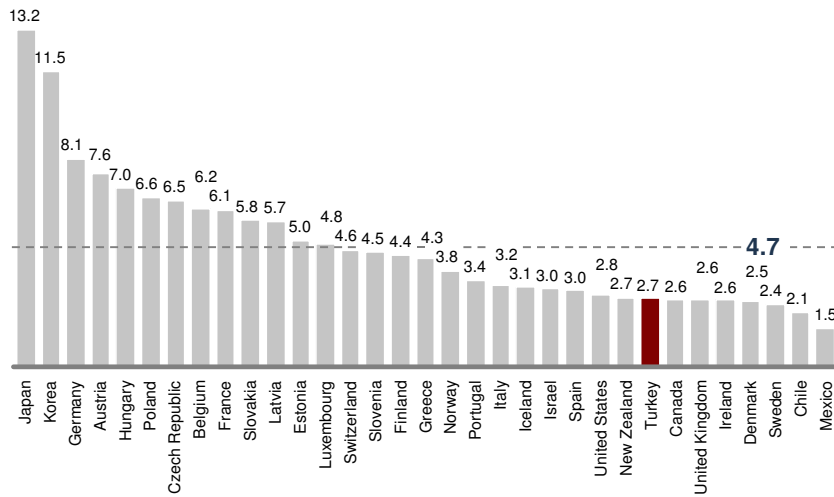
Share of population over age 65, Percent, 2016



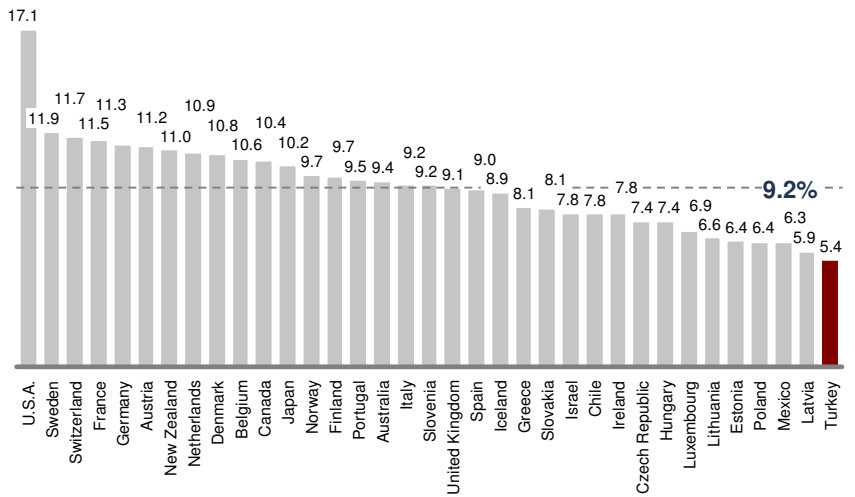
Doctors, Per 100,000 population, 2015



Hospital Beds, Per 1,000 population, 2015

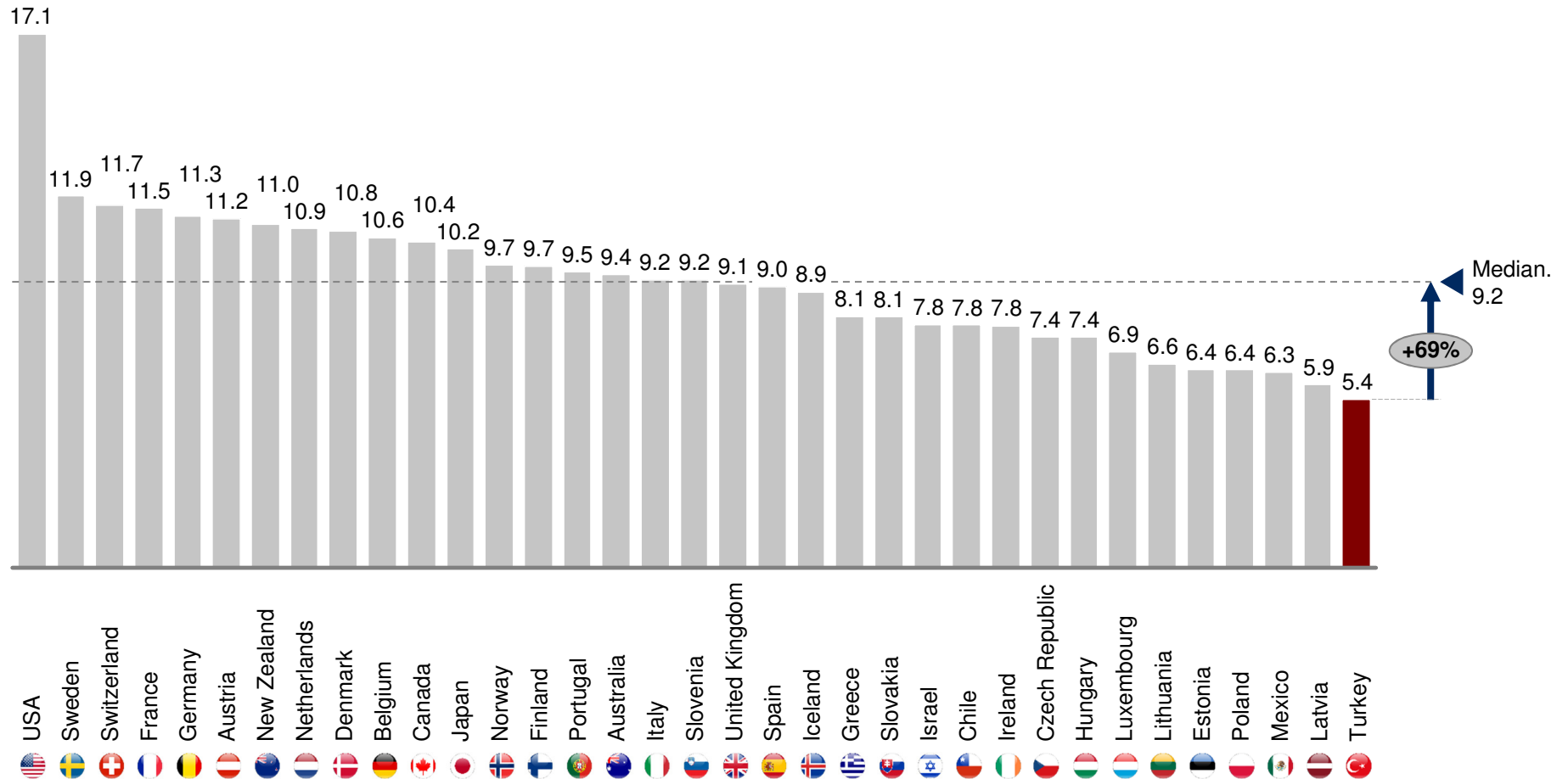


Health expenditure, % GDP, 2014



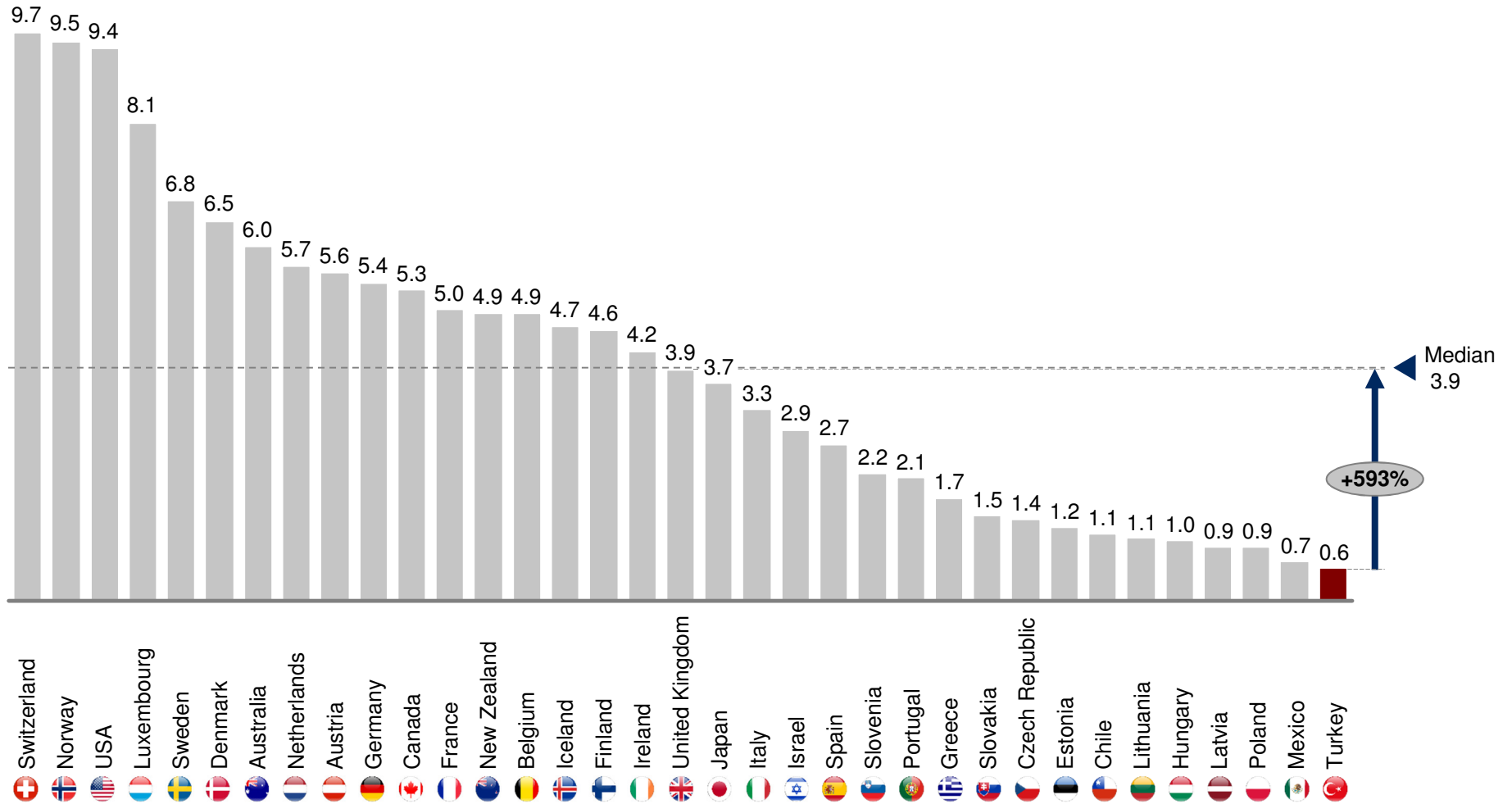
Healthcare expenditure share in GDP

Percent, 2016



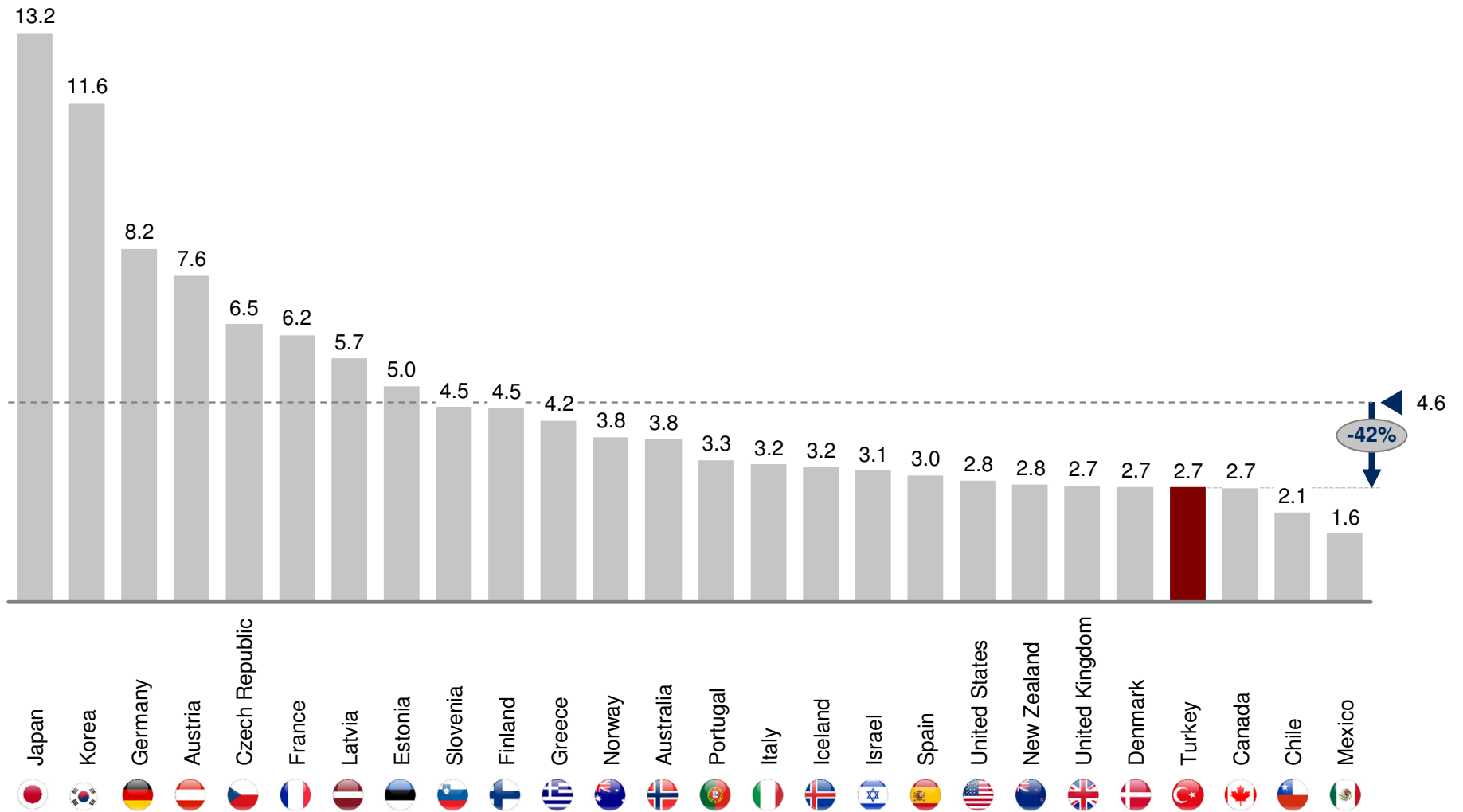
Total healthcare expenditure per capita

USD thousands, 2014



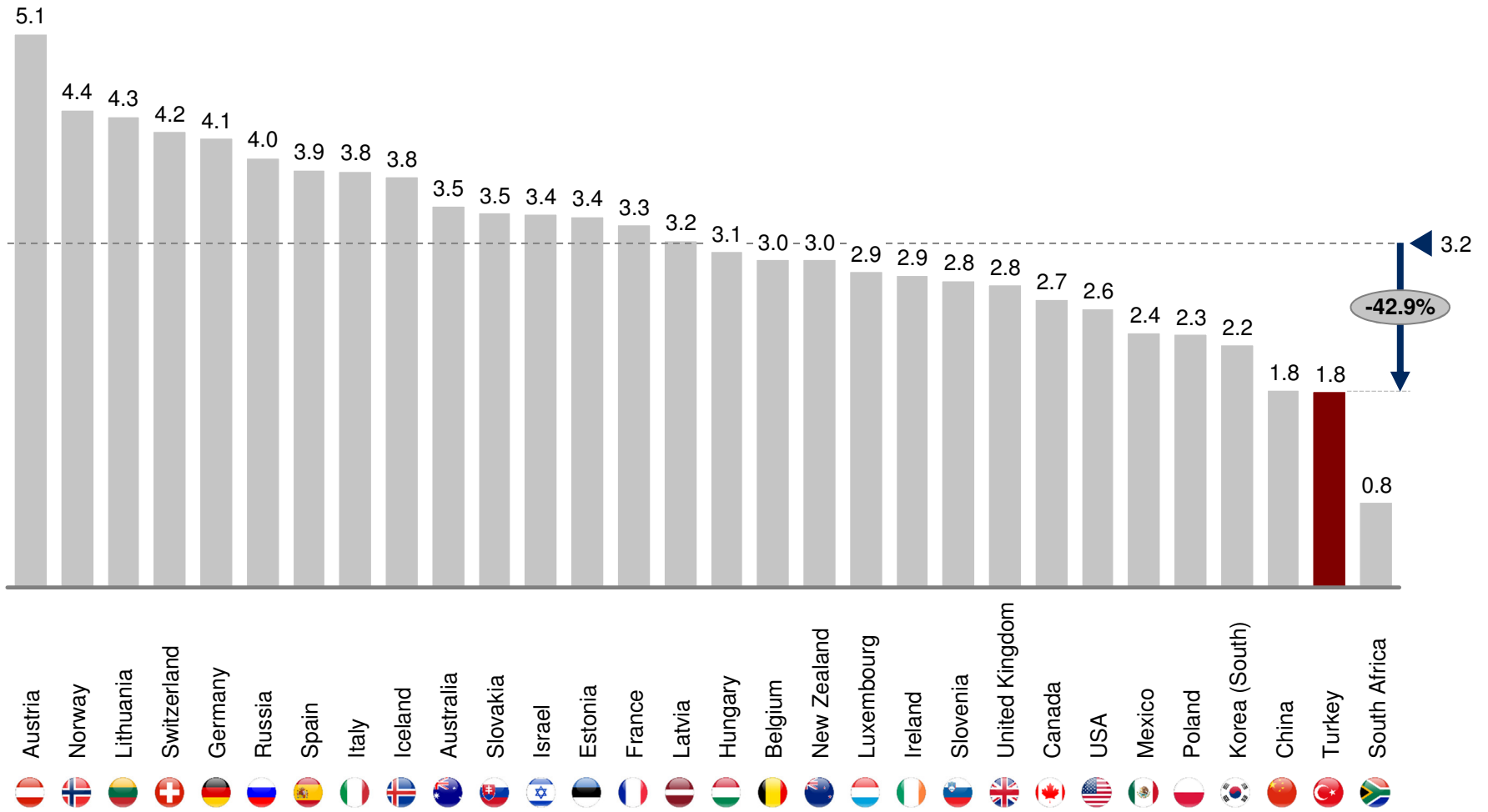
Number of hospital beds per 1,000 population

2014



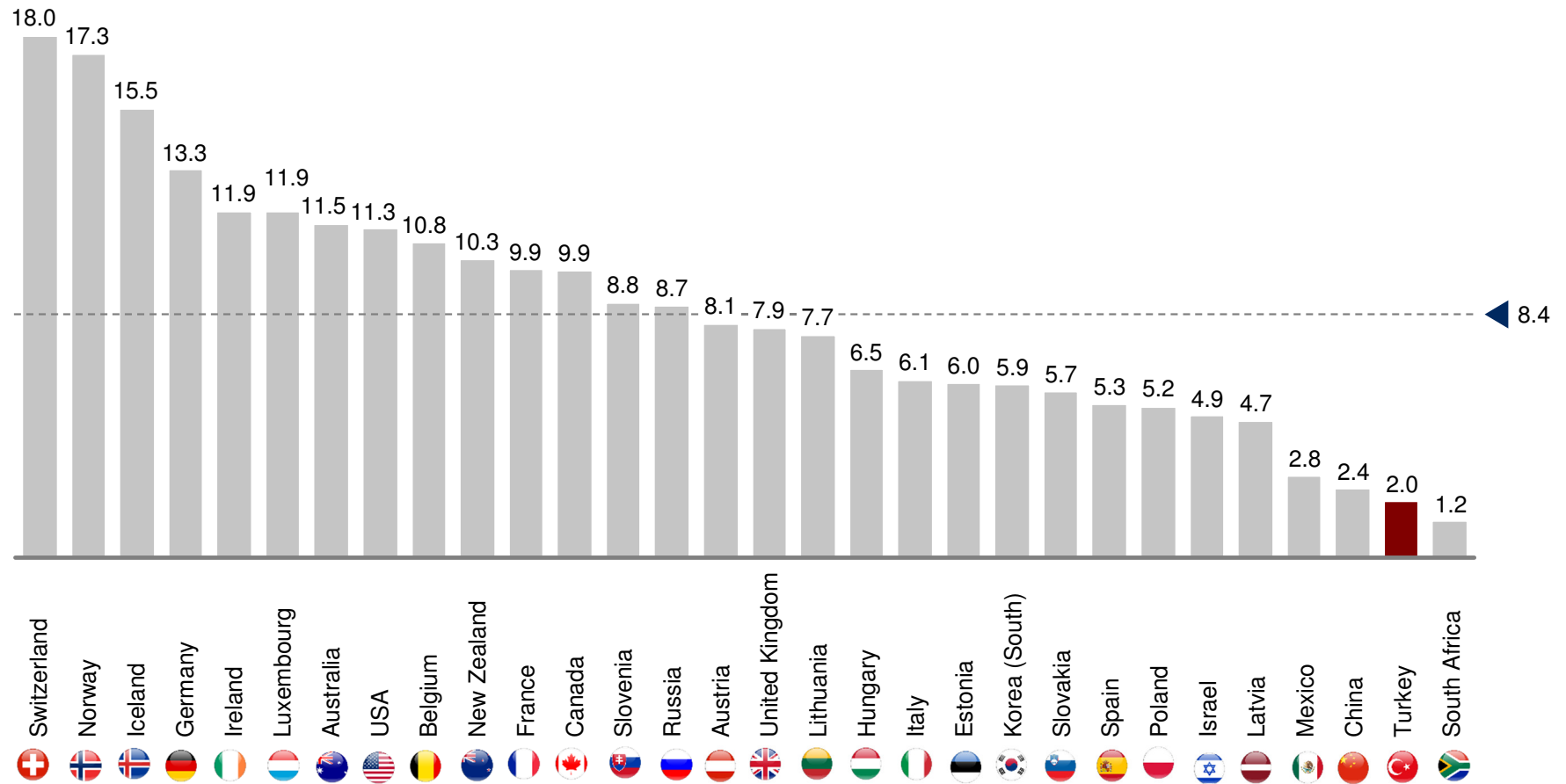
Number of doctors per 1,000 population

2015



Number of nurses per 1,000 population

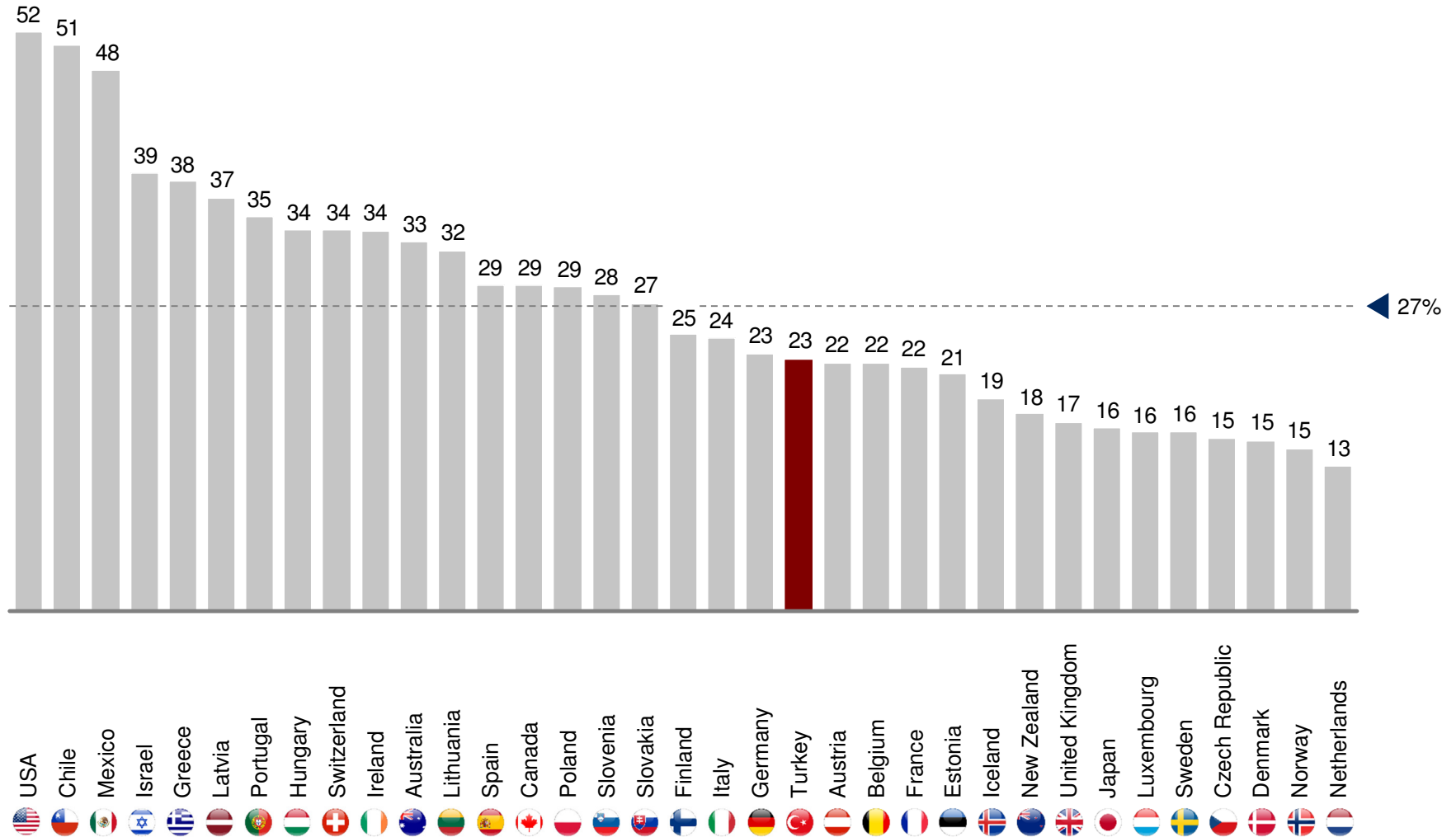
2015



1 2014 Data

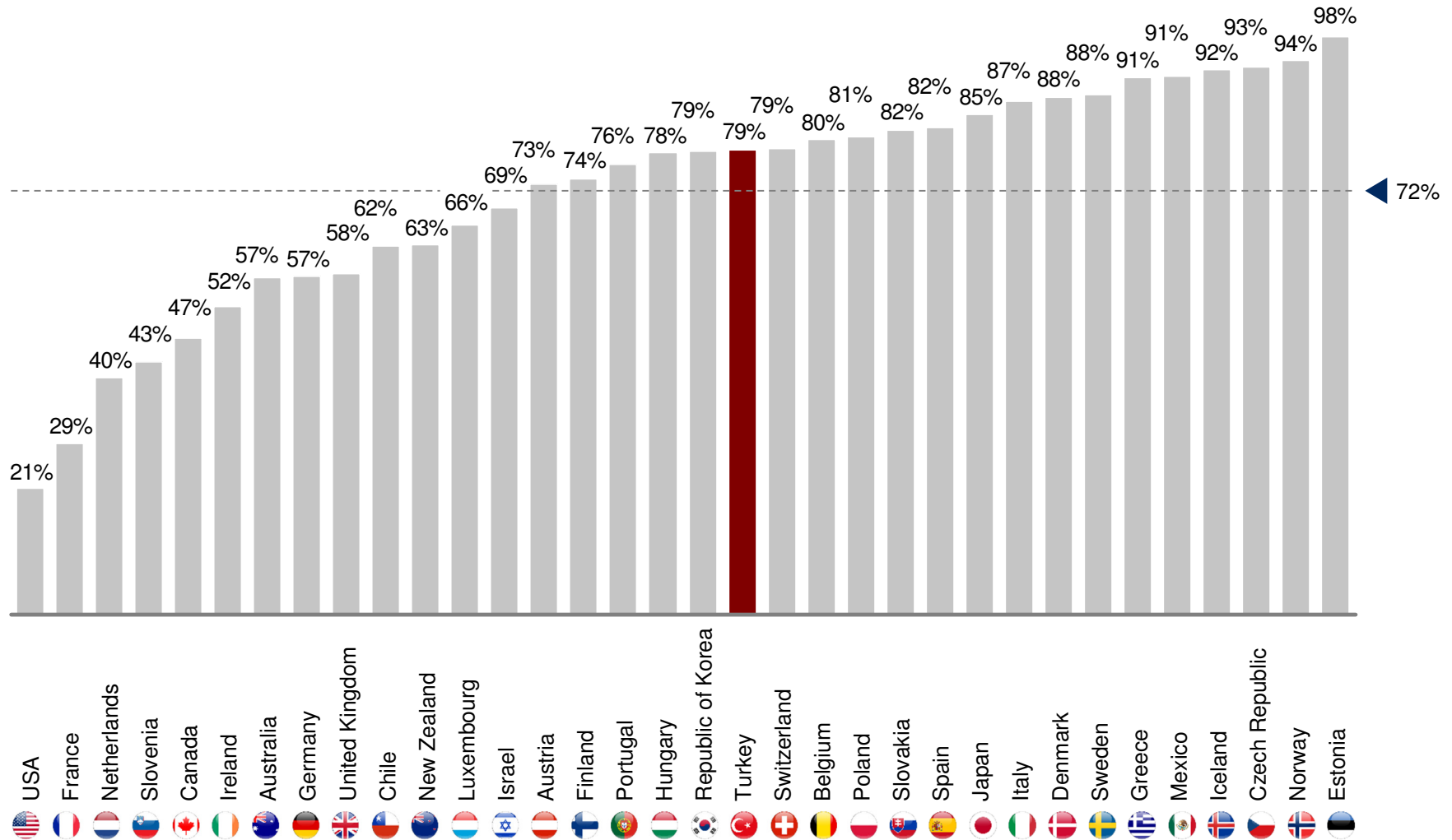
SOURCE: OECD (2017) , Doctors (indicator), Nurses (indicator)

Private healthcare expenditure share in total 2016



Share of OOP in total private healthcare expenditure

Percent, 2015

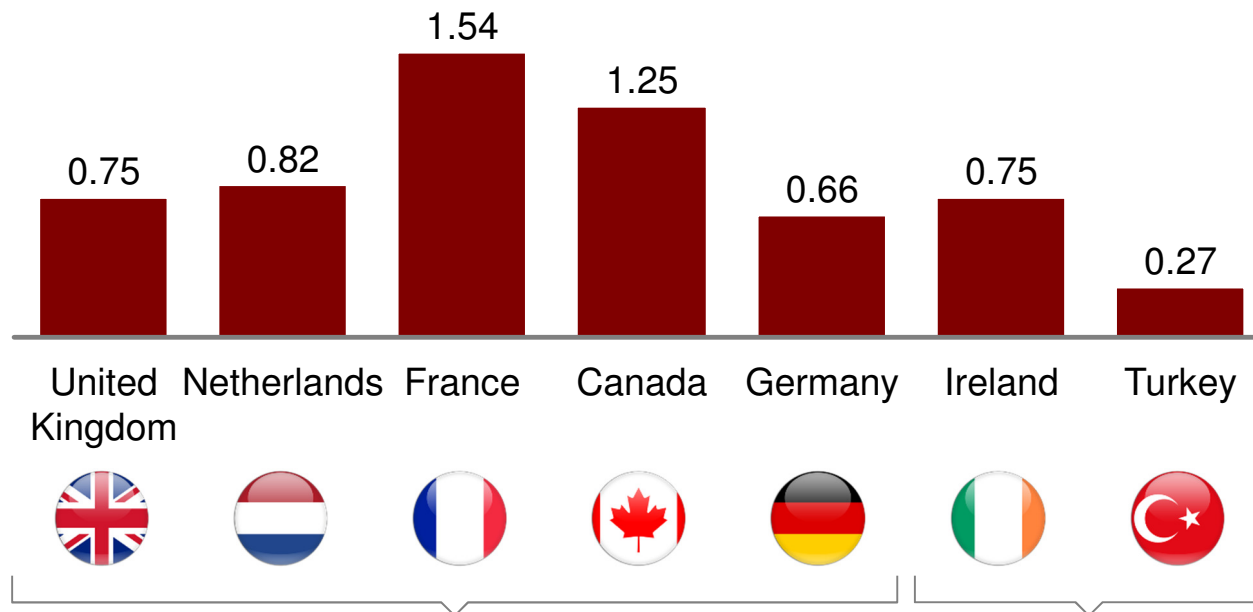


Primary care has a central role in advanced healthcare systems and Turkey needs to continue investing to reach their levels



NOT EXHAUSTIVE

Density of general practitioners (GP) per 1,000 population (2015)



▪ Gate keeping policy in place; primary care must be the first point of contact except emergency cases

▪ No gate keeping policy in place; primary care is utilized by consumer preference and healthcare personnel pull

- Most **developed healthcare** systems have established primary healthcare
- The main role assigned to primary care is:
 - **Reducing healthcare systems cost** through acting as a gate keeping mechanism
 - Managing **population health** (e.g., prevention of communicable diseases, maternal and child health needs)
 - Managing **chronic diseases** (e.g., promoting healthy lifestyle, diabetes, co-morbidity management, mental health)



End