



وزارة الصحة
Ministry of Health

HEALTH STATISTICS ANNUAL BOOK

KINGDOM OF SAUDI ARABIA

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General Directorate of Statistics & Information, Ministry of Health
Kingdom of Saudi Arabia

www.moh.gov.sa

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



The Custodian of the Two Holy Mosques

King Abdullah bin Abdulaziz Al-Saud

(God Bless Him)



His Royal Highness Crown Prince

Salman bin Abdulaziz Al Saud

First Deputy Prime Minister and Minister of Defense

(God Bless Him)



His Royal Highness Deputy Crown Prince
Muqrin bin Abdulaziz Al Saud
Second Deputy Prime Minister
(God Bless Him)

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FOREWORD



In the name of Allah, the Most Gracious, the Most Merciful

All praise be to Allah, peace and blessings be upon the last of the prophets and messengers, Prophet Muhammad, and upon his family and companions.

The Ministry of Health is devoting extensive efforts to enhance health services and make it accessible to every citizen and resident of our beloved country. This is achieved through the different health care service platforms available in all regions of the Kingdom, and through constructive collaboration among the health sectors of the different governmental agencies, including Ministries of Interior, Defense, National Guard, and Higher Education, as well as the private health care sector.

In line with the sound directives of the Custodian of the Two Holy Mosques and Their Royal Highnesses the Crown Prince and the Deputy Crown Prince Second Deputy Prime Minister - God bless them, this Ministry has been keen on providing the best health services at all levels of preventive, diagnostic, therapeutic, and rehabilitative care in accordance with the latest evidence-based medicine and state-of-the-art medical technologies.

It is important to highlight that The Kingdom has made great strides, Praise to Allah, in the delivery of outstanding health services, which placed it in a prominent position at the regional and international levels. As a testimony of these activities and accomplishments, it is my great pleasure to present to the reader, the 'Health Statistics Annual Book', which the Ministry publishes every year to highlight the health care achievements and the score of activities at all levels.

This Book reports on comprehensive data about the Ministry of Health facilities, their activities and services rendered in the Kingdom. The Book also presents thorough statistics about the facilities and health services provided by other governmental agencies as well as the private sector. It also sheds light on the health services provided by the Ministry to pilgrims and visitors in seasons of Hajj and Umrah in the holy sites of Makkah and Medinah and at the ports of entry for pilgrims whether by land, sea or air.

Lastly, I hope that this latest version would be an informative resource for all health practitioners, specialists, researchers, and scholars who are interested to know about population health indicators as well as the latest developments reached by the Kingdom in health service delivery. I ask Allah the Almighty to guide us to what He loves and pleases and that our deeds be purely dedicated to Him.

Adel Bin Mohammad Faqih

Acting Minister of Health

ABOUT THE MOH



وزارة الصحة
Ministry of Health



Mission

The Ministry of Health (MOH) is committed to the mission assigned to it since its first coming into being; i.e. the provision of healthcare at all levels, promotion of general health and prevention of diseases, in addition to developing the laws and legislations regulating both the governmental and private health sectors. Aside from that, MOH is accountable for performance monitoring in health institutions, along with the research activity and academic training in the field of health investment.

Vision

The Ministry of Health (MOH), by way of its objectives, policies and projects, seeks to accomplish a promising future vision; namely, delivering best-quality integrated and comprehensive healthcare services.

Values

The following set of basic values and principles govern the work in all MOH facilities:

Patient first
Justice
Professionalism
Quality

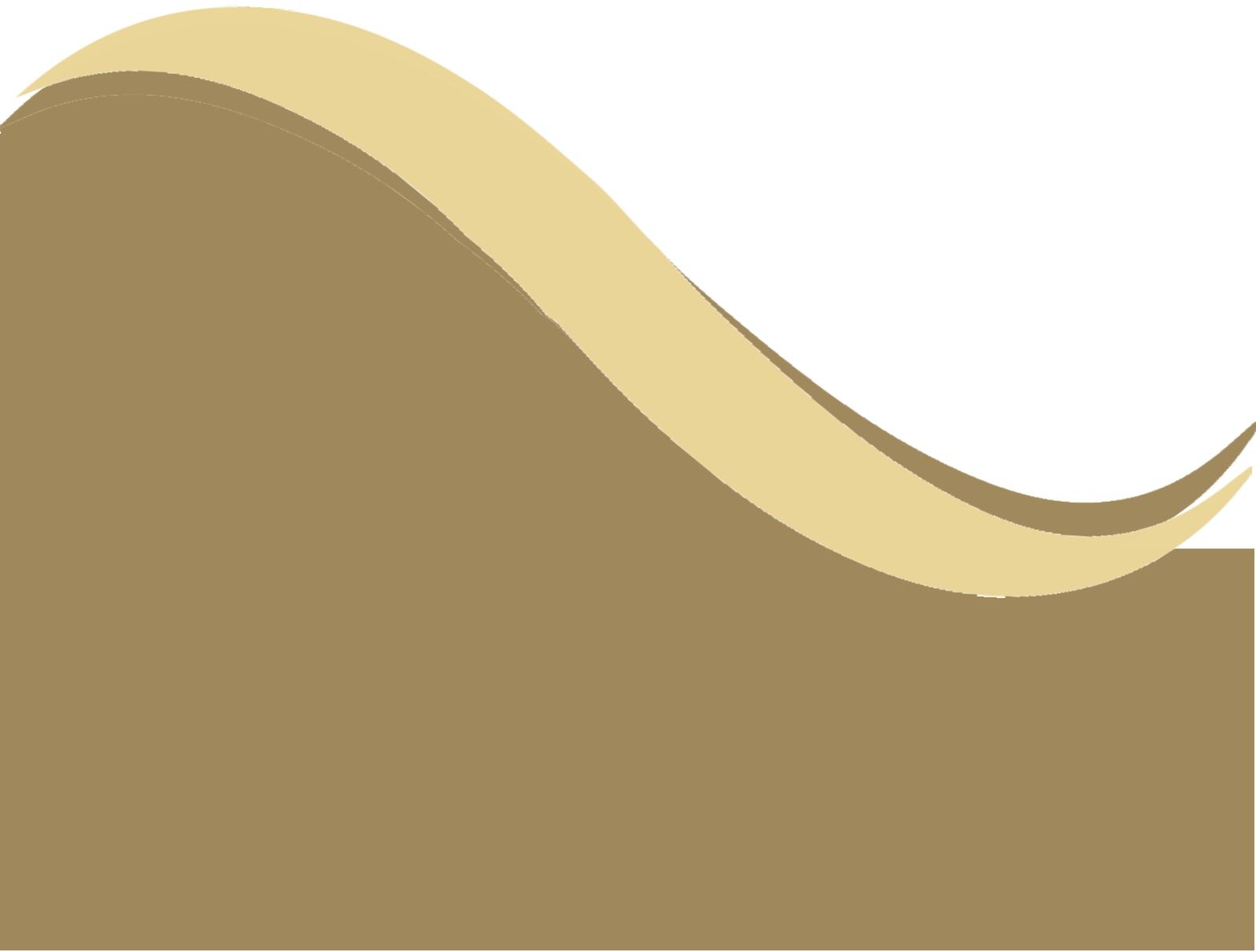
Honesty and transparency
Teamwork
Initiative and productivity
Societal involvement

SECTION I.

HEALTH STATUS



Chapter 1: Main Indicators



1.

MAIN INDICATORS



The Ministry of Health in the Kingdom of Saudi Arabia is committed to providing the latest health statistics and information for all partners in the health sector, including decision-makers and health care service providers. From that end, the Ministry issues its annual report which includes all the figures and data pertaining to health care across different sectors of the Kingdom. Among the most important data to be included in this report are the main indicators that reflects the growth of the health sector and the development of health services over the past couple of years. Indicators gain their importance for two chief reasons: First, they provides an ample review of the current situation in terms of health performance. And second, indicators allows for a close assessment of health strategies and stand on the progress towards achieving the stated goals, whether short-or long-term. This first chapter of the report offers a detailed record of the most important demographic, economic, and health indicators in the Kingdom. As well, it presents a geographical distribution by the thirteen administrative regions of the kingdom and the trend over time for some selected indicators. And similar to other chapters of this report, this chapter displays the most important points in 'sound-bite' boxes that compare the performance of the Kingdom, show the trend across time, and present the key achievements at the level of the Kingdom.



HOW DOES KSA COMPARE?

Life expectancy in KSA for year 2013 (75 years) exceeds the regional average by 7 years and exceeds the global average by 5 years.

Percentage of population under 15 years of age in KSA for year 2013 (30.8%) is almost similar to that of the Eastern Mediterranean Region (34%) and is higher than the percentage reported globally (27%).

Crude birth rate (per 1,000 population) in KSA for year 2013 (22) is lower than both the regional (31.4) and global (24.3) averages.

Crude death rate (per 1,000 population) in KSA for year 2013 (3.8) is lower than the regional rate (6.3) and is almost half the global rate (7.9).

Infant mortality rate (per 1,000 live births) among Saudis for year 2013 (8) is 63% less than the regional rate (44) and 56% less than the global rate (37).

Source: World Health Statistics Report (2013), World Health Organization

TREND OVER TIME...

In terms of health human resources, there has been an increase in the rate of personnel per 10,000 population between years 2006 and 2013, with an increase of 27.6% among physicians, 68% among dentists, 33.1% among nurses, 19.5% among pharmacists, and 53% among allied health professionals.

KEY ACHIEVEMENTS ...

Incidence rate of measles decreased by more than two thirds between years 2006 (3.41 per 100,000 population) and 2013 (0.84 per 100,000 population).

Between the years 2006 and 2013, overall immunization coverage for DPT, OPV, BCG, MMR and PCV across the Kingdom increased from 95% to around 98%.

Section I

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Section IV

Section V

Table 1.1: Demographic indicators, KSA, 2013

Indicator		Year
Total Estimated Population Size	29,994,272	2013
Crude birth rate per 1,000 population	22	2013
Annual population growth rate (%)		
Total	2.7	2013
Saudi	2.15	
Non-Saudi		
Percentage of population under 5 years (%)	10.8	2013
Percentage of population under 15 years (%)	30.8	2013
Percentage of population 15- 64 years (%)	66.2	2013
Percentage of population 65 years & above (%)	3	2013
Total fertility rate	2.81	2013
Life expectancy at birth		
Total	75	2013
Male	72.9	
Female	75.4	
Percentage of low birth weight (%)	9.1	2012

Source: Central Department of Statistics & Information

Table 1.2: Economic indicators, KSA, 2013

Indicator		Year
Gross Domestic Product (GDP) per capita (in USD)	24,914	2013
Percentage of MOH Budget of total governmental budget (%)	6.6	2013

Source: Central Department of Statistics & Information

Table 1.3: Immunization coverage, KSA, 2013

Indicator	Percentage (%)	Year
Pentavalent Vaccine*	97.7	2013
Oral Polio Vaccine (OPV)	97.7	2013
BCG Vaccine	98.8	2013
MMR Vaccine**	97.9	2013
Pneumococcal Conjugate Vaccine (PCV)	97.7	2013

* Includes Diphtheria, Pertussis, Tetanus, Haemophilus influenza type B and Hepatitis B

** Includes Measles, Mumps and Rubella

Table 1.4: Health resources, KSA, 2013

Indicator	Rate (per 10,000 population)	Year
Physicians	26.8	2013
Dentists	4.2	2013
Pharmacists	7.3	2013
Nurses	51.5	2013
Allied health professional	30.6	2013
MOH primary health care centers	0.75	2013
Hospital Beds (all sectors), KSA	21.6	2013
MOH hospital beds	13.0	2013
Other governmental sector hospital beds	3.8	2013
Private hospital beds	4.8	2013

Table 1.5: Morbidity Indicators of some immunization targeted diseases, KSA, 2013

Indicator	Rate (per 100,000 population)	Year
Poliomyelitis	0.00	2013
Whooping cough	0.00	2013
Measles	0.84	2013
Neonatal tetanus per 1,000 live births	0.02	2013
Extra-pulmonary TB	8.16	2013
Pulmonary & extra-pulmonary TB	2.92	2013

Table 1.6: Mortality indicators, KSA, 2013

Indicator	Rate	Year
Crude death rate per 1,000 population	3.8	2012
Infants mortality rate per 1,000 Saudi live births	8.0	2013
Neonatal mortality rate per 1,000 live births	5.0	2013
Under 5 mortality rate per 1,000 live births	9.0	2013
Maternal mortality rate per 10,000 live births	14.0	2012

Source: Central Department of Statistics & Information

Table 1.7: Population by nationality and region, KSA, 2013

Regions	Saudi	Non-Saudi	Total
Riyadh	4,655,845	2,861,114	7,516,959
Makkah	1,152,570	902,053	2,054,623
Jeddah	2,062,236	2,045,920	4,108,156
Ta`if	986,090	242,224	1,228,314
Medinah	1,368,026	594,532	1,962,558
Qaseem	1,006,089	331,474	1,337,563
Eastern	1,838,059	1,103,177	2,941,236
Al-Ahsa	943,335	222,087	1,165,422
Hafr Al-Baten	351,345	75,838	427,183
Aseer	1,411,555	313,499	1,725,054
Bishah	312,247	58,553	370,800
Tabouk	716,409	150,394	866,803
Ha`il	527,922	126,814	654,736
Northern	290,590	60,382	350,972
Jazan	1,197,453	299,924	1,497,377
Najran	436,057	119,072	555,129
Al-Bahah	377,773	72,960	450,733
Al-Jouf	247,364	74,024	321,388
Qurayyat	130,925	30,825	161,750
Qunfudah	259,168	38,348	297,516
Total	20,271,058	9,723,214	29,994,272

Table 1.8: Rate of MOH hospital beds per 10,000 population by region, KSA, 2013

Regions	Population	Hospital beds	Bed rate per 10,000 population
Riyadh	7,516,959	7,937	10.6
Makkah	2,054,623	2,522	12.3
Jeddah	4,108,156	2,993	7.3
Ta`if	1,228,314	2,415	19.7
Medinah	1,962,558	2,768	14.1
Qaseem	1,337,563	2,664	19.9
Eastern	2,941,236	3,056	10.4
Al-Ahsa	1,165,422	1,555	13.3
Hafr Al-Baten	427,183	1,000	23.4
Aseer	1,725,054	2,400	13.9
Bishah	370,800	770	20.8
Tabouk	866,803	1,170	13.5
Ha`il	654,736	1,125	17.2
Northern	350,972	1,010	28.8
Jazan	1,497,377	1,850	12.4
Najran	555,129	1,100	19.8
Al-Bahah	450,733	1,085	24.1
Al-Jouf	321,388	860	26.8
Qurayyat	161,750	490	30.3
Qunfudah	297,516	200	6.7
Total	29,994,272	38,970	13.0

Section I

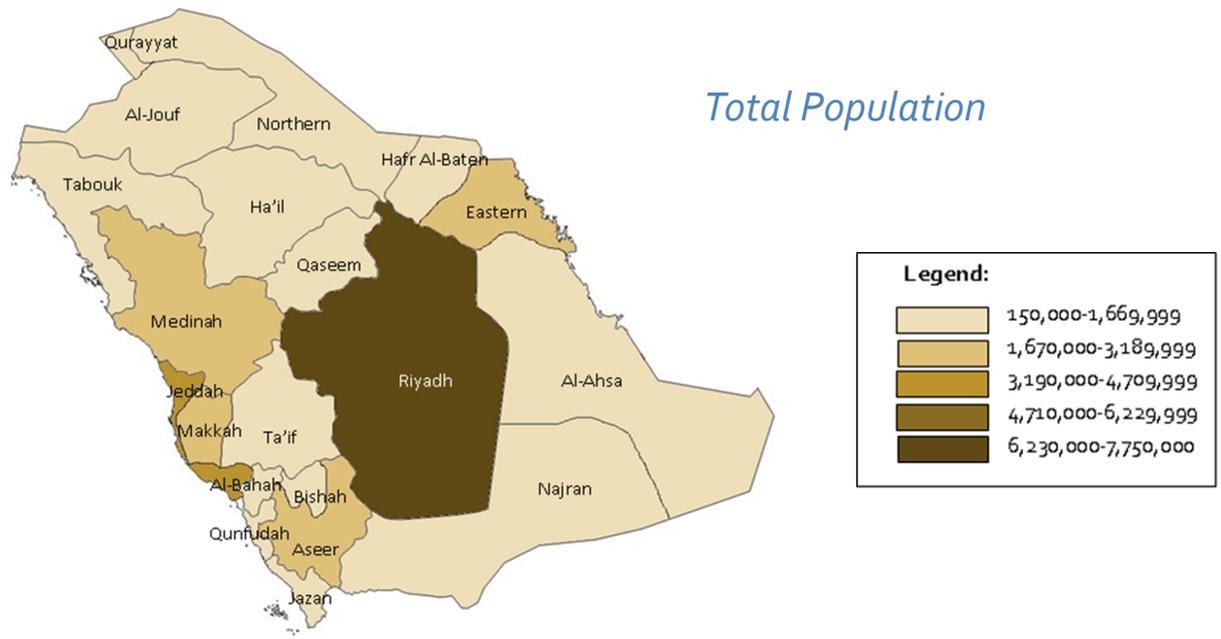
Section II

Section III

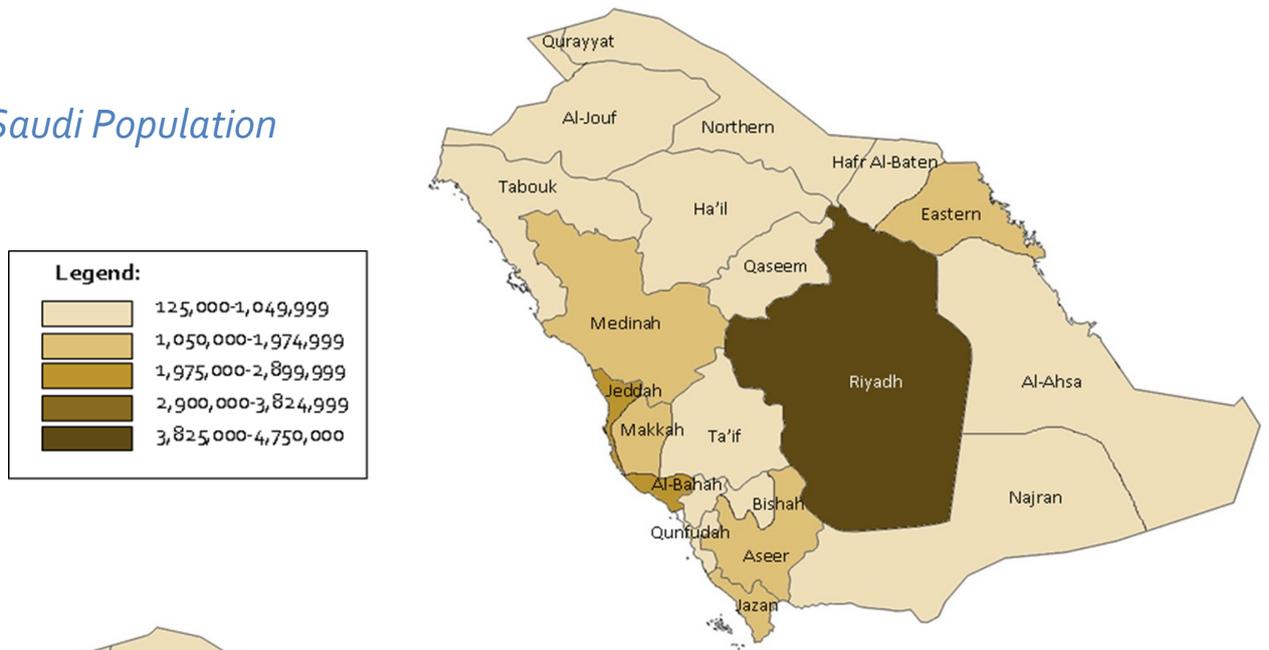
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Section V

Total Population



Saudi Population



Non-Saudi Population

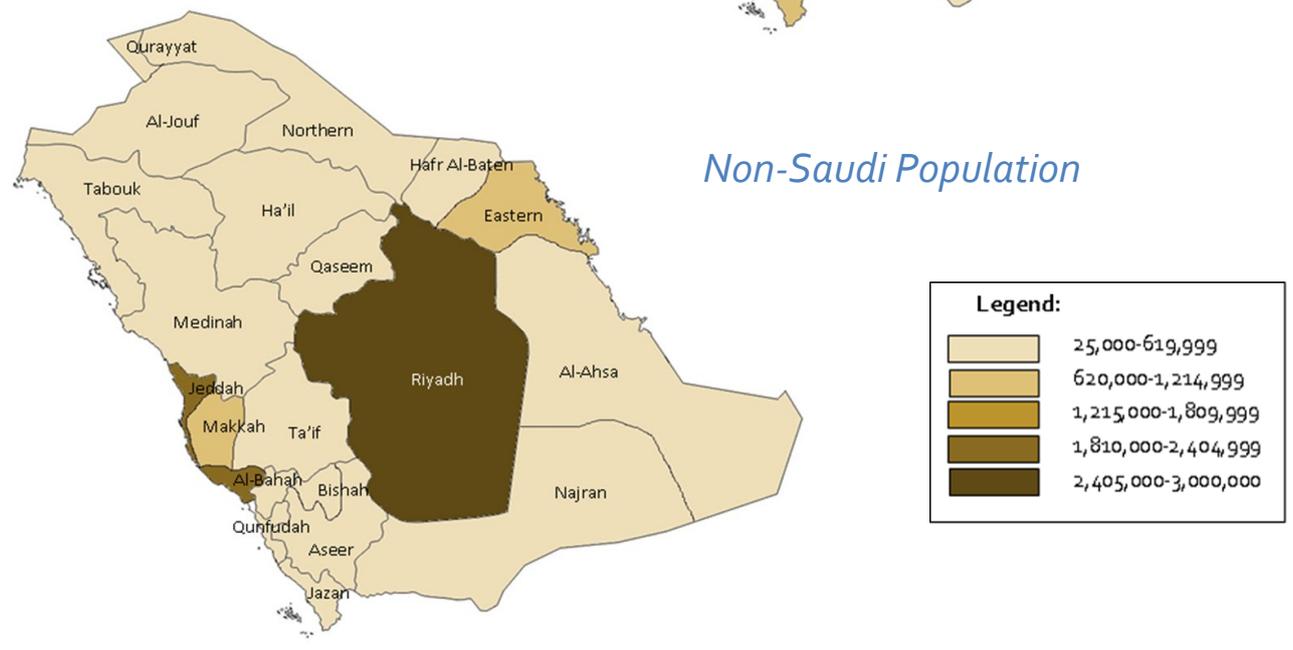


Figure 1.1: Geographic distribution of population in KSA, 2013

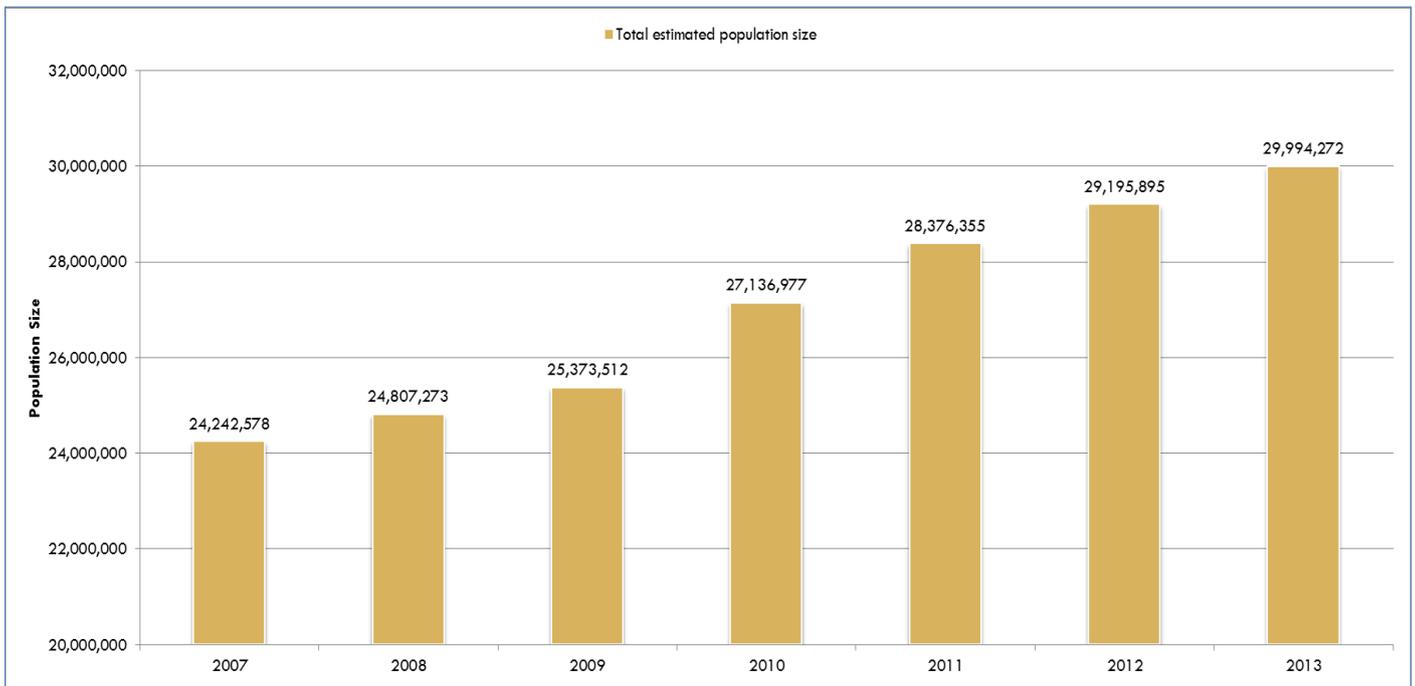


Figure 1.2: Total estimated population in the Kingdom for the time period 2007 -2013

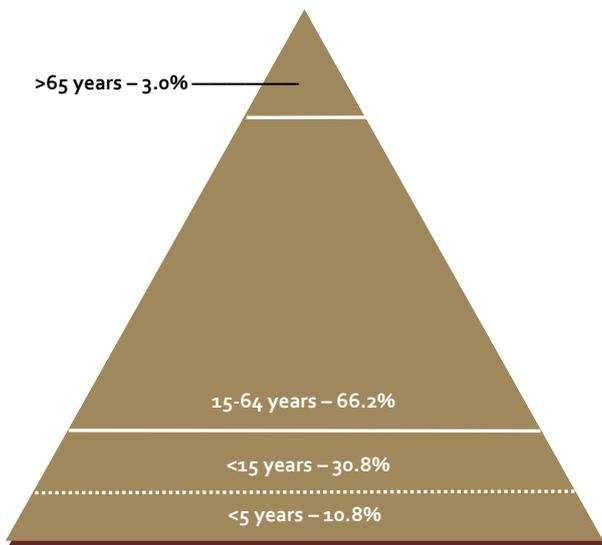


Figure 1.3: Population age-groups pyramid, 2013

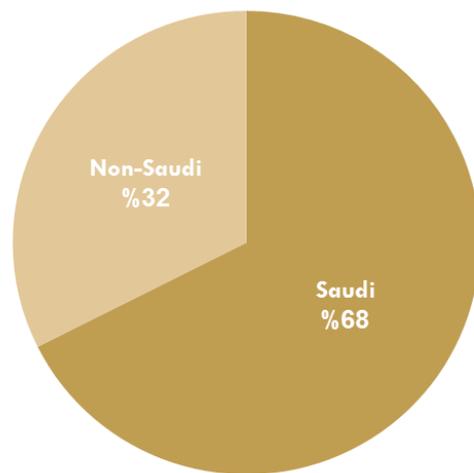


Figure 1.4: Population distribution by nationality, 2013

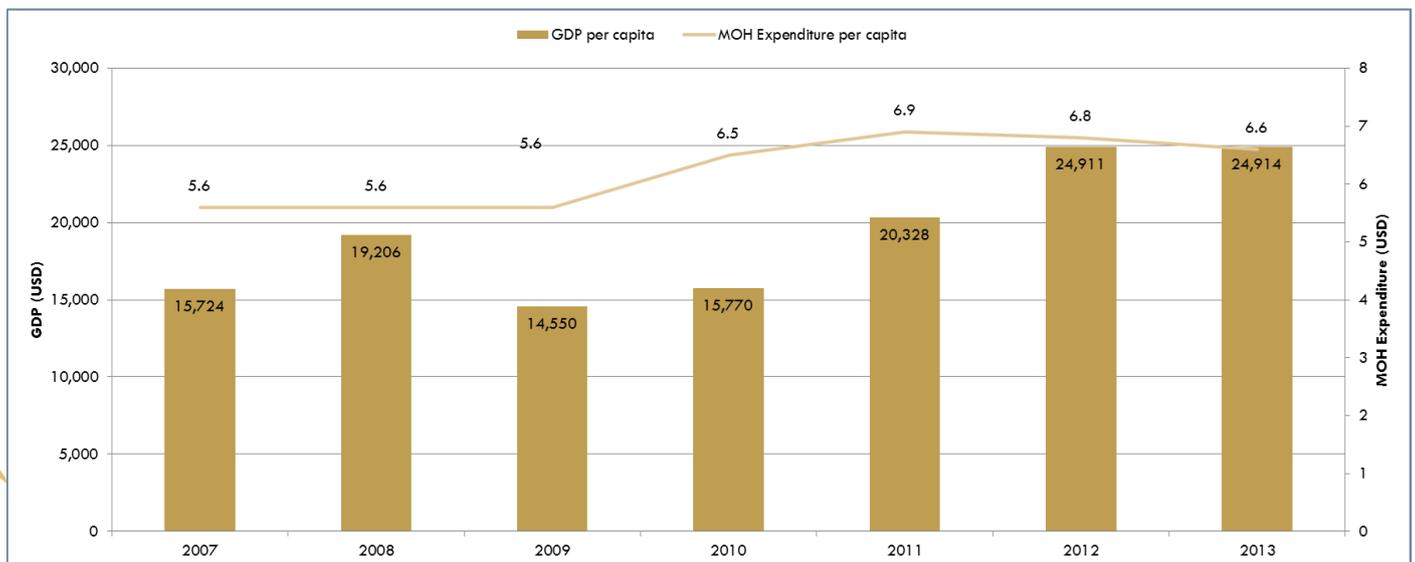


Figure 1.5: Selected economic indicators for the time period 2007 - 2013

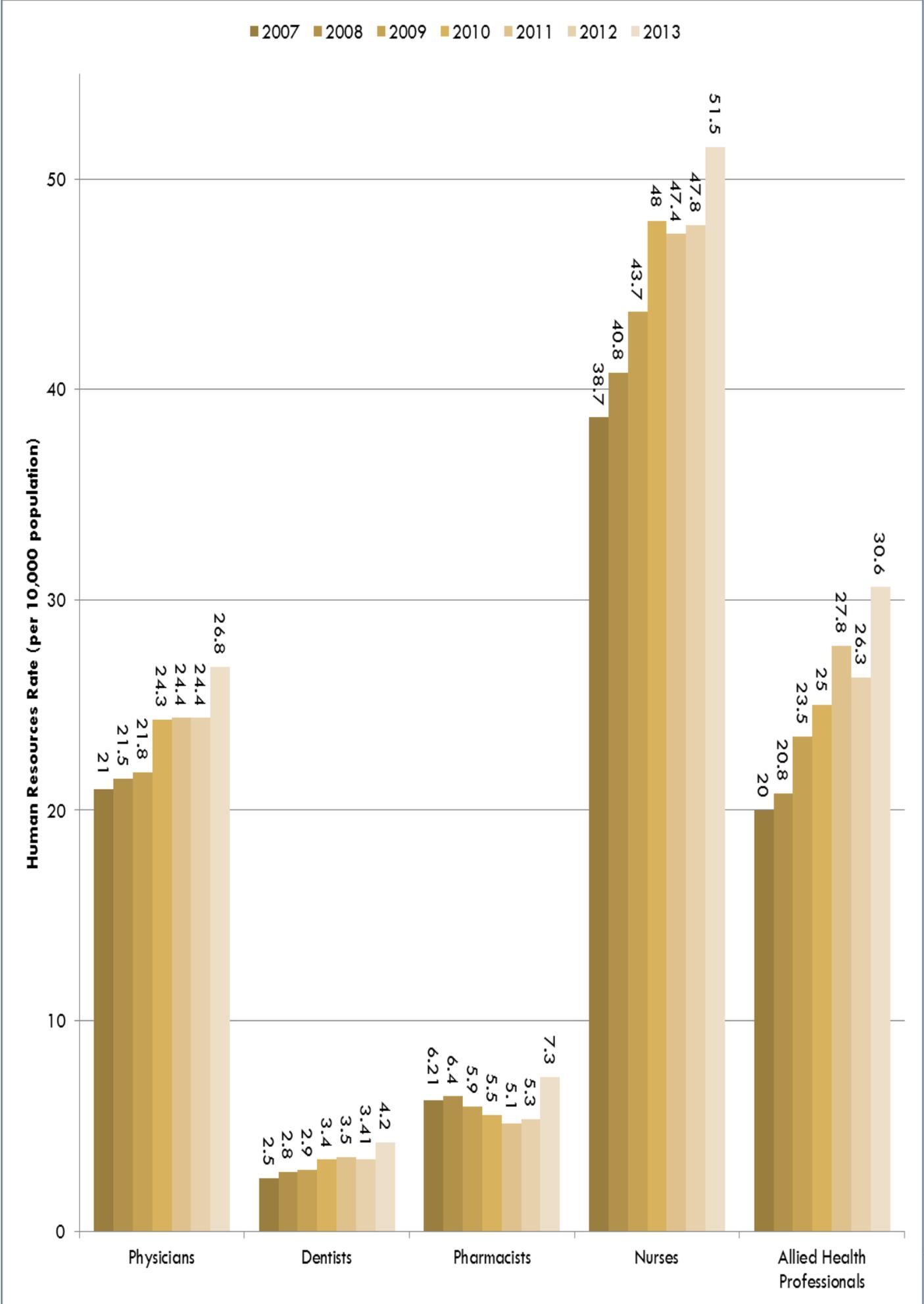


Figure 1.6: Health human resources in the Kingdom for the time period 2007 - 2013

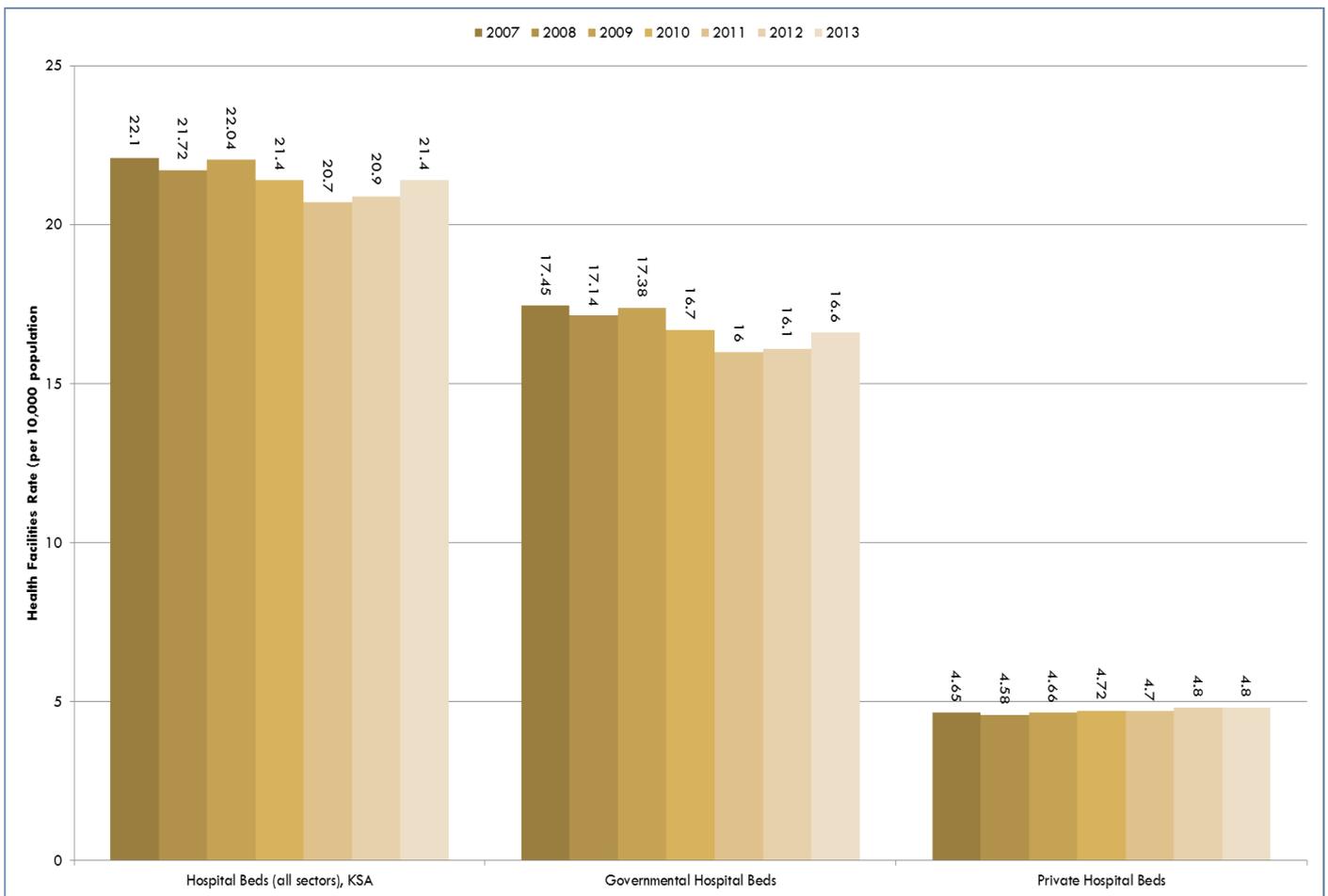


Figure 1.7: Hospital beds in the Kingdom for the time period 2007 - 2013

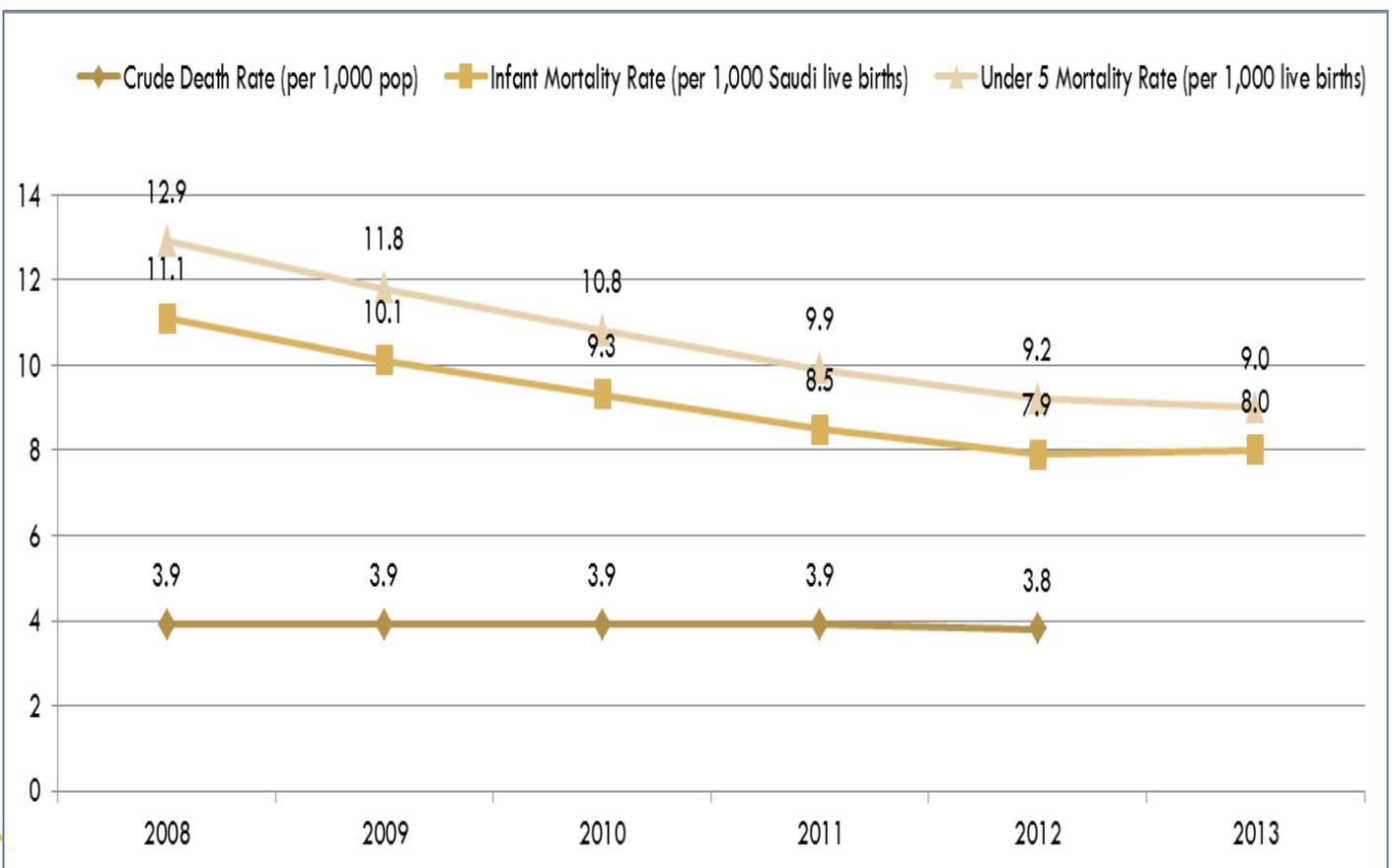


Figure 1.8: Selected mortality indicators in the Kingdom for the period 2008 - 2013

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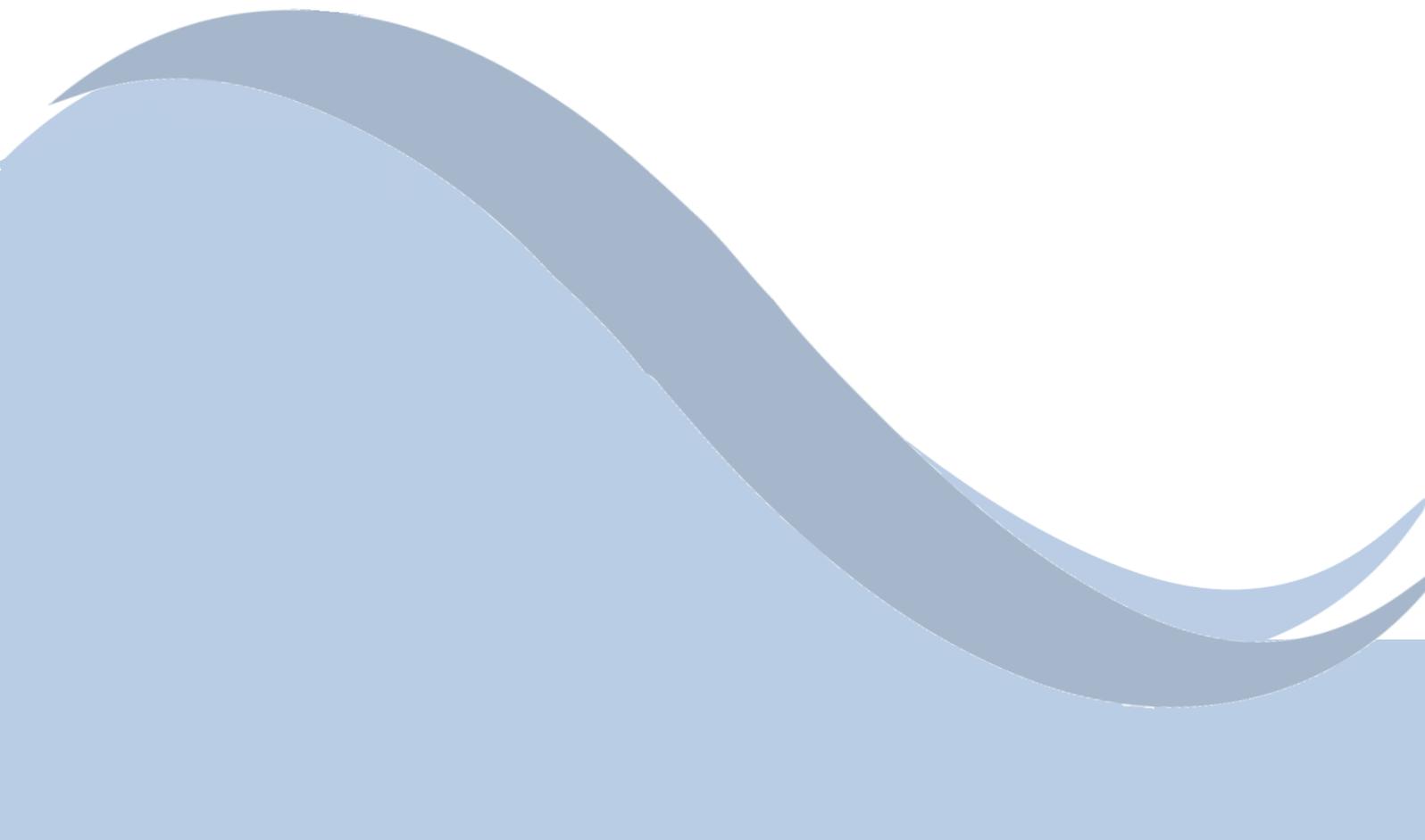
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Section V

SECTION II.

HEALTH RESOURCES



- Chapter 2: Health resources at the MOH
 - Chapter 3: Primary health care centers at the MOH
 - Chapter 4: Hospitals and beds at the MOH
 - Chapter 5: Health resources in other governmental sectors
 - Chapter 6: Health resources in the private sector
 - Chapter 7: Total health resources in all health sectors in the Kingdom
 - Chapter 8: Medical education
 - Chapter 9: Training
- 

A Glance at the Ministry of Health Financing

The financial appropriations of the government budget allocated for the Ministry of Health (MOH) is considered the main financing source for health resources. The Saudi government exerts effort to ensure continuous support to the MOH through the five year developmental plan, in which the allocated MOH budget undergoes continuous increase.

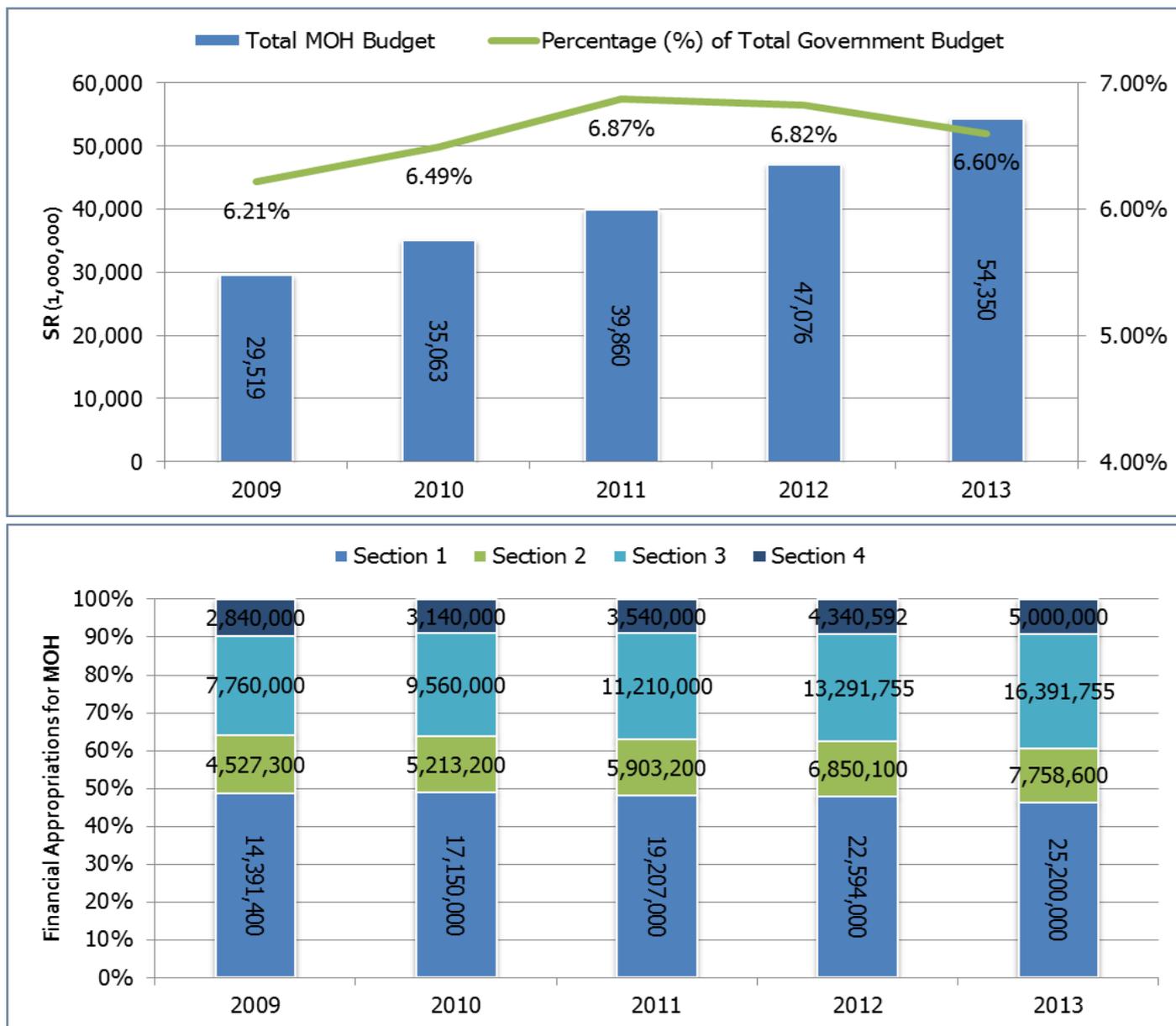


Figure 2.0: Budget appropriations for MOH in relation to government budget (top) and financial appropriations of the MOH budget (bottom), 2009-2013

Table 2.0: Job post appropriations for MOH, 2009-2013

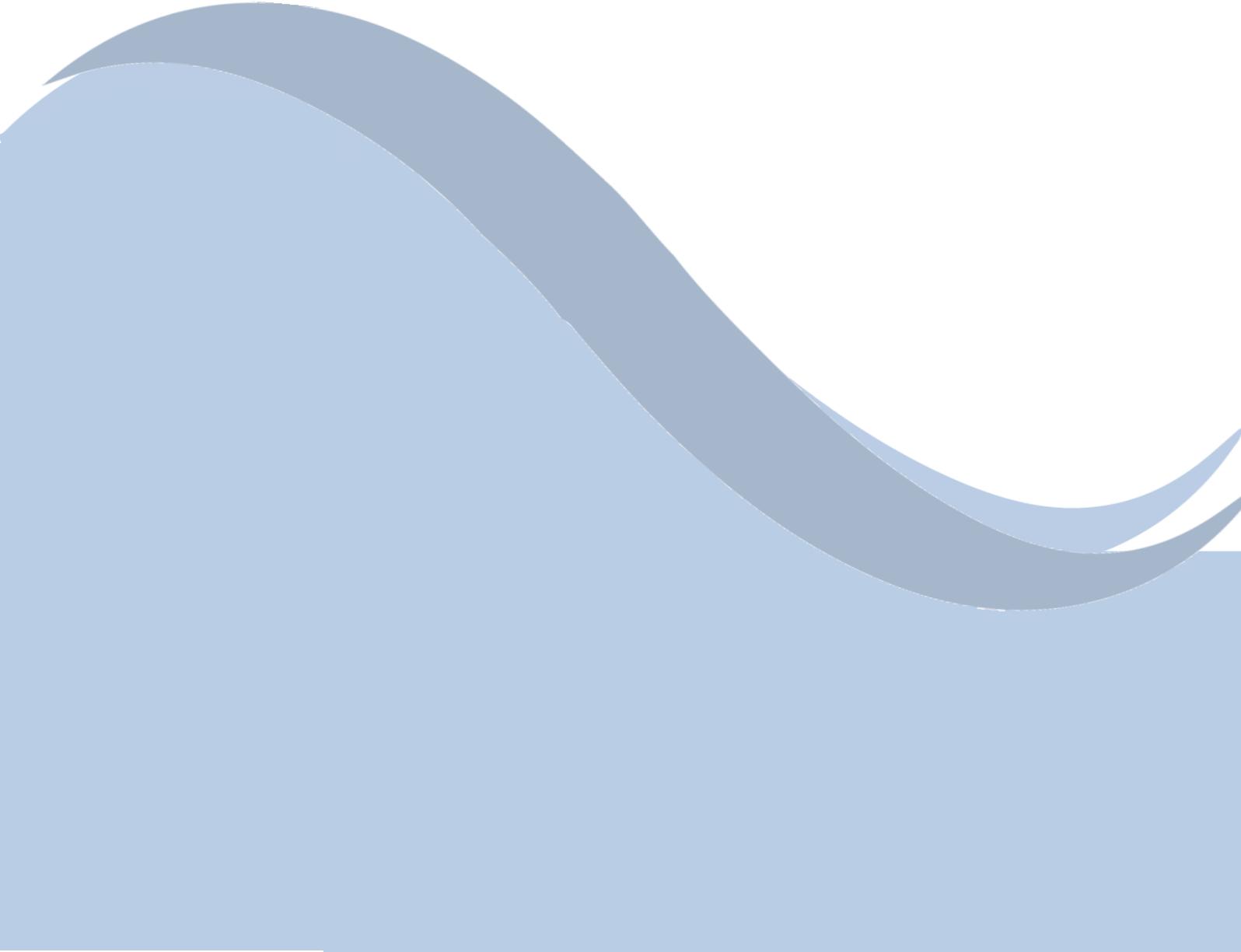
Budget Year	Approved Positions	Health Cadre	University Teaching Staff	Teachers Cadre	Workers	Total
2009	42,769	130,073	1	2	3,173	176,018
2010	43,881	139,099	1	2	3,086	186,069
2011	45,731	148,851	1	2	3,087	197,672
2012	47,917	157,431	1	2	3,087	208,438
2013	52,916	161,644	1	2	1,559	216,122

SECTION II.

HEALTH RESOURCES



Chapter 2: Health resources at the MOH



2.

HEALTH RESOURCES AT
THE MOH

Health Facilities of the Ministry of Health

Table 2.1 displays the distribution, by region of the Kingdom, of the health facilities of the Ministry of Health (MOH) that are providing various health services during the year 2013. The highest number of hospitals are present in Riyadh (47) and Aseer (21), then Madinah and Jazan (20 hospitals in each). The highest number of primary health care (PHC) centers are present in Riyadh (435) and Aseer (238). In total, the MOH operates 268 hospitals and 2,259 PHC centers.

Health Manpower in facilities of the Ministry of Health

The reported health manpower employed at facilities of the MOH comprised four categories: physicians (including dentists), nurses, pharmacists, and allied health professionals (including technical personnel). Figure 2.1 shows the distribution of the four categories of health manpower at the MOH and their ratios per 10,000 population across the regions of the Kingdom. For physicians, the highest ratio is present in Northern Borders (25.16 physicians per 10,000 population). For nurses, the highest ratio is present in Al-Jouf (69.42 nurses per 10,000 population). For pharmacists, the highest ratio is present in Northern Borders (1.45 pharmacists per 10,000 population) which is close to that in Najran. For Allied Health Professionals, the highest ratio is present in Qorayyat (34.37 professionals per 10,000 population).

The distribution of the four categories of health manpower at the MOH by region, nationality and gender is displayed in Table 2.2. The total number of physicians (including dentists) is 37,895. The number of Saudi physicians (including Saudi dentists) is 10,549 (representing 27.84% of the total number of physicians at the MOH). The total number of nurses is 83,862. The number of Saudi nurses is 48,495 (representing 57.8% of the total number of nurses at the MOH). The total number of pharmacists is 2,381. The number of Saudi pharmacists is 2,149 (representing 90.3% of the total number of pharmacists at the MOH). The total number of allied health professionals is 50,743. The number of Saudi allied health professionals is 45,194 (representing 89.1% of the total number of allied health professionals at the MOH).

KEY ACHIEVEMENTS ...

Between years 2009 and 2013, the proportion of Saudis from the total health manpower employed at the MOH increased from 54.2% to 60.8% .

More specifically, there has been a marked increase in the proportion of Saudis within the nursing workforce during the three year period (2010 to 2013), from 48.7% in 2010 to 57.8% in 2013.



HOW DOES KSA COMPARE?

In 2013, there were 2.2 nurses for every physician employed at facilities of the MOH in the KSA, in comparison to 1.3 nurses for every physician in the Eastern Mediterranean Region (EMR) and 1.8 nurses for every physician globally.

Source: World Health Statistics Report (2013), World Health Organization

Figure 2.2 represents the change in proportions of health manpower employed by the MOH by nationality during the time period of 2009-2013. From the total health manpower, the proportion of Saudis increased from 54.2% in 2009 to 60.8% in 2013.

Table 2.3 displays the distribution of allied health professionals employed by the MOH by specialty, and provides further details on the proportions of each specialty by nationality and gender.

Tables 2.4 and 2.5 display the distribution of technical & administrative personnel and workers employed at the MOH, respectively, by gender, nationality and region.

TREND OVER TIME...

Total health manpower (including physicians, nurses, pharmacists, and allied health professionals) employed by the MOH increased by 42.0% between years 2009 and 2013, with the addition of 51,738 personnel.

From year 2009 to 2013, the increase in health manpower employed at the MOH was as follows: 46.7% among physicians, 32.5% among nurses, 44.0% among pharmacists and 56.8% among allied health professionals.

During the period from year 2009 to 2013, the total number of Saudi health manpower employed at the MOH increased by 59.4% (from 66,745 to 106,387), while the total number of Non-Saudi health manpower increased by 21.4% (from 56,398 to 68,494).

Table 2.1: Total MOH facilities by region, 2013

Regions	Hospitals	PHC centers	Cardiology Center	Oncology Center	Dental centers	Diabetes Center	Dialysis Center	Rehabilitation centers	Central laboratories	Health centers control at entry points	Anti-smoking clinics	Forensic Medicine
Riyadh	47	435	1	1	3	1	31	1	1	1	18	1
Makkah	10	92	1	1	2	2	4	1	1	0	4	1
Jeddah	13	108	0	0	3	1	5	1	1	2	8	1
Ta'if	14	120	0	0	1	0	6	1	1	0	2	1
Medinah	20	154	1	0	2	1	11	1	1	3	7	1
Qaseem	18	159	1	1	1	2	13	1	0	0	2	1
Eastern	18	136	1	1	2	1	11	1	1	4	3	1
Al-Ahsa	9	71	1	0	1	1	1	1	0	2	1	1
Hafr Al-Baten	7	41	0	0	1	1	3	1	0	1	1	1
Aseer	21	238	0	0	2	1	12	1	0	1	1	1
Bishah	7	79	0	0	1	1	3	1	0	0	1	1
Tabouk	11	73	0	0	1	0	7	0	0	3	1	1
Ha'il	11	100	1	0	1	0	7	1	1	0	2	1
Northern	8	45	1	0	2	2	5	1	0	1	4	1
Jazan	20	155	0	0	1	2	8	1	0	2	2	1
Najran	10	65	1	0	2	1	5	1	1	2	1	1
Al-Bahah	11	101	0	0	2	1	6	1	1	0	1	1
Al-Jouf	7	35	0	0	2	0	4	1	0	0	1	1
Qurayyat	4	17	0	0	1	1	1	1	1	1	1	1
Qunfudah	2	35	0	0	1	1	1	1	0	0	1	1
Total	268	2,259	9	4	32	20	144	19	10	23	62	20

Section I

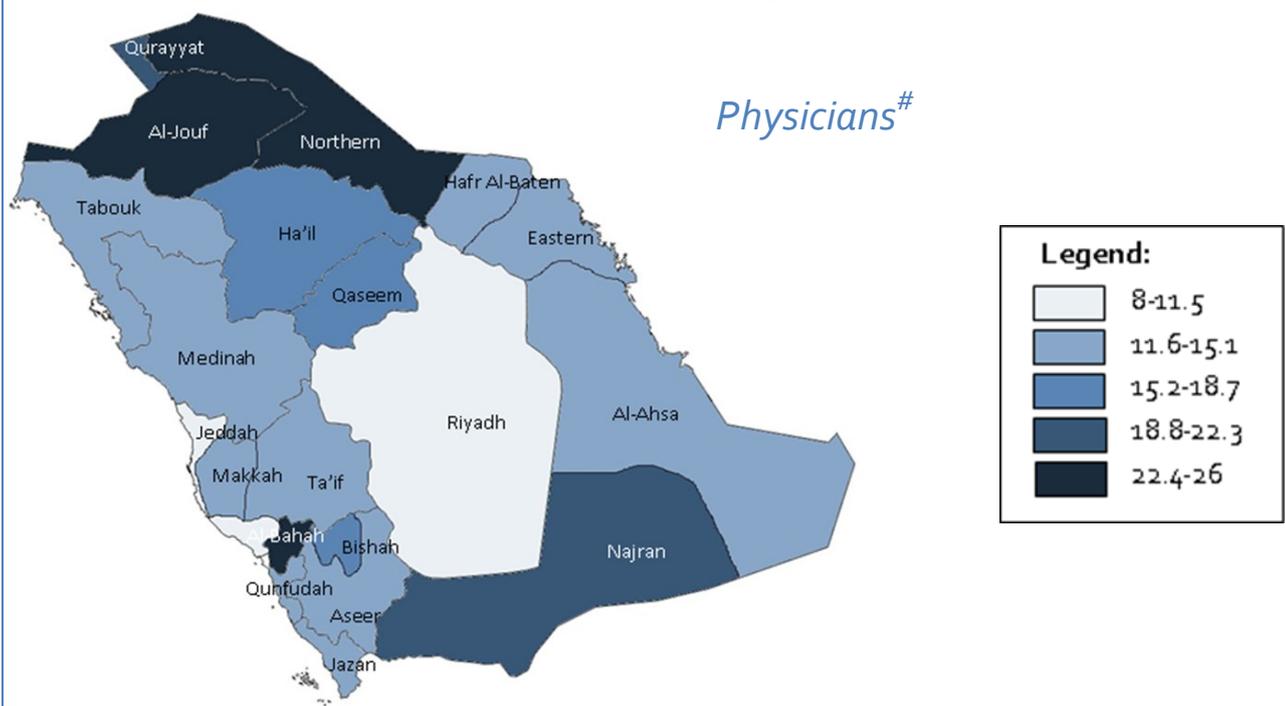
Section II

Section III

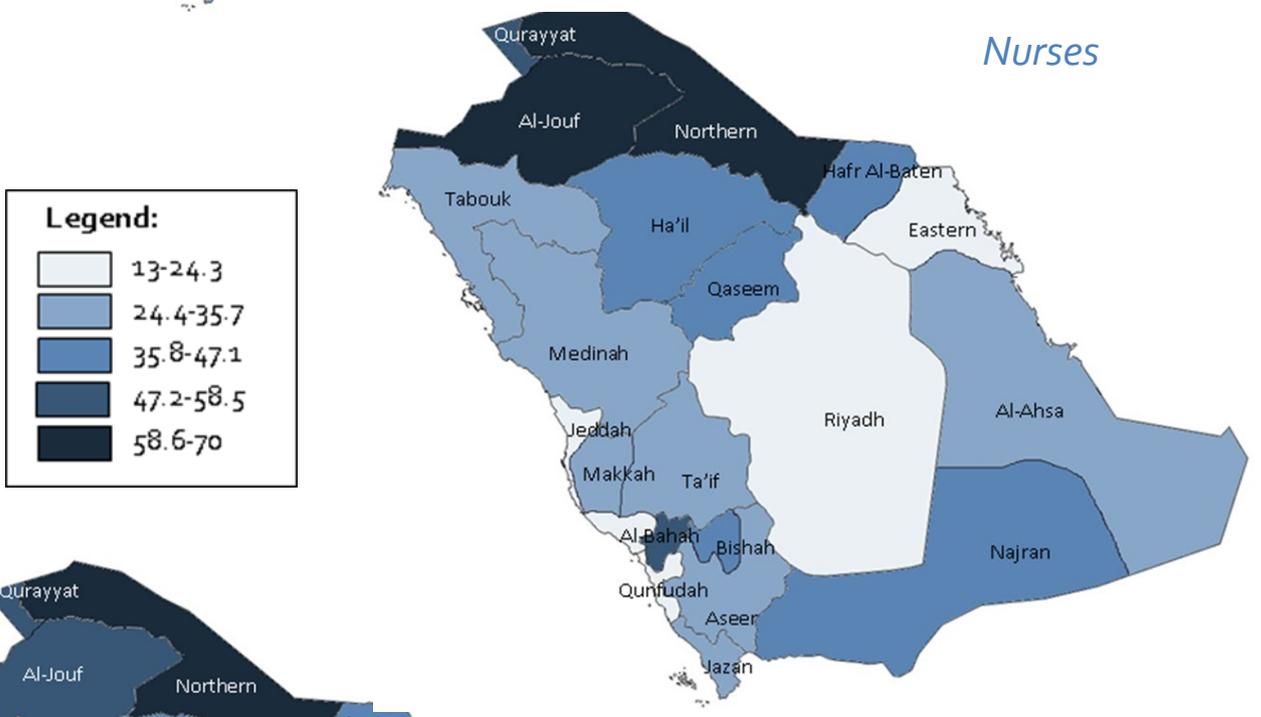
Section IV

Section V

Physicians[#]



Nurses



Pharmacists

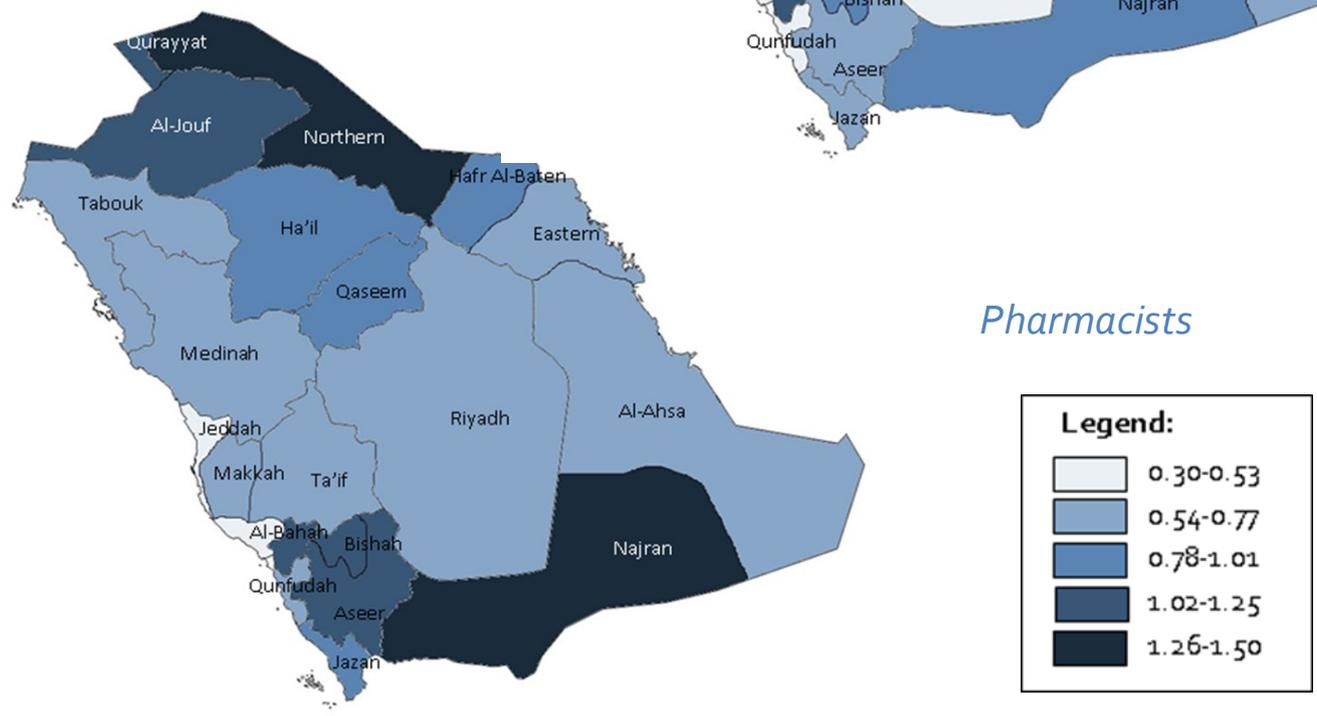


Figure 2.1: Ratio of health manpower in MOH facilities per 10,000 population by region, 2013

[#] Includes dentists

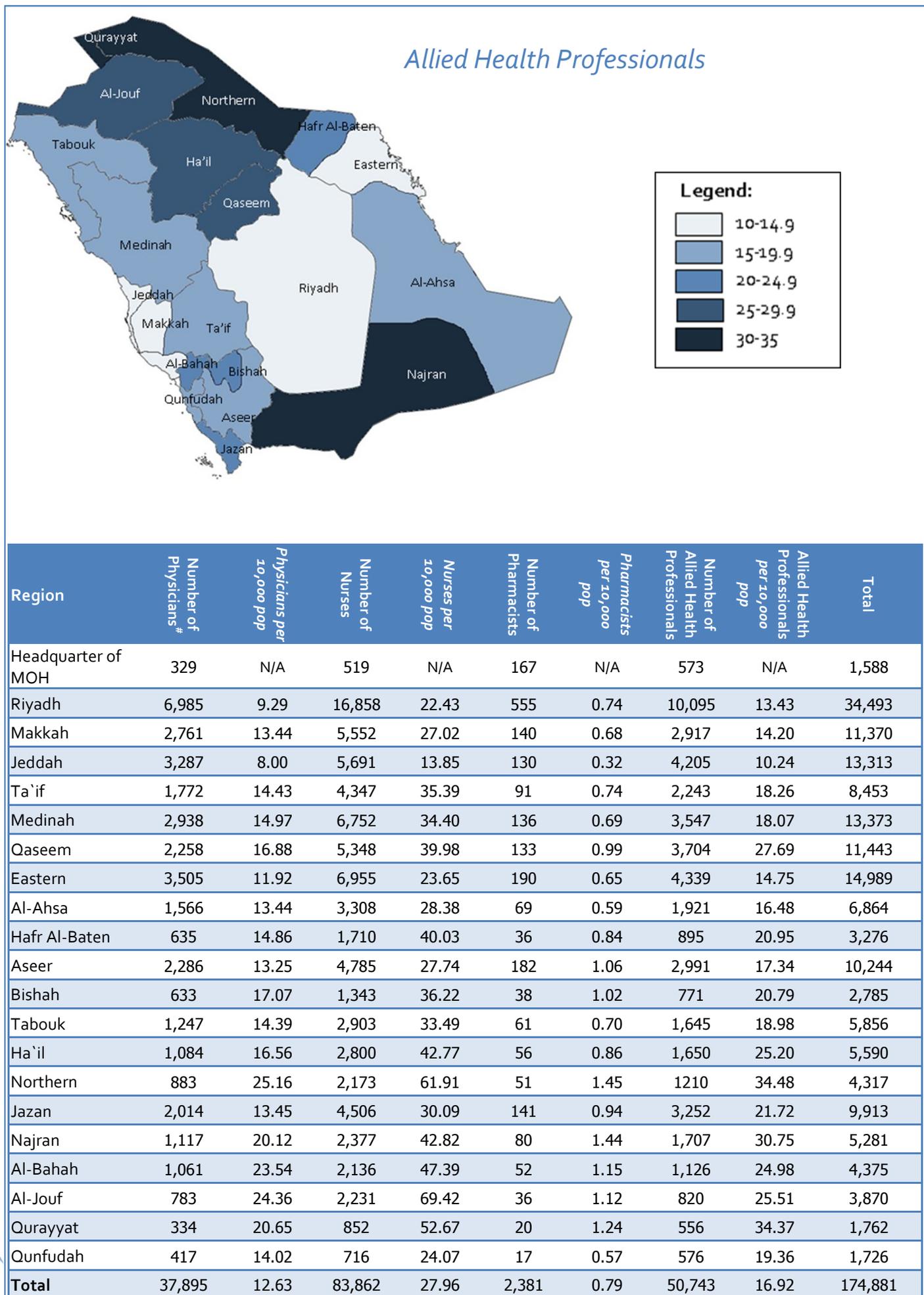


Figure 2.1 (continued): Ratio of health manpower in MOH facilities per 10,000 population by region, 2013

Includes dentists

Table 2.2: Total manpower in MOH facilities by region*, category, gender and nationality, 2013

Category	Headquarter of MOH			Riyadh			Makkah			Jeddah			
	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	
Physicians [#]	Male	95	190	285	1510	3489	4999	680	1291	1971	1084	732	1816
	Female	31	13	44	604	1382	1986	330	460	790	1091	380	1471
	Total	126	203	329	2114	4871	6985	1010	1751	2761	2175	1112	3287
Nurses	Male	478	2	480	3253	620	3873	1374	257	1631	992	76	1068
	Female	30	9	39	4620	8365	12985	1469	2452	3921	2631	1992	4623
	Total	508	11	519	7873	8985	16858	2843	2709	5552	3623	2068	5691
Pharmacists	Male	124	0	124	200	10	210	69	11	80	74	3	77
	Female	43	0	43	326	19	345	42	18	60	51	2	53
	Total	167	0	167	526	29	555	111	29	140	125	5	130
Allied Health Professionals	Male	505	1	506	6631	416	7047	1728	228	1956	2669	79	2748
	Female	67	0	67	2087	961	3048	625	336	961	1308	149	1457
	Total	572	1	573	8718	1377	10095	2353	564	2917	3977	228	4205

Category	Ta'if			Medinah			Qaseem			Eastern			
	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	
Physicians [#]	Male	234	1145	1379	602	1507	2109	194	1472	1666	969	1227	2196
	Female	44	349	393	285	544	829	61	531	592	839	470	1309
	Total	278	1494	1772	887	2051	2938	255	2003	2258	1808	1697	3505
Nurses	Male	1405	10	1415	1820	23	1843	1254	42	1296	915	187	1102
	Female	1017	1915	2932	2624	2285	4909	1373	2679	4052	4032	1821	5853
	Total	2422	1925	4347	4444	2308	6752	2627	2721	5348	4947	2008	6955
Pharmacists	Male	63	5	68	98	7	105	106	4	110	80	9	89
	Female	17	6	23	19	12	31	8	15	23	97	4	101
	Total	80	11	91	117	19	136	114	19	133	177	13	190
Allied Health Professionals	Male	1682	62	1744	2797	43	2840	2972	46	3018	2393	234	2627
	Female	292	207	499	572	135	707	257	429	686	1460	252	1712
	Total	1974	269	2243	3369	178	3547	3229	475	3704	3853	486	4339

* The region includes the directorate general of Health Services, hospitals and health centers

Physicians include dentists

Table 2.2 (continued): Total manpower in MOH facilities by region, category, gender and nationality, 2013

Category	Al-Ahsa			Hafr El-Baten			Aseer			Bishah			
	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	
Physicians [#]	Male	431	754	1185	55	457	512	525	1273	1798	21	495	516
	Female	89	292	381	7	116	123	58	430	488	1	116	117
	Total	520	1046	1566	62	573	635	583	1703	2286	22	611	633
Nurses	Male	665	17	682	500	7	507	943	2	945	246	9	255
	Female	1418	1208	2626	638	565	1203	1619	2221	3840	443	645	1088
	Total	2083	1225	3308	1138	572	1710	2562	2223	4785	689	654	1343
Pharmacists	Male	50	0	50	25	2	27	142	0	142	32	3	35
	Female	18	1	19	8	1	9	32	8	40	0	3	3
	Total	68	1	69	33	3	36	174	8	182	32	6	38
Allied Health Professionals	Male	1503	30	1533	702	14	716	2335	28	2363	545	19	564
	Female	252	136	388	130	49	179	336	292	628	50	157	207
	Total	1755	166	1921	832	63	895	2671	320	2991	595	176	771
Category	Tabouk			Hai'l			Northern			Jazan			
	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	
Physicians [#]	Male	55	877	932	30	775	805	9	703	712	348	1241	1589
	Female	16	299	315	2	277	279	4	167	171	21	404	425
	Total	71	1176	1247	32	1052	1084	13	870	883	369	1645	2014
Nurses	Male	856	14	870	706	3	709	406	4	410	1036	7	1043
	Female	1149	884	2033	1179	912	2091	1048	715	1763	2229	1234	3463
	Total	2005	898	2903	1885	915	2800	1454	719	2173	3265	1241	4506
Pharmacists	Male	41	4	45	46	5	51	28	7	35	125	2	127
	Female	14	2	16	4	1	5	12	4	16	10	4	14
	Total	55	6	61	50	6	56	40	11	51	135	6	141
Allied Health Professionals	Male	1326	29	1355	1277	18	1295	931	15	946	2792	28	2820
	Female	216	74	290	155	200	355	141	123	264	246	186	432
	Total	1542	103	1645	1432	218	1650	1072	138	1210	3038	214	3252

Physicians include dentists

Table 2.2 (continued): Total manpower in MOH facilities by region, category, gender and nationality, 2013

Category		Najran			Al-Bahah			Al-Jouf			Qurayyat		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	52	819	871	66	796	862	26	594	620	22	248	270
	Female	4	242	246	5	194	199	4	159	163	2	62	64
	Total	56	1061	1117	71	990	1061	30	753	783	24	310	334
Nurses	Male	451	10	461	552	29	581	676	0	676	288	0	288
	Female	322	1594	1916	184	1371	1555	1030	525	1555	355	209	564
	Total	773	1604	2377	736	1400	2136	1706	525	2231	643	209	852
Pharmacists	Male	67	4	71	19	14	33	14	5	19	16	1	17
	Female	4	5	9	0	19	19	9	8	17	2	1	3
	Total	71	9	80	19	33	52	23	13	36	18	2	20
Allied Health Professionals	Male	1396	19	1415	878	41	919	647	16	663	451	14	465
	Female	83	209	292	81	126	207	70	87	157	58	33	91
	Total	1479	228	1707	959	167	1126	717	103	820	509	47	556

Category		Qunfudah			Total		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	39	270	309	7047	20355	27402
	Female	4	104	108	3502	6991	10493
	Total	43	374	417	10549	27346	37895
Nurses	Male	119	1	120	18935	1320	20255
	Female	150	446	596	29560	34047	63607
	Total	269	447	716	48495	35367	83862
Pharmacists	Male	12	2	14	1431	98	1529
	Female	2	1	3	718	134	852
	Total	14	3	17	2149	232	2381
Allied Health Professionals	Male	469	3	472	36629	1383	38012
	Female	79	25	104	8565	4166	12731
	Total	548	28	576	45194	5549	50743

Physicians include dentists



Figure 2.2 : Total manpower in MOH facilities by nationality, 2009-2013
Includes dentists

Section I

Section II

Section III

Section IV

Section V

Table 2.3: Allied health personnel by specialty , nationality & gender, 2013

Region	Saudi		Non-Saudi		Total	% Saudi
	Male	Female	Male	Female		
Laboratory	6623	1860	216	692	9391	90.3
Pharmacy	5338	805	113	362	6618	92.8
Radiology	4661	801	113	748	6323	86.4
Public Health	3146	38	21	2	3207	99.3
Rehabilitation	1801	739	260	423	3223	78.8
Dental	1493	1106	40	128	2767	93.9
Health Services' Management	2049	354	5	16	2424	99.1
Medical Records	1611	568	34	93	2306	94.5
Surgical Operations	1402	62	63	452	1979	74.0
Social Services	1094	502	3	4	1603	99.6
Anesthesia	1221	17	99	214	1551	79.8
Nutrition	1193	324	4	24	1545	98.2
Medical Secretary	620	220	29	124	993	84.6
Psychotherapy	557	191	12	5	765	97.8
Statistics	654	30	2	1	687	99.6
Optometry	424	119	2	10	555	97.8
Renal Dialysis	1	3	5	494	503	0.8
Sterilization	58	3	66	49	176	34.7
ECG & EEG	19	6	20	36	81	30.9
Hearing / Speech	32	48	10	6	96	83.3
Others	2632	769	266	283	3950	86.1
Total	36629	8565	1383	4166	50743	89.1

Table 2.4: Administrative, Technical Personnel and Workers in the Ministry of Health by nationality and gender, 2013

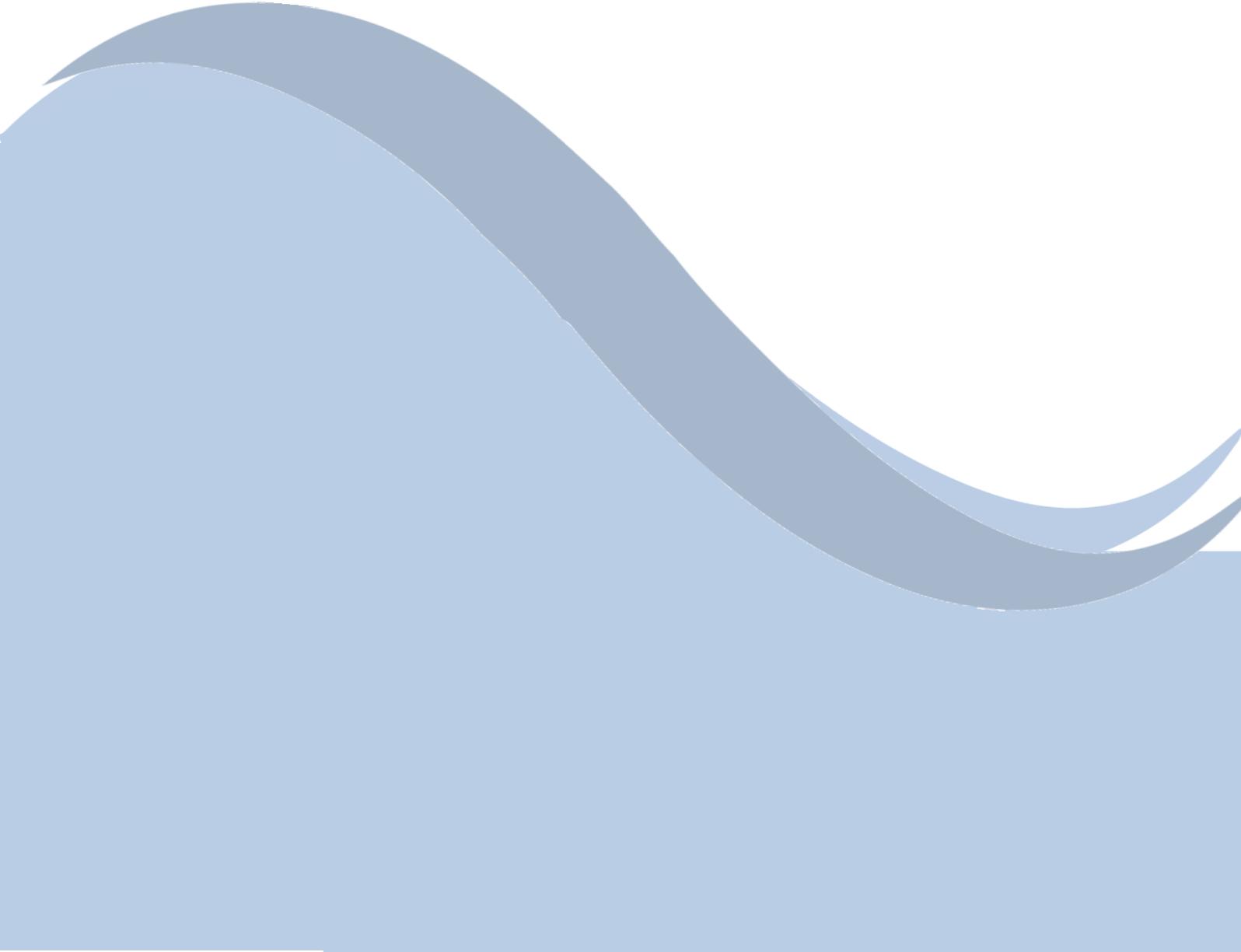
Category	Saudi		Non-Saudi		Total	% Saudi
	Male	Female	Male	Female		
Civil Service						
Technical Personnel	7,584	1,470	0	0	9,054	100
Workers	1,269	217	0	0	1,486	100
Administrative	30,521	3,360	0	0	33,881	100
Total Civil Service	39,374	5,047	0	0	44,421	100
Autonomous Operation (التشغيل الذاتي)						
Administrative	4,693	1,046	0	0	5,739	100
General Service	1,297	132	0	0	1,429	100
Total Autonomous Operation	5,990	1,178	0	0	7,168	100

SECTION II.

HEALTH RESOURCES



Chapter 3: Primary health care centers at the MOH



3.

PRIMARY HEALTH CARE
CENTERS AT THE MOH

Primary Health Care (PHC) Centers at the Ministry of Health

The Ministry of Health (MOH) is the major governmental agency entrusted with the provision of preventive, curative and rehabilitative health care for the Kingdom's population. The MOH provides Primary Health Care (PHC) services through a network of health care centers, which included 2,259 centers in 2013. Figure 3.1 shows the distribution of the centers as well as the ratios per 100,000 population across the 20 health regions of the Kingdom. The highest ratio is present Al-Bahah (22.41 centers per 100,000 population).

The total number of PHC centers at the MOH increased over the recent years (2009-2013), as demonstrated in Figure 3.2. Figure 3.3 further displays this increasing trend in the number of PHC centers during the time period of 2009-2013, while providing numbers by region of the Kingdom. The largest growth in the number of PHC centers was noted in Jeddah (35%), Makkah (21%) and Hafr Al-Baten (21%).

Each PHC center provides health services to 13,455 people, on average. Figure 3.4 demonstrates the availability of dental, X-ray, and laboratory services within the PHC centers across the 20 health regions. The highest percentage of centers with a dental clinic is present in Qaseem (89%). The highest percentage of centers with X-ray equipment is present in Ha'il (52%). The highest percentage of centers with laboratories is also present in Ha'il (89%).

TREND OVER TIME...

The total number of PHC centers at the MOH increased by 17.4% from year 2007 (1,925 centers) to 2013 (2,259 centers).

The rate of physicians (including dentists) employed at PHC centers of the MOH increased from 2.3 physicians per 10,000 population in 2008 to 2.9 physicians per 10,000 population in 2013.

The rate of nurses employed at PHC centers of the MOH increased from 5.2 nurses per 10,000 population in 2008 to 5.4 nurses per 10,000 population in 2013.

The rate of pharmacists employed at PHC centers of the MOH dropped from 0.07 pharmacists per 10,000 population in 2008 to 0.05 pharmacists per 10,000 in 2013.

The rate of allied health professionals employed at PHC centers of the MOH increased from 2.1 professionals per 10,000 population in 2008 to 3.5 professionals per 10,000 in 2013.

Health Manpower in PHC Centers at the Ministry of Health

Figure 3.5 displays the distribution of the four categories of health manpower employed at PHC centers of the MOH and the ratio of manpower per 10,000 population by region for the year 2013. There is a total of 8,691 physicians (including dentists), 16,283 nurses, 164 pharmacists and 10,552 allied health professionals in all PHC centers. Al-Bahah has the highest ratios for all categories of manpower: physicians (7.54 per 10,000 population), nurses (14.80 per 10,000 population), pharmacists (0.13 per 10,000 population), and allied health professionals (8.83 per 10,000 population).

The proportion of total health manpower at PHC centers of the MOH by nationality and gender for year 2013 is displayed in Figure 3.6. The proportions are further detailed in Table 3.1 by the region of the Kingdom. The change in proportion of health manpower by nationality for the four categories of manpower during the time period of 2008-2012 is shown in Figure 3.7.

Table 3.2 reveals the proportions of physicians (by main specialty) and dentists by gender and nationality. Furthermore, Table 3.3 shows changes in the total number of physicians (by main specialty) and dentists by nationality over the time period 2009-2013.

KEY ACHIEVEMENTS ...

The proportion of Saudis within the total health manpower employed at PHC centers of the MOH increased significantly from 58.2% in 2009 to 72.4% in 2013.

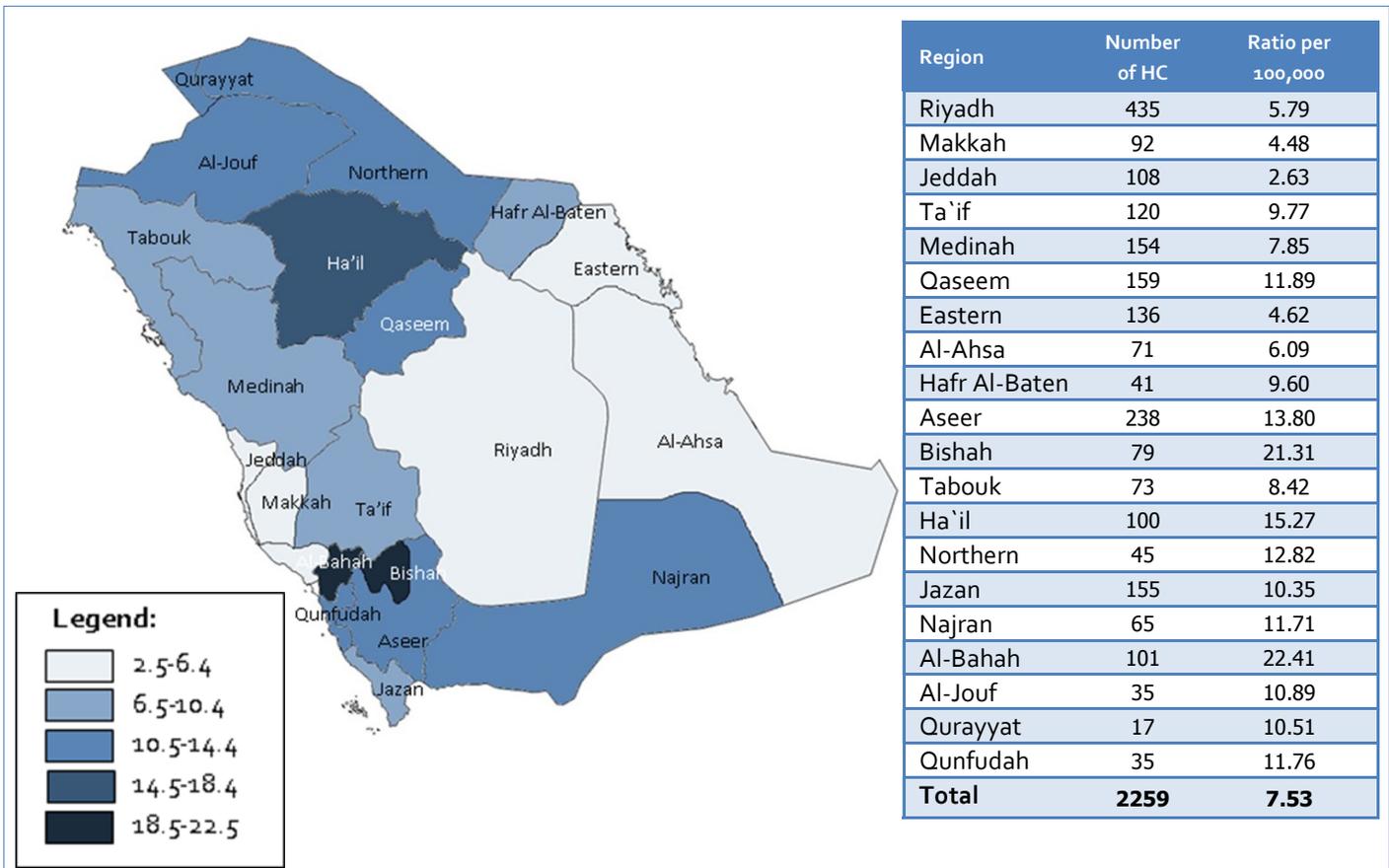


Figure 3.1: Ratio of MOH Health Centers (HC) per 100,000 population by region, 2013

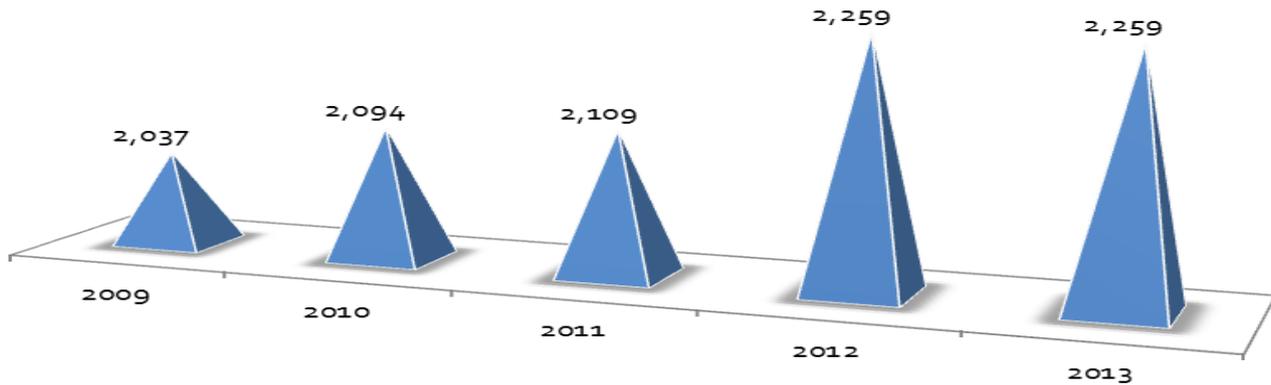


Figure 3.2: Trending of total MOH health centers, 2009-2013

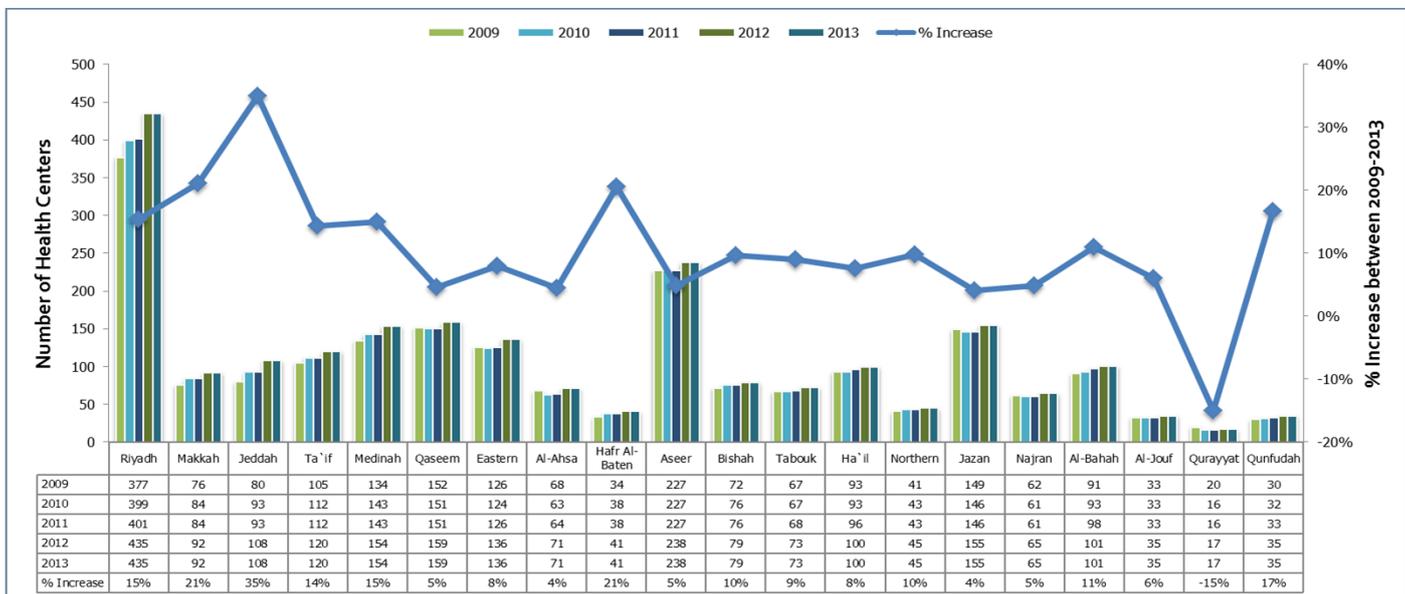


Figure 3.3: Trending of MOH health centers by region, 2009-2013

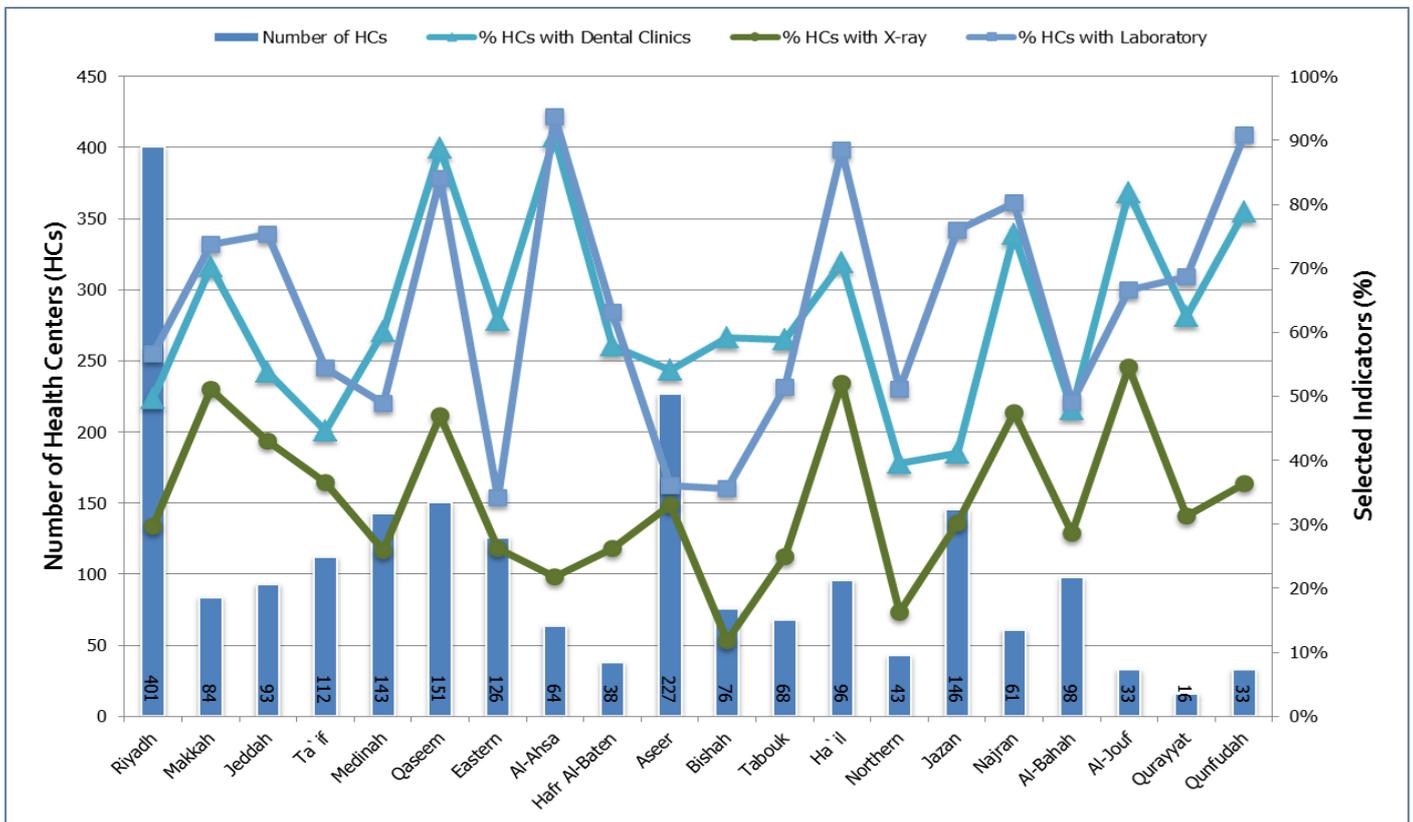


Figure 3.4: MOH health centers by region and some selected indicators, 2011 *

* Represents data for 2011 due to absence of 2013 data

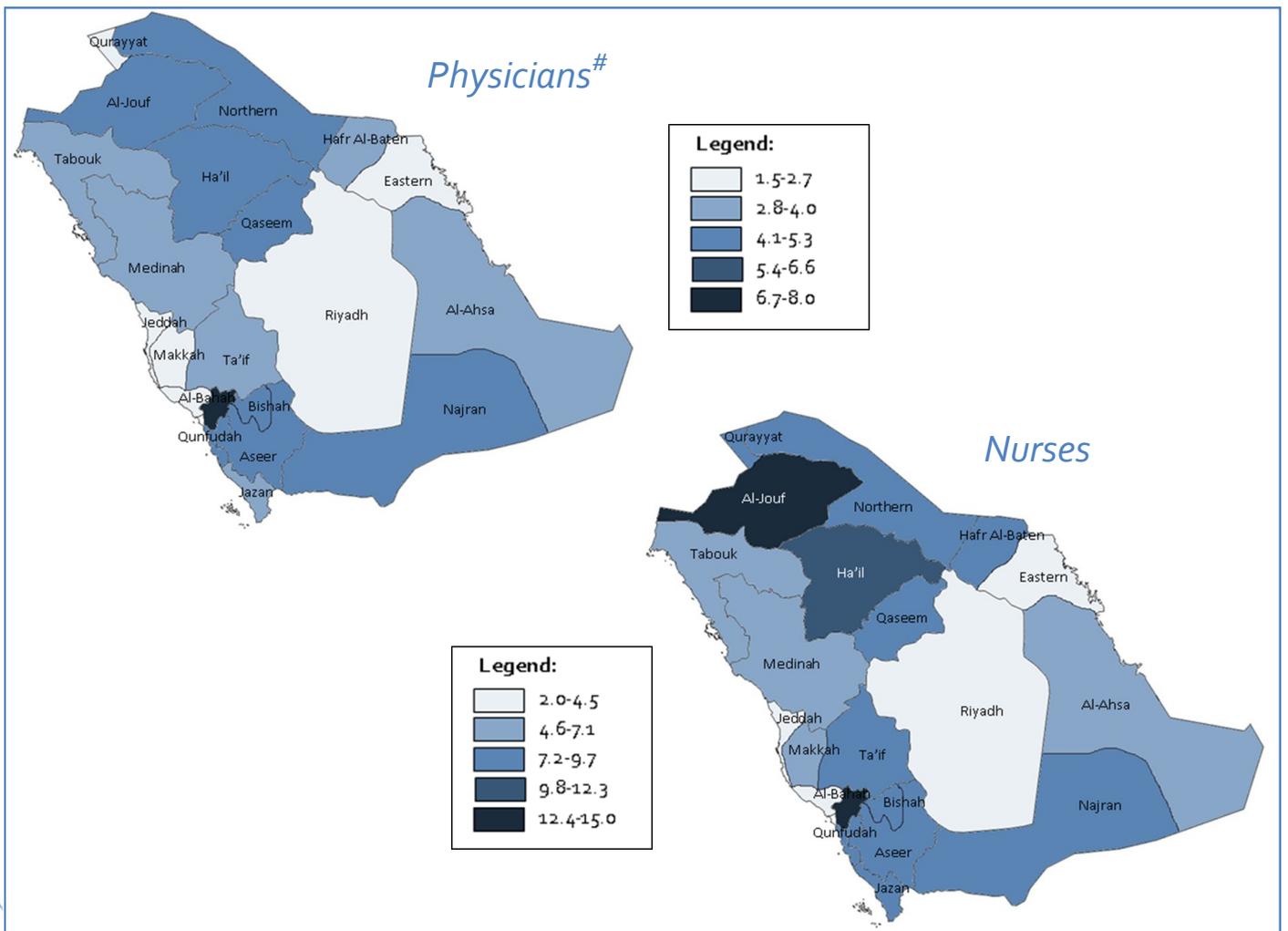
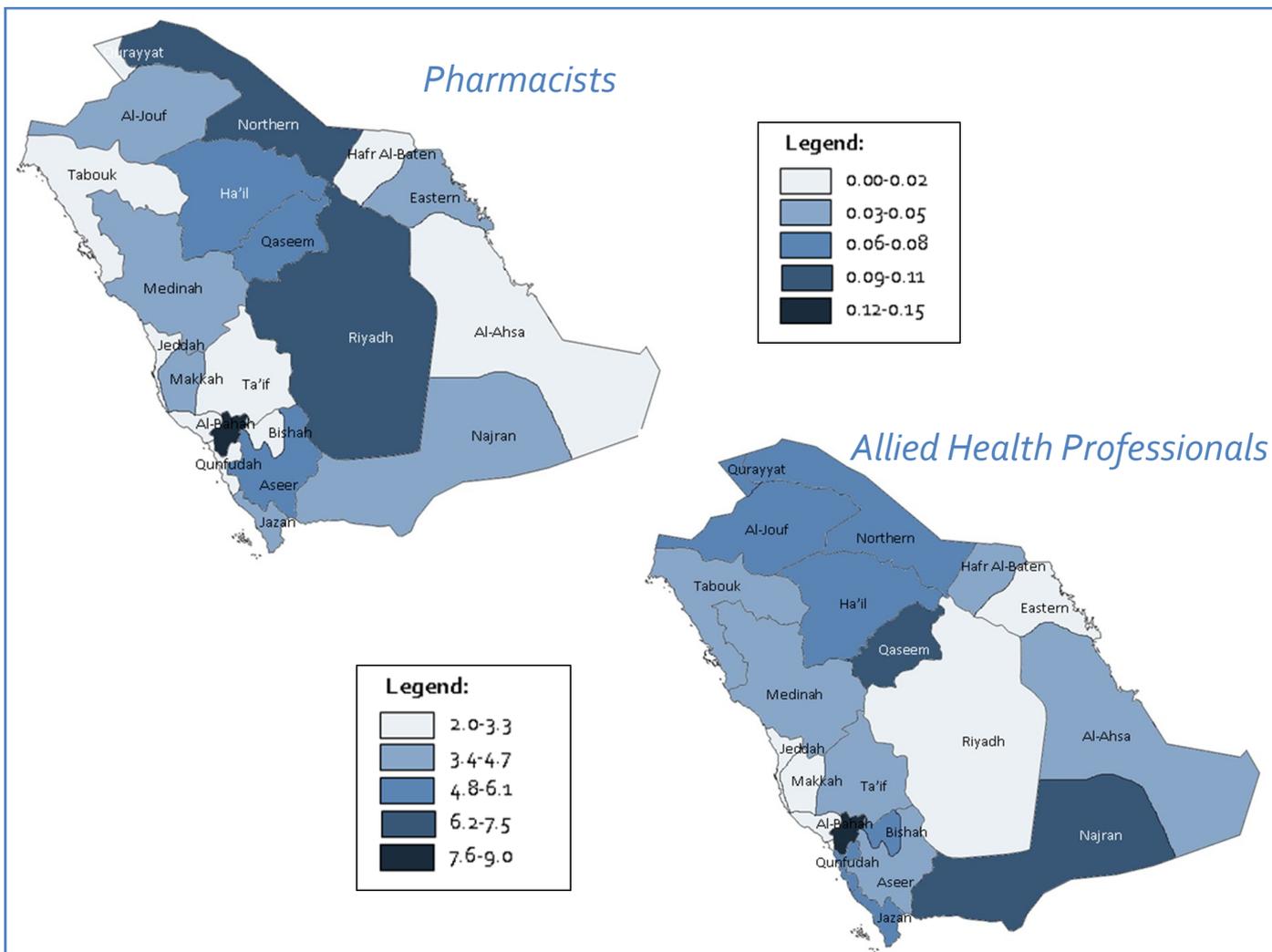


Figure 3.5: Ratio of health manpower in MOH health centers per 10,000 population by region, 2013

Includes dentists



Region	Number of Physicians #	Physicians per 10,000 pop	Number of Nurses	Nurses per 10,000 pop	Number of Pharmacists	Pharmacists per 10,000 pop	Number of Allied Health Professionals	Allied Health Professionals per 10,000 pop	Total
Riyadh	1,163	1.55	1,951	2.60	80	0.11	1,649	2.19	4,843
Makkah	553	2.69	983	4.78	6	0.03	568	2.76	2,110
Jeddah	825	2.01	1,184	2.88	10	0.02	1,015	2.47	3,034
Ta'if	469	3.82	1,022	8.32	3	0.02	437	3.56	1,931
Medinah	589	3.00	1,334	6.80	8	0.04	714	3.64	2,645
Qaseem	702	5.25	1,178	8.81	11	0.08	894	6.68	2,785
Eastern	713	2.42	1,147	3.90	11	0.04	848	2.88	2,719
Al-Ahsa	424	3.64	606	5.20	0	0.00	477	4.09	1,507
Hafr Al-Baten	159	3.72	374	8.76	0	0.00	158	3.70	691
Aseer	751	4.35	1,416	8.21	13	0.08	758	4.39	2,938
Bishah	158	4.26	338	9.12	0	0.00	179	4.83	675
Tabouk	261	3.01	576	6.65	2	0.02	328	3.78	1,167
Ha'il	298	4.55	784	11.97	4	0.06	368	5.62	1,454
Northern	186	5.30	340	9.69	3	0.09	204	5.81	733
Jazan	539	3.60	1,124	7.51	4	0.03	785	5.24	2,452
Najran	247	4.45	471	8.48	2	0.04	370	6.67	1,090
Al-Bahah	340	7.54	667	14.80	6	0.13	398	8.83	1,411
Al-Jouf	150	4.67	421	13.10	1	0.03	168	5.23	740
Qurayyat	34	2.10	120	7.42	0	0.00	78	4.82	232
Qunfudah	130	4.37	247	8.30	0	0.00	156	5.24	533
Total	8,691	2.90	16,283	5.43	164	0.05	10,552	3.52	35,690

Figure 3.5 (continued): Ratio of health manpower in MOH health centers per 10,000 population by region, 2013

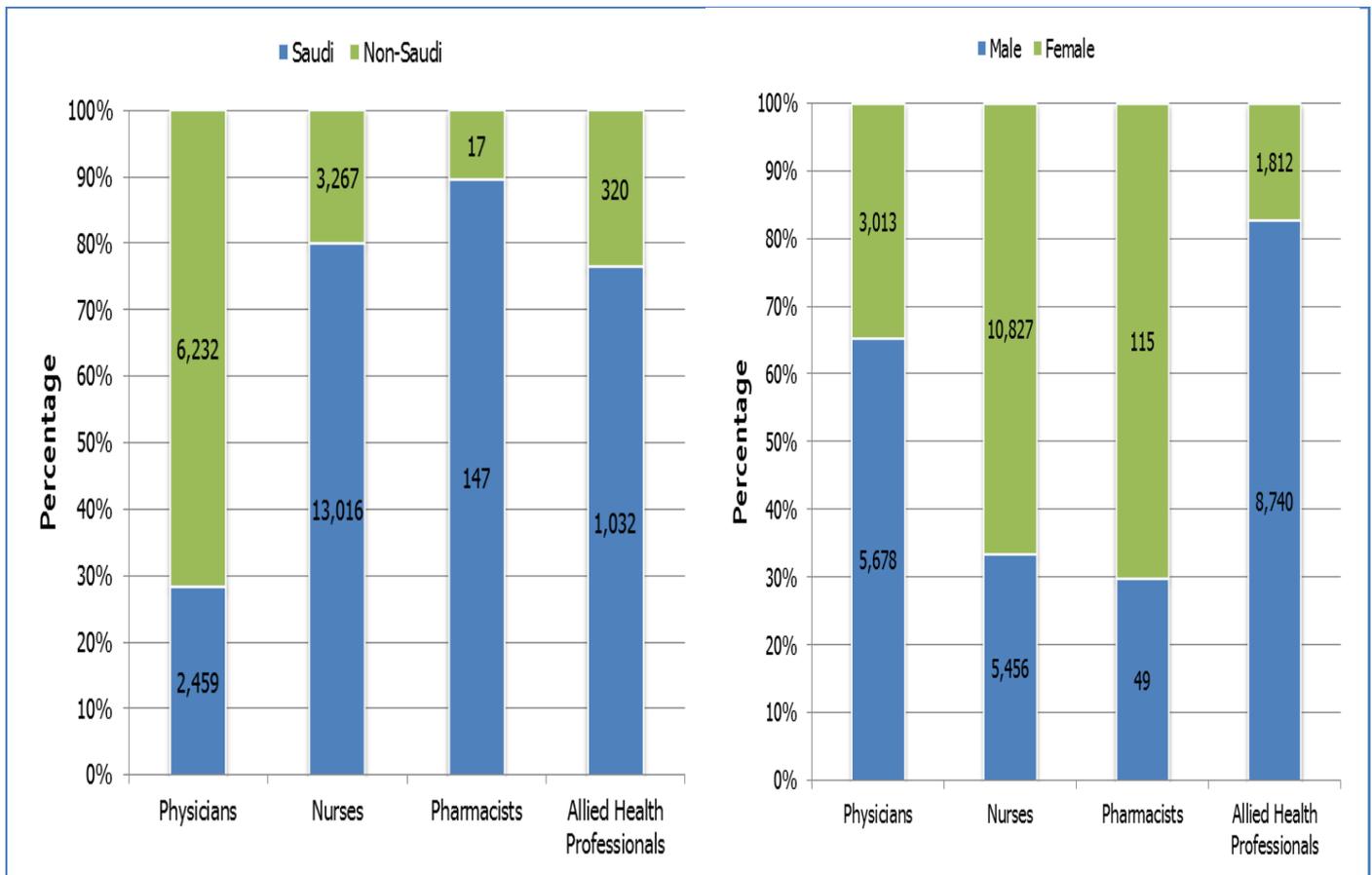


Figure 3.6: Proportions of manpower in MOH health centers by nationality and gender, 2013

Table 3.1: Manpower in MOH health centers by region, category, gender and nationality, 2013

Category		Riyadh			Makkah			Jeddah			Ta'if		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	182	500	682	173	176	349	262	124	386	68	267	335
	Female	136	345	481	96	108	204	327	112	439	20	114	134
	Total	318	845	1163	269	284	553	589	236	825	88	381	469
Nurses	Male	720	2	722	552	0	552	315	0	315	450	0	450
	Female	1025	204	1229	341	90	431	707	162	869	269	303	572
	Total	1745	206	1951	893	90	983	1022	162	1184	719	303	1022
Pharmacists	Male	3	0	3	3	0	3	5	0	5	1	0	1
	Female	77	0	77	3	0	3	5	0	5	0	2	2
	Total	80	0	80	6	0	6	10	0	10	1	2	3
Allied Health Professionals	Male	1258	7	1265	434	2	436	710	2	712	388	3	391
	Female	368	16	384	125	7	132	302	1	303	36	10	46
	Total	1626	23	1649	559	9	568	1012	3	1015	424	13	437

Table 3.1 (continued): Manpower in MOH health centers by region, category, gender and nationality, 2013

Category		Medinah			Qaseem			Eastern			Al-Ahsa		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	148	226	374	43	423	466	186	212	398	137	173	310
	Female	85	130	215	14	222	236	179	136	315	33	81	114
	Total	233	356	589	57	645	702	365	348	713	170	254	424
Nurses	Male	544	0	544	331	0	331	258	4	262	140	0	140
	Female	606	184	790	356	491	847	721	164	885	371	95	466
	Total	1150	184	1334	687	491	1178	979	168	1147	511	95	606
Pharmacists	Male	5	0	5	7	1	8	5	0	5	0	0	0
	Female	0	3	3	2	1	3	6	0	6	0	0	0
	Total	5	3	8	9	2	11	11	0	11	0	0	0
Allied Health Professionals	Male	628	2	630	789	0	789	620	6	626	439	2	441
	Female	79	5	84	61	44	105	204	18	222	26	10	36
	Total	707	7	714	850	44	894	824	24	848	465	12	477

Category		Hafr Al-Baten			Aseer			Bishah			Tabouk		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	6	104	110	233	348	581	2	127	129	15	148	163
	Female	0	49	49	14	156	170	1	28	29	3	95	98
	Total	6	153	159	247	504	751	3	155	158	18	243	261
Nurses	Male	87	0	87	341	0	341	71	5	76	231	0	231
	Female	233	54	287	693	382	1075	189	73	262	303	42	345
	Total	320	54	374	1034	382	1416	260	78	338	534	42	576
Pharmacists	Male	0	0	0	4	0	4	0	0	0	1	0	1
	Female	0	0	0	8	1	9	0	0	0	1	0	1
	Total	0	0	0	12	1	13	0	0	0	2	0	2
Allied Health Professionals	Male	122	0	122	627	1	628	138	4	142	287	0	287
	Female	28	8	36	106	24	130	17	20	37	37	4	41
	Total	150	8	158	733	25	758	155	24	179	324	4	328

Physicians include dentists

Table 3.1 (continued): Manpower in MOH health centers by region, category, gender and nationality, 2013

Category		Ha'il			Northern			Jazan			Najran		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	2	203	205	1	142	143	64	325	389	7	170	177
	Female	0	93	93	0	43	43	2	148	150	0	70	70
	Total	2	296	298	1	185	186	66	473	539	7	240	247
Nurses	Male	299	0	299	101	0	101	319	1	320	162	0	162
	Female	360	125	485	202	37	239	630	174	804	104	205	309
	Total	659	125	784	303	37	340	949	175	1124	266	205	471
Pharmacists	Male	3	1	4	0	0	0	2	1	3	1	0	1
	Female	0	0	0	2	1	3	1	0	1	0	1	1
	Total	3	1	4	2	1	3	3	1	4	1	1	2
Allied Health Professionals	Male	336	0	336	176	0	176	721	9	730	324	0	324
	Female	16	16	32	22	6	28	47	8	55	12	34	46
	Total	352	16	368	198	6	204	768	17	785	336	34	370

Category		Al-Bahah			Al-Jouf			Qurayyat			Qunfudah			Total		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	10	243	253	1	108	109	3	21	24	3	92	95	1546	4132	5678
	Female	1	86	87	0	41	41	0	10	10	2	33	35	913	2100	3013
	Total	11	329	340	1	149	150	3	31	34	5	125	130	2459	6232	8691
Nurses	Male	238	3	241	175	0	175	61	0	61	46	0	46	5441	15	5456
	Female	103	323	426	234	12	246	56	3	59	72	129	201	7575	3252	10827
	Total	341	326	667	409	12	421	117	3	120	118	129	247	13016	3267	16283
Pharmacists	Male	2	3	5	0	1	1	0	0	0	0	0	0	42	7	49
	Female	0	1	1	0	0	0	0	0	0	0	0	0	105	10	115
	Total	2	4	6	0	1	1	0	0	0	0	0	0	147	17	164
Allied Health Professionals	Male	320	3	323	165	0	165	74	0	74	143	0	143	8699	41	8740
	Female	30	45	75	3	0	3	2	2	4	12	1	13	1533	279	1812
	Total	350	48	398	168	0	168	76	2	78	155	1	156	10232	320	10552

Physicians include dentists

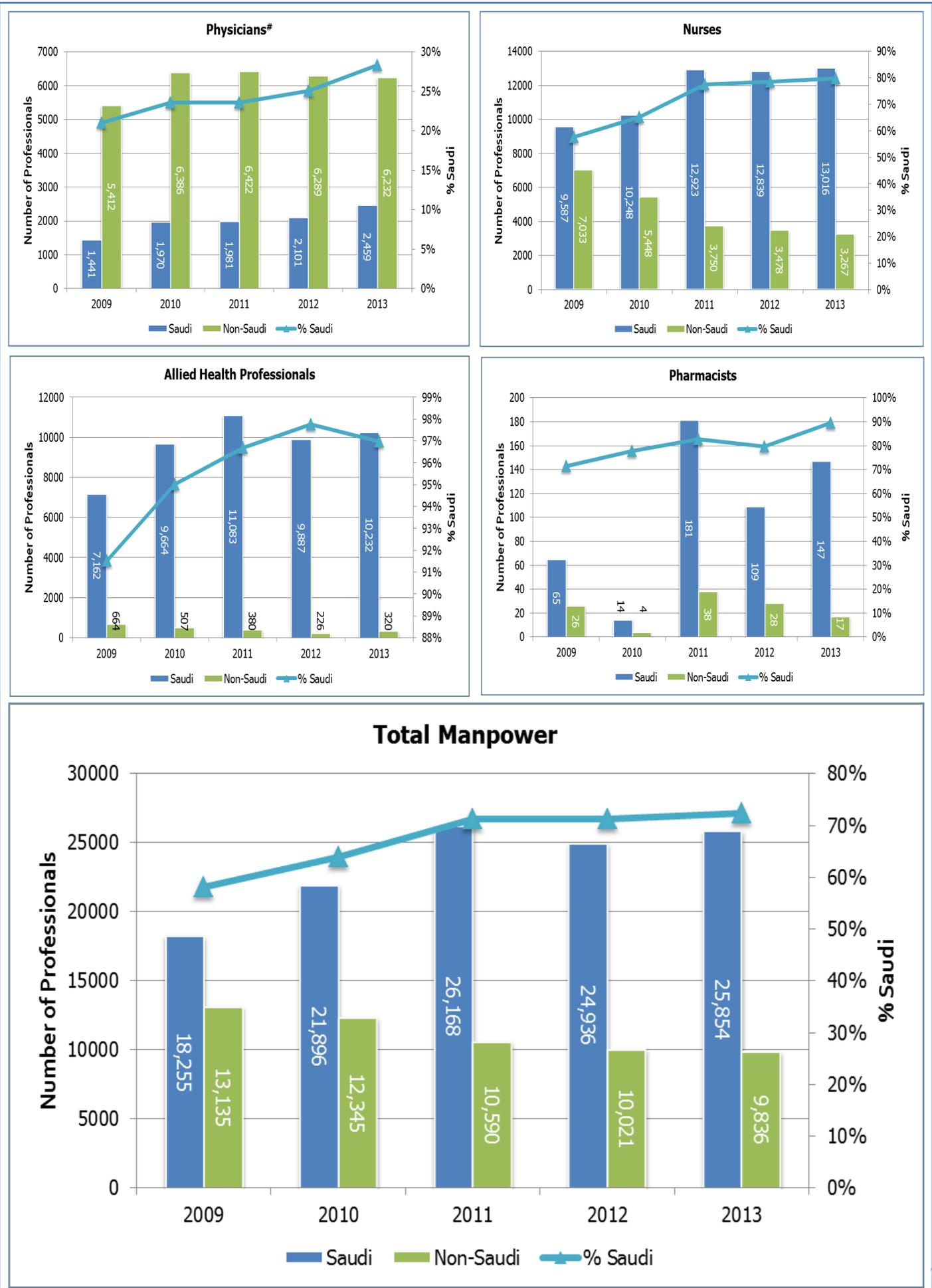


Figure 3.7: Total manpower in MOH health centers by nationality, 2009-2013

Includes dentists

Table 3.2: Physicians in MOH health centers by main specialty, gender and nationality, 2013

Category		Male	Female	Total
General Physician	Saudi	368	257	625
	Non-Saudi	972	411	1383
	Total	1340	668	2008
Dentistry	Saudi	552	254	806
	Non-Saudi	463	140	603
	Total	1015	394	1409
OBS/GYN	Saudi	3	20	23
	Non-Saudi	53	146	199
	Total	56	166	222
Pediatrics	Saudi	16	17	33
	Non-Saudi	143	83	226
	Total	159	100	259
Family Medicine	Saudi	426	271	697
	Non-Saudi	1191	885	2076
	Total	1617	1156	2773
Others	Saudi	181	94	275
	Non-Saudi	1310	435	1745
	Total	1491	529	2020
Total	Saudi	1546	913	2459
	Non-Saudi	4132	2100	6232
	Total	5678	3013	8691

Table 3.3: Physicians in MOH health centers by specialty and nationality, 2009-2013

Specialty	Nationality	Year				
		2009	2010	2011	2012	2013
General Physician	Saudi	338	676	557	662	625
	Non-Saudi	1,463	2,479	1,727	2,047	1383
	Total	1,801	3,155	2,284	2,709	2008
Dentistry	Saudi	434	525	561	686	806
	Non-Saudi	788	653	834	664	603
	Total	1,222	1,178	1,395	1,350	1409
OBS/GYN	Saudi	42	43	28	24	23
	Non-Saudi	317	177	195	193	199
	Total	359	220	223	217	222
Pediatrics	Saudi	59	46	35	27	33
	Non-Saudi	306	202	214	194	226
	Total	365	248	249	221	259
Family Medicine	Saudi	...	382	423	470	697
	Non-Saudi	...	1,347	1,471	1,564	2076
	Total	...	1,729	1,894	2,034	2773
Others	Saudi	568	298	377	232	275
	Non-Saudi	2,538	1,528	1,981	1,627	1745
	Total	3,106	1,826	2,358	1,859	2020
Total	Saudi	1,441	1,970	1,981	2,101	2459
	Non-Saudi	5,412	6,386	6,422	6,289	6232
	Total	6,853	8,356	8,403	8,390	8691

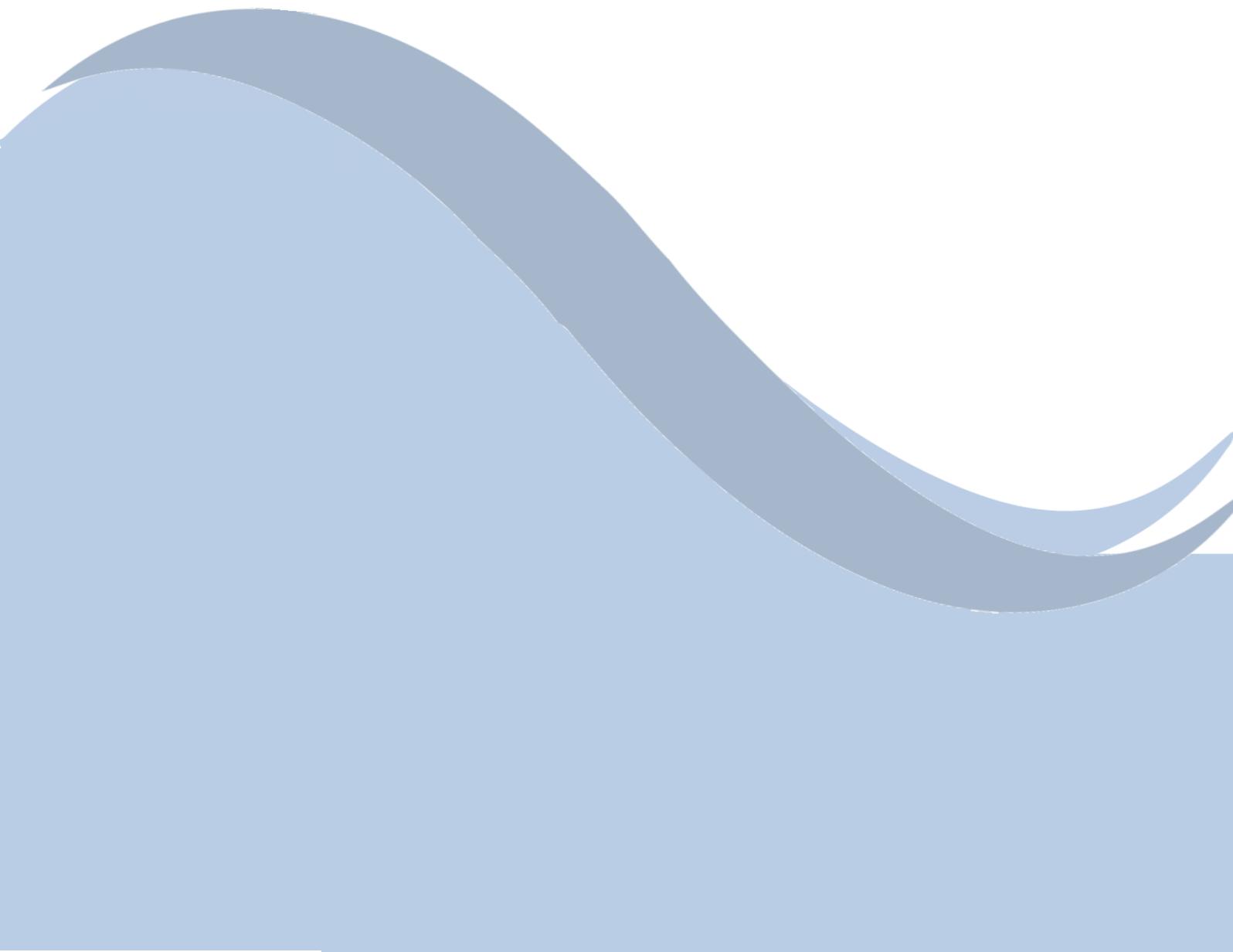
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SECTION II.

HEALTH RESOURCES



Chapter 4: Hospitals and beds at the MOH



4.

HOSPITALS AND BEDS AT
THE MOH

Hospital and Beds at the MOH Facilities

The total number of MOH hospitals operating in year 2013 is 268, with a total number of 38,970 beds. Figure 4.1 shows the distribution of MOH hospitals and beds and the ratios for hospitals per a 100,000 population and for hospital beds per 10,000 population by region in the Kingdom.

Table 4.1 displays the distribution of MOH hospitals by both region and specialty. The majority of hospitals (77.6%) are "General". More specifically, Riyadh contains the largest proportion of hospitals (17.5%), followed by regions of Madinah, Aseer and Jazan (7.5%). Table 4.2 further demonstrates the distribution of MOH hospitals and beds by specialty in 2013.

Table 4.3 presents the distribution of hospitals, medical towers and heart centers, as well as beds, by health regions for the year 2013.

The total number of MOH hospitals and beds increased over the last five years (2009-2013), as demonstrated in Figure 4.2. Figure 4.3 details the trend observed for the change in number of MOH hospitals and beds by region during the time period of 2009-2013 .

Health Manpower at MOH Hospitals

The total reported health manpower at the MOH hospitals encompasses physicians (including dentists), nurses, pharmacists and allied health professionals. Figure 4.4 displays the distribution of health manpower and their ratios per 10,000 population by region for the year 2013. For physicians, the highest ratio is present in Northern borders (19.3 physicians per 10,000 population). For nurses, the highest ratio is present in Al-Jouf (56.2 nurses per 10,000 population). For pharmacists, the highest ratio is present in Baha and Najran (1.2 pharmacists per 10,000 population). For allied health professionals, the highest ratio is present in Northern borders (27.7 professionals per 10,000 population).

KEY ACHIEVEMENTS ...

The proportion of Saudis within the total health manpower employed at MOH hospitals increased from 51.6% in 2009 to 55.8% in 2013.

More specifically, between the years 2009 and 2013, the proportion of Saudis among the four categories increased as follows: physicians (21.9% to 26.4%), nurses (46.9% to 50.8%), pharmacists (71.6% to 88.8%), and allied health professionals (83.4% to 85.5%).

Figure 4.5 describes the proportions of health manpower in the MOH hospitals according to the nationality and gender. Out of the total number of physicians working in MOH hospitals in 2013 (27,755), 26.4% are Saudi. Out of the total number of nurses working in MOH hospitals in 2013 (65,152), 50.8% are Saudi. In contrast, the proportion of pharmacists and allied health professionals working at MOH hospitals who are Saudi nationals is 85.5% and 88.8%, respectively. Moreover, the male gender is dominating in most categories of health manpower (73.9% of physicians, 62.4% of pharmacists, and 70.5% of allied health professionals), except for nursing (19.7%).

The distribution of health manpower at MOH hospitals by region, category, gender and nationality is demonstrated in Table 4.4. The proportion of health manpower by nationality has been changing, among the different categories, during the time period of 2009-2013. This variation is displayed in Figure 4.6.

Selected indicators of resources available at MOH hospitals by region of the Kingdom are represented in Figure 4.7. The highest rate of physicians per 100 beds (140.0 physicians) is recorded in Qunfudah, while the lowest rate (41.5 physicians per 100 beds) is recorded in Hafr Al-Batten .

Table 4.5 represents the distribution of physicians and dentists at MOH hospitals by specialty and grade, in 2013.

HOW DOES KSA COMPARE?

In 2013, there are 2.4 nurses for every physician employed at MOH hospitals in the KSA, in comparison to 1.3 nurses for every physician in the Eastern Mediterranean Region (EMR) and 1.8 nurses for every physician globally.

Source: World Health Statistics Report (2013), World Health Organization



TREND OVER TIME...

Between the years 2009 and 2013, the number of MOH hospitals and beds increased by 9.8% and 17.1%, respectively.



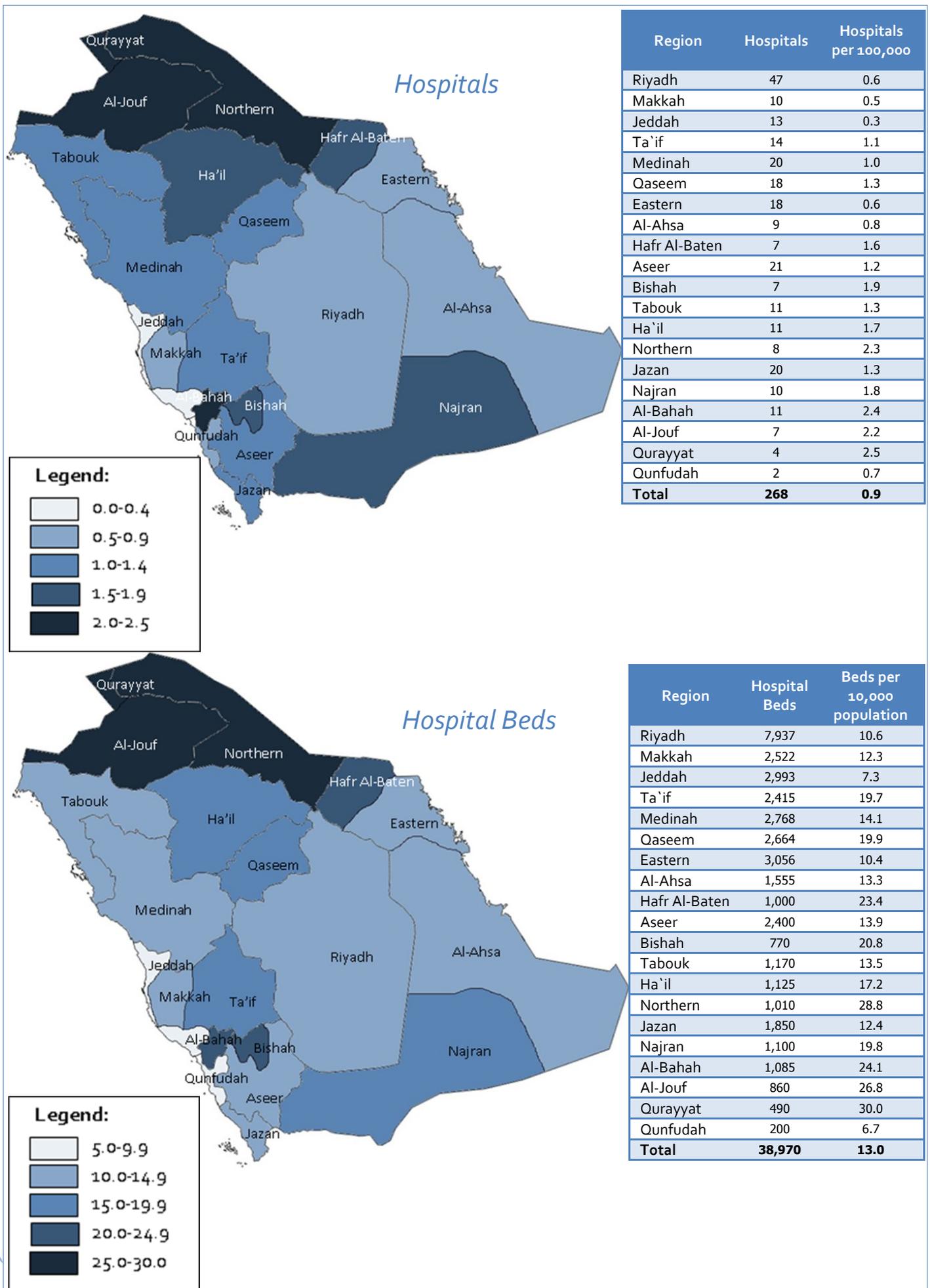


Figure 4.1: Ratio of MOH hospitals per 100,000 population and hospital beds per 10,000 population by region, 2013

Table 4.1: MOH hospitals by specialty and region, 2013

Region	General	OBS/Gyn & Pediatrics	OBS/Gyn	Pediatrics	Eye	Psychiatric	Chest	Convalescence	Rehabilitation	Total
Riyadh	37	1	2	2	1	1	1	1	1	47
Makkah	9	1	0	0	0	0	0	0	0	10
Jeddah	8	2	0	0	1	2	0	0	0	13
Ta`if	11	0	0	1	0	1	1	0	0	14
Medinah	16	1	0	0	0	1	1	0	1	20
Qaseem	15	1	0	0	0	1	0	1	0	18
Eastern	15	1	0	0	1	1	0	0	0	18
Al-Ahsa	5	1	0	0	1	1	0	0	1	9
Hafr Al-Baten	4	1	0	0	0	1	0	1	0	7
Aseer	18	2	0	0	0	1	0	0	0	21
Bishah	6	0	0	0	0	0	0	1	0	7
Tabouk	9	1	0	0	0	1	0	0	0	11
Ha`il	9	1	0	0	0	1	0	0	0	11
Northern	6	0	0	0	0	1	0	1	0	8
Jazan	18	0	0	0	0	1	1	0	0	20
Najran	8	1	0	0	0	1	0	0	0	10
Al-Bahah	7	1	1	0	0	1	0	1	0	11
Al-Jouf	5	1	0	0	0	1	0	0	0	7
Qurayyat	3	0	0	0	0	1	0	0	0	4
Qunfudah	2	0	0	0	0	0	0	0	0	2
Total	211	16	3	3	4	18	4	6	3	268

Table 4.2: Hospital beds at MOH by specialty and region, 2013

Region	Internal Med.	Surgery	Orthopedics	Urology	Faciodental	OBS/GYN	Pediatrics	Intensive Care	E.N.T	Ophthalmology	Chest & Fevers	Skin & Venereal	Burns & Plastic S.	Psychiatry & Neurology	Isolation	Others	Total
Riyadh	1008	717	281	78	16	889	1141	881	101	289	130	41	47	626	198	1494	7,937
Makkah	385	234	100	18	8	185	208	256	28	16	33	2	11	73	139	826	2,522
Jeddah	346	209	140	34	11	198	316	129	64	97	90	1	11	330	51	966	2,993
Ta`if	251	304	36	8	2	232	127	188	9	6	0	2	13	670	159	408	2,415
Medinah	473	382	114	37	2	381	276	322	37	40	58	3	18	101	59	465	2,768
Qaseem	309	221	86	37	33	277	197	225	51	49	49	10	42	200	30	848	2,664
Eastern	253	232	118	36	11	290	328	226	45	89	14	16	36	375	90	897	3,056
Al-Ahsa	348	145	75	18	8	247	189	141	53	51	0	1	25	134	44	76	1,555
Hafr Al-Baten	35	32	18	9	4	54	107	29	8	8	9	2	5	58	18	604	1,000
Aseer	373	421	89	52	0	307	235	143	37	17	11	0	15	104	2	594	2,400
Bishah	110	91	30	8	8	108	83	60	6	8	10	4	11	60	11	162	770
Tabouk	243	199	47	9	1	187	229	114	8	6	0	5	4	90	22	6	1,170
Ha`il	166	118	37	14	4	204	227	58	25	13	13	3	14	95	31	103	1,125
Northern	103	65	34	14	0	102	167	79	17	12	26	10	6	73	52	250	1,010
Jazan	249	189	146	36	3	247	369	62	45	39	2	6	14	98	81	264	1,850
Najran	236	127	33	29	5	149	242	69	10	5	0	0	12	38	35	110	1,100
Al-Bahah	174	220	0	0	0	158	167	58	0	0	0	0	0	98	0	210	1,085
Al-Jouf	63	38	34	12	7	85	126	119	13	9	12	4	6	80	20	232	860
Qurayyat	44	39	17	4	2	43	91	20	2	4	2	2	4	54	0	162	490
Qunfudah	32	19	10	1	1	15	30	21	2	2	0	0	0	0	7	60	200
Total	5,201	4,002	1,445	454	126	4,358	4,855	3,200	561	760	459	112	294	3,357	1,049	8,737	38,970

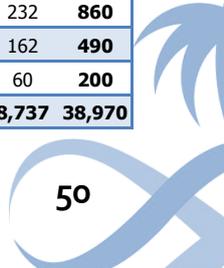


Table 4.3: Hospitals, Medical Towers, and Cardiac Centers at MOH and total beds by region, 2013

Region	Hospitals	Medical Towers added in 2013	Cardiac Centers outside medical cities	Total	Total Beds
Riyadh	47	0	0	47	7,937
Makkah	10	0	0	10	2,522
Jeddah	13	1	0	14	2,993
Ta'if	14	0	0	14	2,415
Medinah	20	0	1	21	2,768
Qaseem	18	1	1	20	2,664
Eastern	18	0	1	19	3,056
Al-Ahsa	9	0	1	10	1,555
Hafr Al-Baten	7	0	0	7	1,000
Aseer	21	0	0	21	2,400
Bishah	7	0	0	7	770
Tabouk	11	0	0	11	1,170
Ha'il	11	0	1	12	1,125
Northern	8	0	1	9	1,010
Jazan	20	0	0	20	1,850
Najran	10	0	1	11	1,100
Al-Bahah	11	0	0	11	1,085
Al-Jouf	7	0	0	7	860
Qurayyat	4	0	0	4	490
Qunfudah	2	0	0	2	200
Total	268	2	7	277	38,970

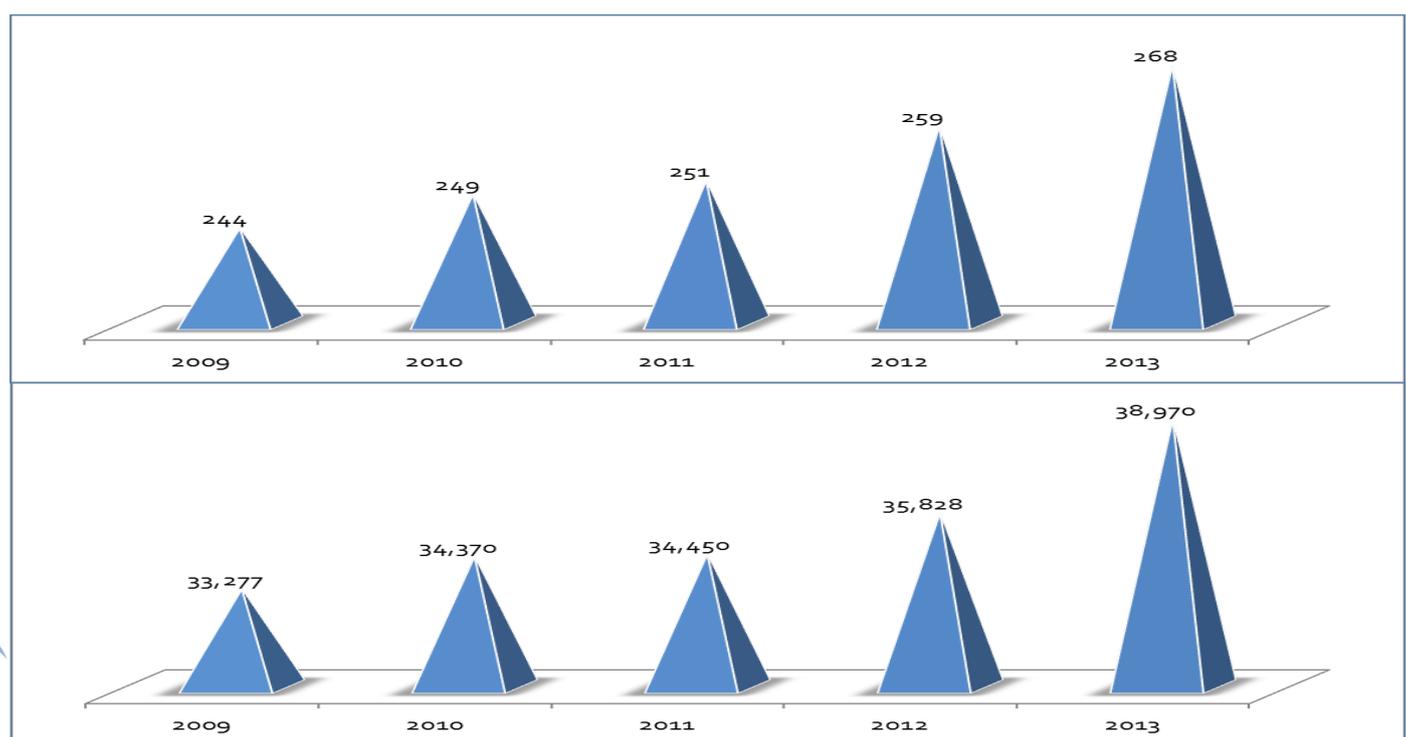


Figure 4.2: Trending of MOH hospitals (top) and hospital beds (bottom), 2009-2013

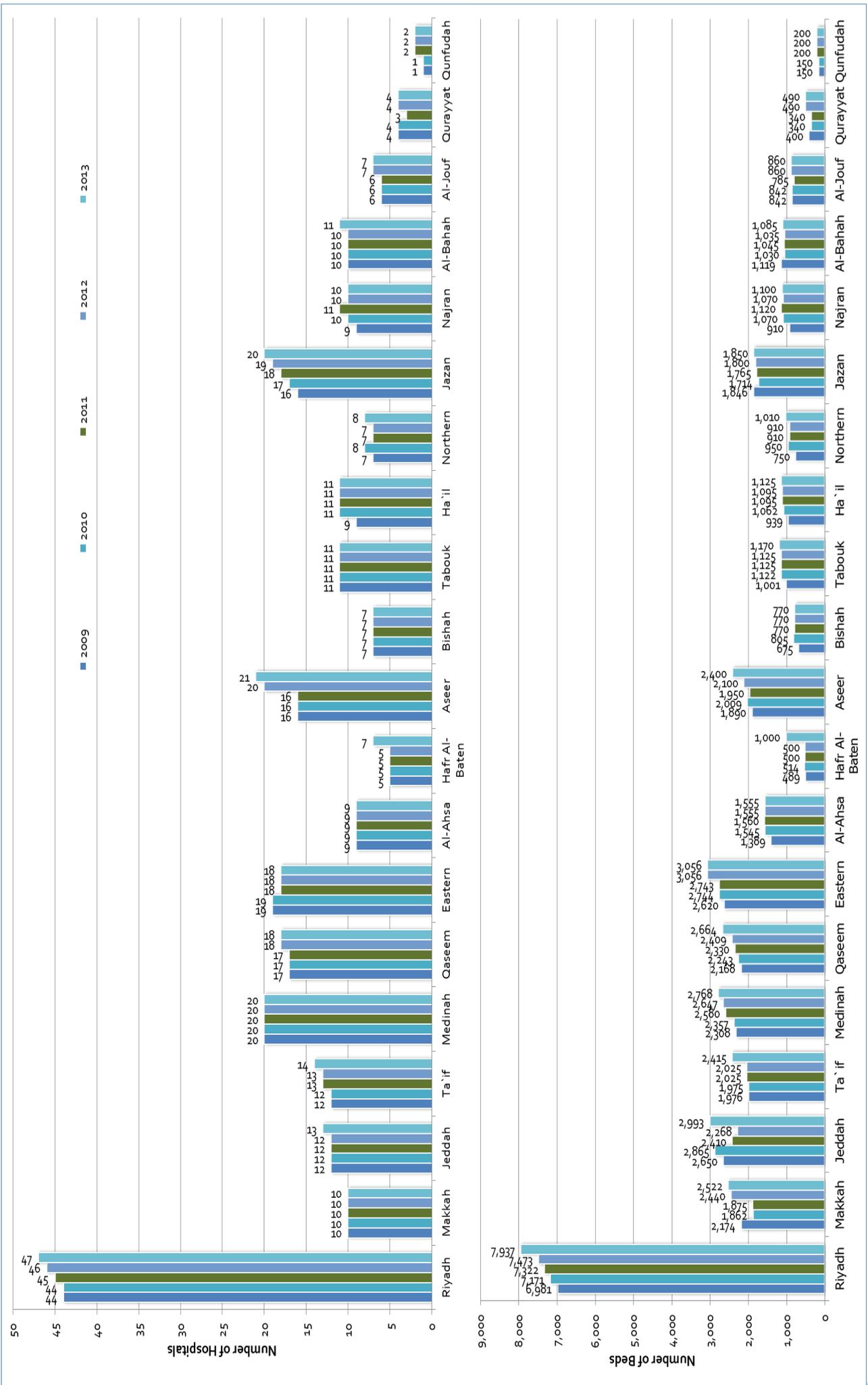


Figure 4-3: Trends observed in the change in number of MOH hospitals (top) and hospital beds (bottom) by region, 2009-2013

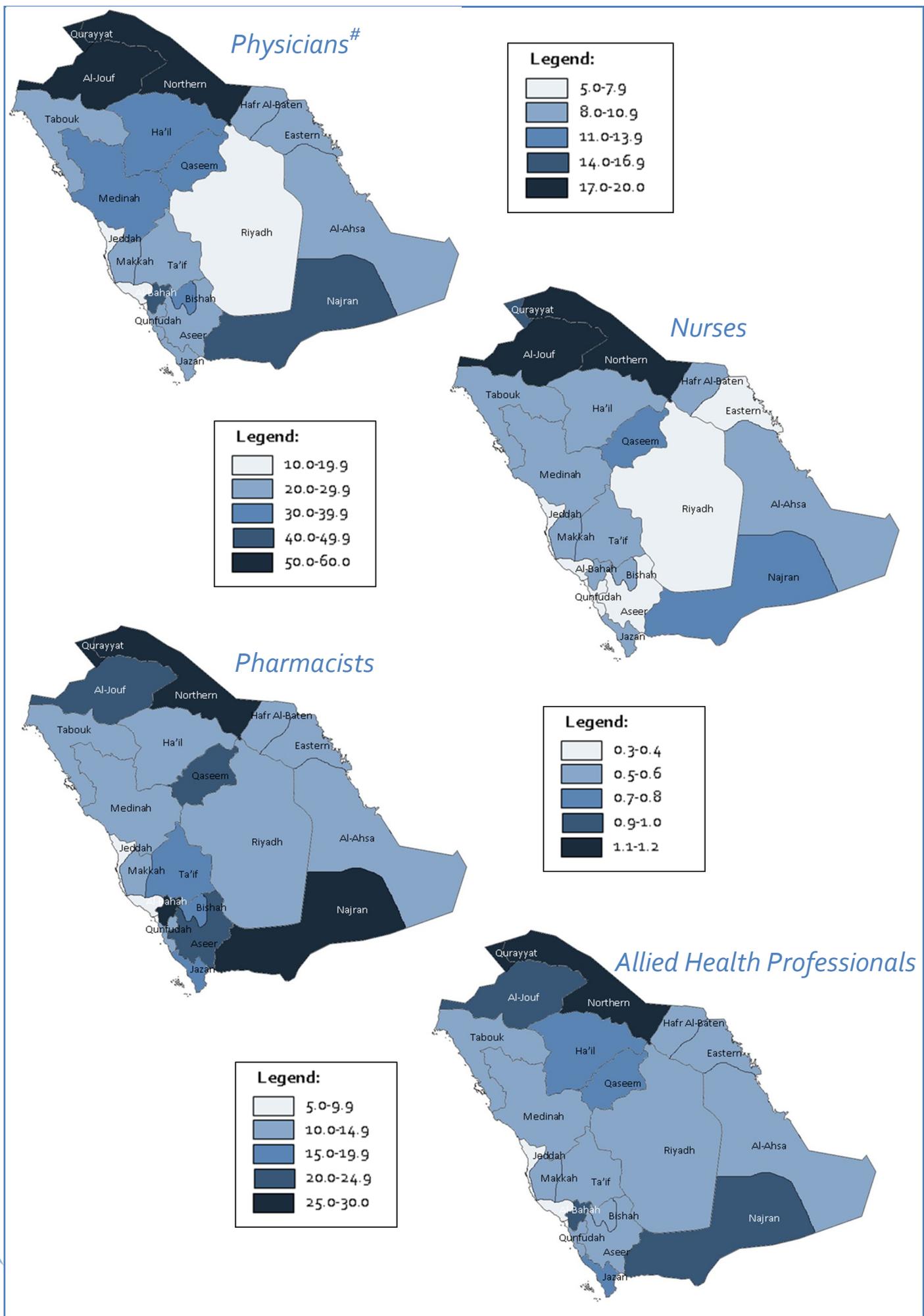


Figure 4.4: Ratio of health manpower in MOH hospitals per 10,000 population by region, 2013
 # Includes dentists

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Region	Number of Physicians #	Physicians per 10,000 pop	Number of Nurses	Nurses per 10,000 pop	Number of Pharmacists	Pharmacists per 10,000 pop	Number of Allied Health Professionals	Allied Health Professionals per 10,000 pop	Total
Riyadh	5,694	7.6	14,692	19.5	439	0.6	7955	10.6	28,780
Makkah	2,135	10.4	4,452	21.7	121	0.6	2,148	10.5	8,856
Jeddah	2,321	5.6	4,406	10.7	105	0.3	2,933	7.1	9,765
Ta'if	1,247	10.2	3,186	25.9	82	0.7	1,561	12.7	6,076
Medinah	2,276	11.6	5,224	26.6	118	0.6	2,549	13.0	10,167
Qaseem	1,504	11.2	4,083	30.5	114	0.9	2,629	19.7	8,330
Eastern	2,629	8.9	5,766	19.6	164	0.6	3,344	11.4	11,903
Al-Ahsa	1,095	9.4	2,603	22.3	57	0.5	1,287	11.0	5,042
Hafr Al-Baten	415	9.7	1,254	29.4	26	0.6	595	13.9	2,290
Aseer	1,476	8.6	3,267	18.9	154	0.9	2,009	11.6	6,906
Bishah	443	11.9	956	25.8	25	0.7	447	12.1	1,871
Tabouk	944	10.9	2,232	25.7	53	0.6	1,204	13.9	4,433
Ha'il	750	11.5	1,888	28.8	38	0.6	1,059	16.2	3,735
Northern	677	19.3	1,793	51.1	37	1.1	971	27.7	3,478
Jazan	1,411	9.4	3,270	21.8	106	0.7	2,283	15.2	7,070
Najran	846	15.2	1,836	33.1	64	1.2	1,145	20.6	3,891
Al-Bahah	717	15.9	1,335	29.6	53	1.2	908	20.1	3,013
Al-Jouf	618	19.2	1,805	56.2	31	1.0	773	24.1	3,227
Qurayyat	277	17.1	662	40.9	18	1.1	417	25.8	1,374
Qunfudah	280	9.4	442	14.9	15	0.5	341	11.5	1,078
Total	27,755	9.3	65,152	21.7	1820	0.6	36558	12.2	131,285

Figure 4.4 (continued): Ratio of health manpower in MOH hospitals per 10,000 population by region, 2013

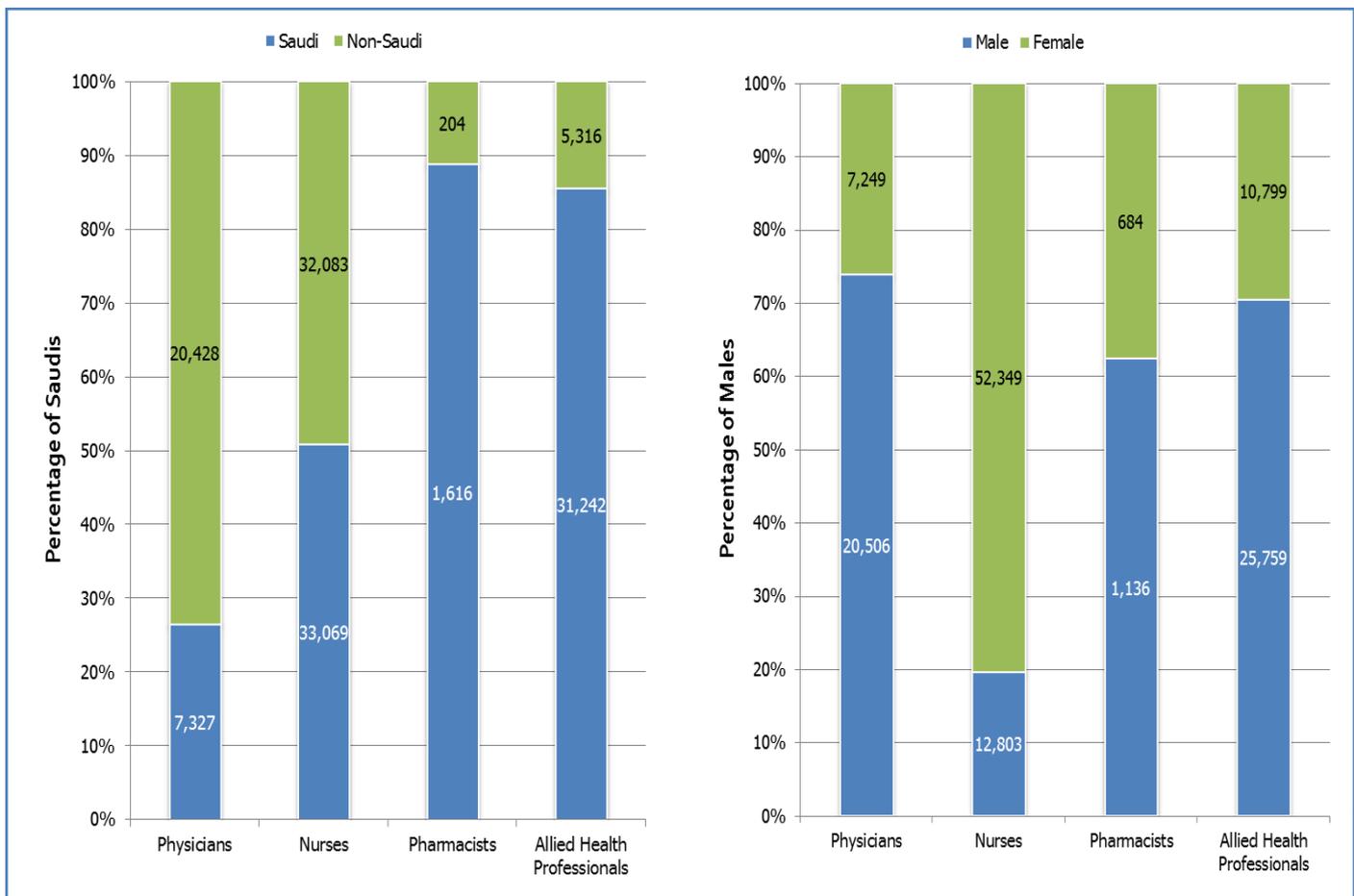


Figure 4.5: Proportions of manpower in MOH hospitals by nationality (left) and gender (right), 2013

Table 4.4: Manpower in MOH hospitals by region, category, gender and nationality, 2013

Category	Riyadh			Makkah			Jeddah			Ta'if			
	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	
Physicians [#]	Male	1268	2942	4210	455	1106	1561	723	602	1325	151	844	995
	Female	456	1028	1484	224	350	574	732	264	996	21	231	252
	Total	1724	3970	5694	679	1456	2135	1455	866	2321	172	1075	1247
Nurses	Male	2383	617	3000	721	257	978	608	76	684	848	10	858
	Female	3548	8144	11692	1113	2361	3474	1892	1830	3722	717	1611	2328
	Total	5931	8761	14692	1834	2618	4452	2500	1906	4406	1565	1621	3186
Pharmacists	Male	171	10	181	53	11	64	54	3	57	57	5	62
	Female	239	19	258	39	18	57	46	2	48	16	4	20
	Total	410	29	439	92	29	121	100	5	105	73	9	82
Allied Health Professionals	Male	4919	408	5327	1104	226	1330	1722	77	1799	1082	59	1141
	Female	1683	945	2628	489	329	818	986	148	1134	223	197	420
	Total	6602	1353	7955	1593	555	2148	2708	225	2933	1305	256	1561

Category	Medinah			Qaseem			Eastern			Al-Ahsa			
	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	
Physicians [#]	Male	418	1258	1676	144	1012	1156	1156	998	1706	264	580	844
	Female	196	404	600	47	301	348	348	334	923	40	211	251
	Total	614	1662	2276	191	1313	1504	1504	1332	2629	304	791	1095
Nurses	Male	1146	22	1168	849	42	891	891	183	815	487	17	504
	Female	1966	2090	4056	1010	2182	3192	3192	1656	4951	987	1112	2099
	Total	3112	2112	5224	1859	2224	4083	4083	1839	5766	1474	1129	2603
Pharmacists	Male	84	7	91	92	2	94	94	9	69	38	0	38
	Female	18	9	27	6	14	20	20	4	95	18	1	19
	Total	102	16	118	98	16	114	114	13	164	56	1	57
Allied Health Professionals	Male	1901	40	1941	2002	46	2048	2048	228	1863	921	28	949
	Female	479	129	608	196	385	581	581	234	1481	212	126	338
	Total	2380	169	2549	2198	431	2629	2629	462	3344	1133	154	1287

Includes dentists

Table 4.4 (continued): Manpower in MOH hospitals by region, category, gender and nationality, 2013

Category		Hafr Al-Baten			Aseer			Bishah			Tabouk		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	24	329	353	262	900	1162	17	342	359	29	699	728
	Female	2	60	62	43	271	314	0	84	84	13	203	216
	Total	26	389	415	305	1171	1476	17	426	443	42	902	944
Nurses	Male	363	7	370	521	2	523	144	2	146	561	14	575
	Female	385	499	884	910	1834	2744	246	564	810	820	837	1657
	Total	748	506	1254	1431	1836	3267	390	566	956	1381	851	2232
Pharmacists	Male	16	2	18	123	0	123	19	3	22	35	4	39
	Female	7	1	8	24	7	31	0	3	3	12	2	14
	Total	23	3	26	147	7	154	19	6	25	47	6	53
Allied Health Professionals	Male	455	13	468	1497	20	1517	296	9	305	938	28	966
	Female	88	39	127	226	266	492	24	118	142	168	70	238
	Total	543	52	595	1723	286	2009	320	127	447	1106	98	1204

Category		Ha'il			Northern			Jazan			Najran		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	25	544	569	7	543	550	265	883	1148	41	631	672
	Female	2	179	181	4	123	127	17	246	263	4	170	174
	Total	27	723	750	11	666	677	282	1129	1411	45	801	846
Nurses	Male	302	3	305	270	4	274	671	6	677	227	10	237
	Female	799	784	1583	843	676	1519	1547	1046	2593	214	1385	1599
	Total	1101	787	1888	1113	680	1793	2218	1052	3270	441	1395	1836
Pharmacists	Male	31	2	33	20	4	24	94	0	94	52	4	56
	Female	4	1	5	10	3	13	8	4	12	4	4	8
	Total	35	3	38	30	7	37	102	4	106	56	8	64
Allied Health Professionals	Male	728	17	745	720	15	735	1906	16	1922	882	18	900
	Female	134	180	314	119	117	236	185	176	361	71	174	245
	Total	862	197	1059	839	132	971	2091	192	2283	953	192	1145

Includes dentists

Table 4.4 (continued): Manpower in MOH hospitals by region, category, gender and nationality, 2013

Category		Al-Bahah			Al-Jouf			Qurayyat			Qunfudah			Total		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	52	532	584	21	450	471	16	212	228	35	174	209	4925	15581	20506
	Female	4	129	133	4	143	147	2	47	49	2	69	71	2402	4847	7249
	Total	56	661	717	25	593	618	18	259	277	37	243	280	7327	20428	27755
Nurses	Male	178	15	193	373	1	374	184	0	184	46	1	47	11514	1289	12803
	Female	70	1072	1142	825	606	1431	290	188	478	78	317	395	21555	30794	52349
	Total	248	1087	1335	1198	607	1805	474	188	662	124	318	442	33069	32083	65152
Pharmacists	Male	26	4	30	10	4	14	14	1	15	10	2	12	1059	77	1136
	Female	4	19	23	7	10	17	2	1	3	2	1	3	557	127	684
	Total	30	23	53	17	14	31	16	2	18	12	3	15	1616	204	1820
Allied Health Professionals	Male	594	44	638	565	16	581	321	13	334	247	3	250	24435	1324	25759
	Female	64	206	270	91	101	192	55	28	83	67	24	91	6807	3992	10799
	Total	658	250	908	656	117	773	376	41	417	314	27	341	31242	5316	36558

[#] Includes dentists

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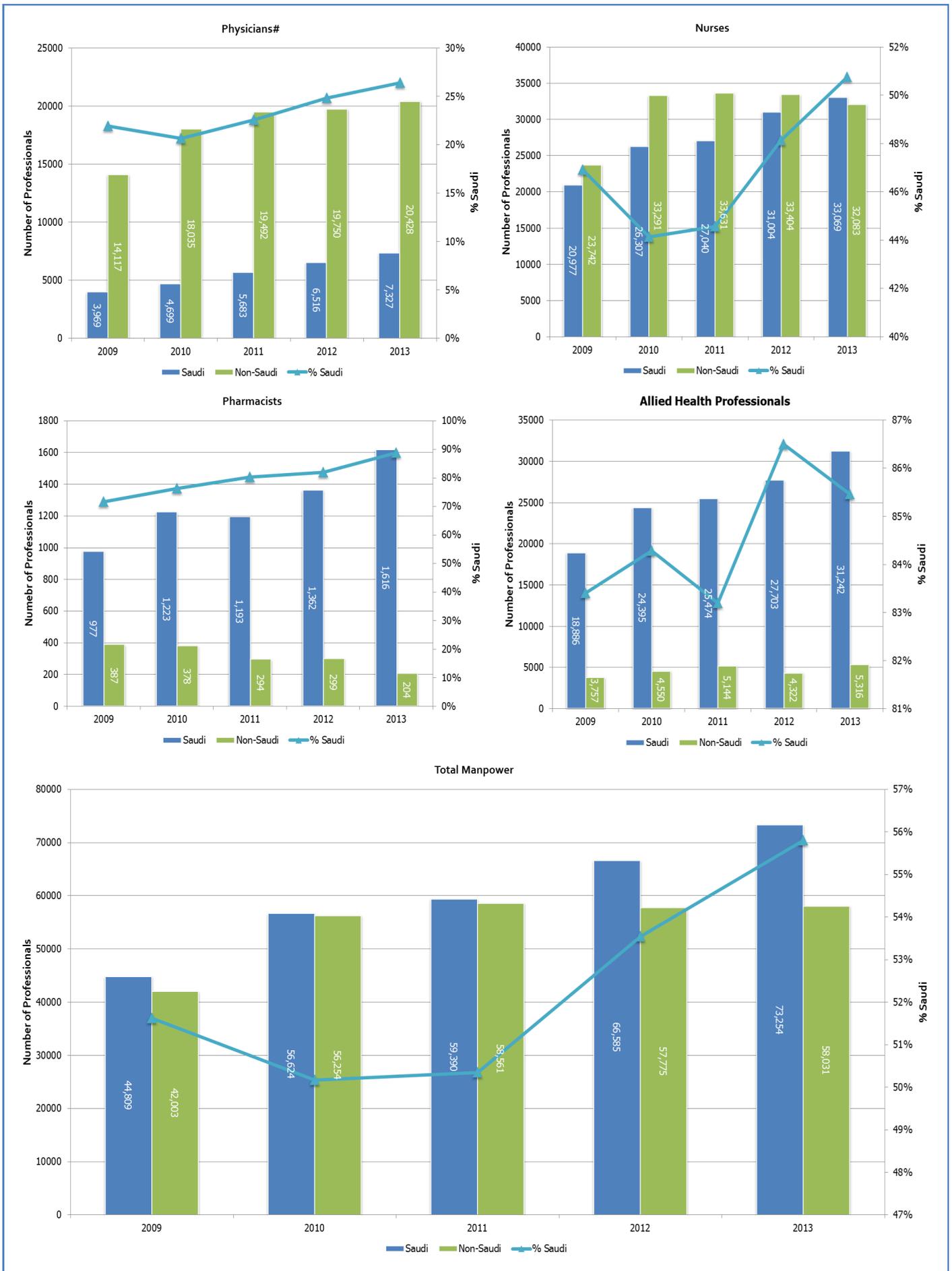


Figure 4.6: Manpower in MOH hospitals by nationality, 2009-2013
Includes dentists

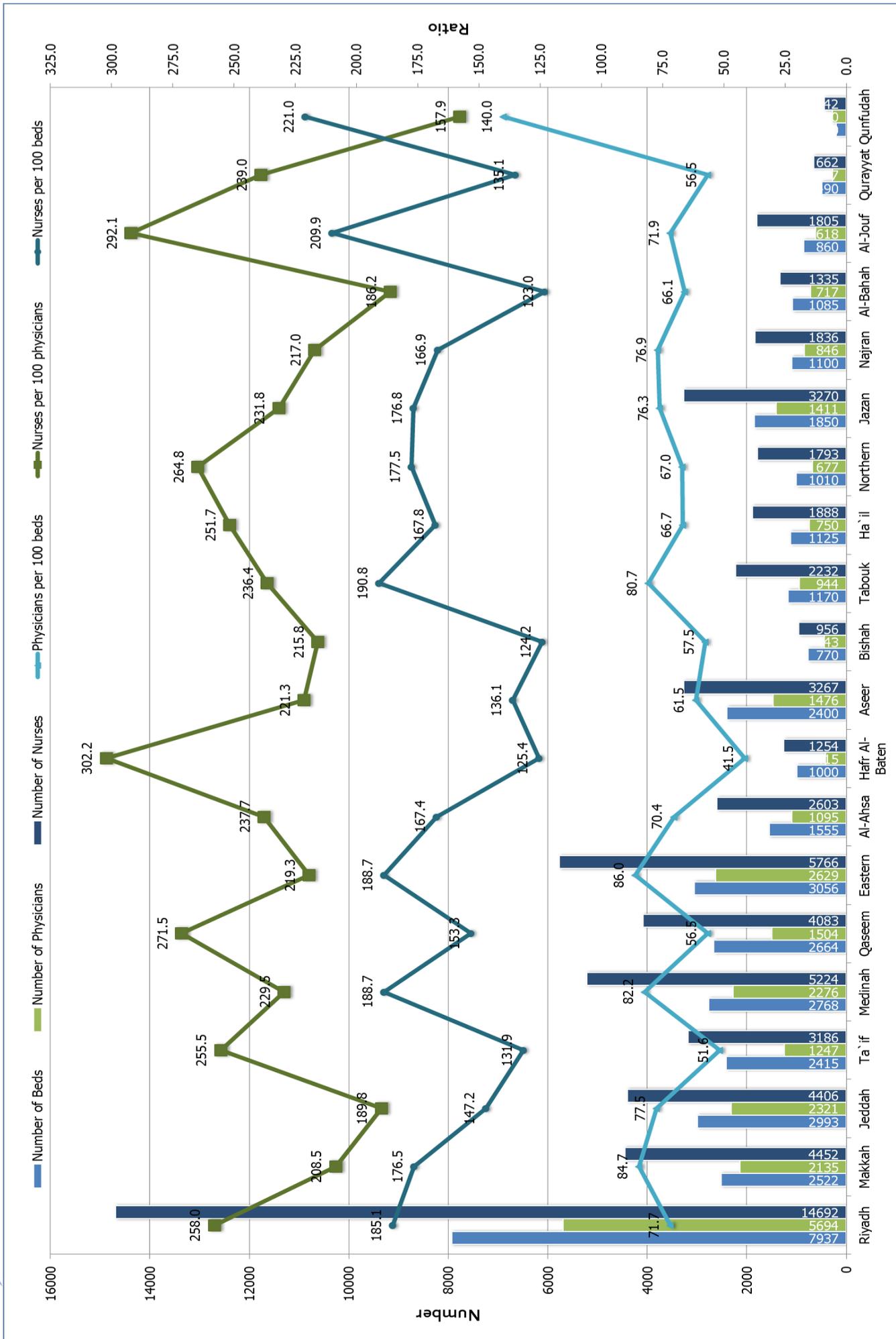


Figure 4.7: Selected indicators of resources available at MOH hospitals by region, 2013

Table 4.5: Physicians in MOH hospitals by specialty and grade, 2013

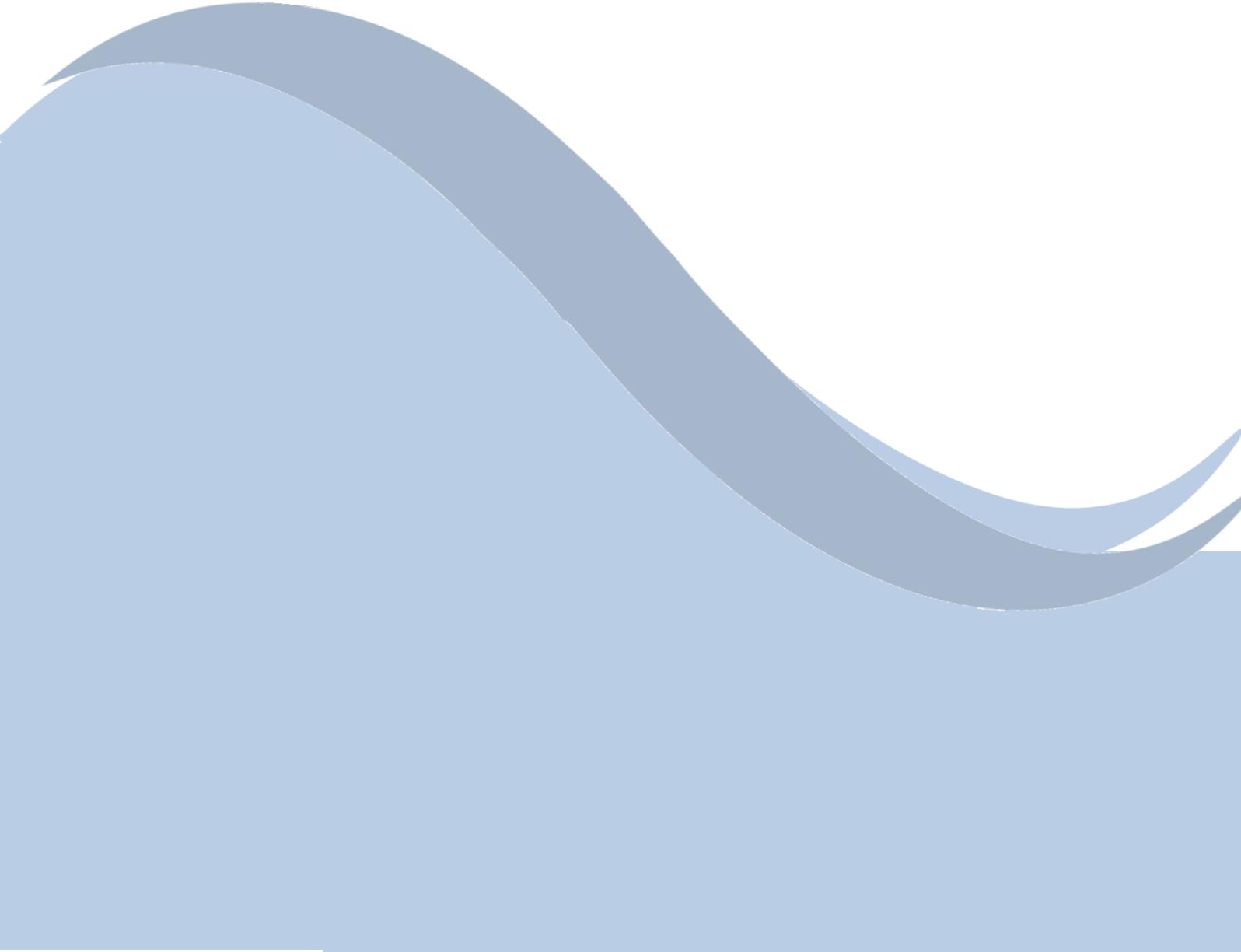
Specialty	Resident	Registrar	Consultant	Total
General Practitioners	2173	13	-	2186
Dentistry	1096	425	184	1705
Internal medicine	1235	642	286	2163
Surgery	1505	781	354	2640
Orthopedics	291	449	158	898
Urology	94	252	98	444
Cardiothoracic surgery	18	54	66	138
Neurosurgery	83	104	92	279
Plastic surgery	38	71	38	147
E.N.T.	122	307	118	547
Ophthalmology	251	293	183	727
OBS/GYN	887	864	303	2054
Cardiology	217	252	149	618
Chest diseases	60	156	44	260
Skin & venereology	55	218	80	353
Neurology	25	40	71	136
Public Health	17	41	-	58
Tropical Medicine	10	35	23	68
Radiology	126	415	182	723
Laboratory	39	508	153	700
Anesthesia	248	655	225	1128
Physical medicine	60	89	32	181
Pediatrics	1295	1043	540	2878
Psychiatry	228	295	92	615
Forensic M.	-	68	10	78
Family medicine	836	145	33	1014
Emergency	1812	190	86	2088
Intensive care	633	194	102	929
Nephrology	287	212	83	582
Pediatric surgery	49	83	60	192
Blood diseases	31	28	44	103
Gastroenterology	24	66	62	152
Endocrinology	62	53	55	170
Oncology	15	54	66	135
Vascular surgery	13	39	32	84
Others	260	130	192	582
Total	14,195	9,264	4,296	27,755

SECTION II.

HEALTH RESOURCES



Chapter 5: Health resources in other governmental sectors



5.

HEALTH RESOURCES IN OTHER GOVERNMENTAL SECTORS

First: Health Facilities in other Governmental Sectors

Facilities in other governmental sectors include the following:

University hospitals and medical centers in the Kingdom; Armed Forces Hospitals; National Guards Medical Services; Ministry of Interior Medical Services; King Faisal Specialist Hospital & Research Center, Riyadh; King Faisal Specialist Hospital & Research Center, Jeddah; Royal Commission Hospitals in Jubail and Yunbu; School Health Units, Ministry of Education; Youth Welfare; Sports medicine services in the general authority for youth welfare; Saudi Red Crescent Society; Water Desalination Corporation; and Institute of Public Administration, Riyadh.

The total number of hospital beds in facilities of other governmental sectors is 11,497 in 2013. They are distributed across various specialties, as seen in Figure 5.1 and Table 5.1. The highest number of beds was recorded in the departments of internal medicine (19.2%), followed by surgery (16.8%).

Second: Health Manpower in other Governmental Sectors

The distribution of total health manpower employed in facilities of other governmental sectors is displayed, by category, as well as by gender and nationality, in Figure 5.2. In 2013, the total number of physicians (including dentists) in this sector was 13,577, of which 6,813 were Saudi (50.1% of the total). The total number of nurses was 29,969, of which 3,959 were Saudi (13.2% of the total). Pharmacists constituted around 2.7% of total health manpower (1,860 pharmacists), with 1,134 being Saudi (61.0% of the total). The total number of allied health professionals was 22,641, of which 14,571 are Saudi (64.4% of the total).

Figure 5.3 further describes the characteristics (nationality and gender) of health manpower, among the four categories, who are employed in facilities of the other governmental sectors. In Table 5.2, there is a detailed description of the characteristics (nationality and gender) of the health manpower working among various facilities of the other governmental sectors, by category of employment for year 2013. The distribution of physicians and dentists by specialty and nationality is displayed in Figure 5.4.

KEY ACHIEVEMENTS ...

The proportion of Saudis within the total health manpower employed at facilities of other governmental sectors increased from 34.5% in 2008 to 38.9% in 2013.

TREND OVER TIME...

The number of *physicians* employed at facilities of other governmental sectors in KSA increased by 10.3% from year 2009 to 2013.

The number of *nurses* employed at facilities of other governmental sectors in KSA increased by 23.6% from year 2009 to 2013.

The number of *pharmacists* employed at facilities of other governmental sectors in KSA Increased by 23.1% from year 2009 to 2013.

The number of *allied health professionals* employed at facilities of other governmental sectors in KSA increased by 21.4% from year 2009 to 2013.

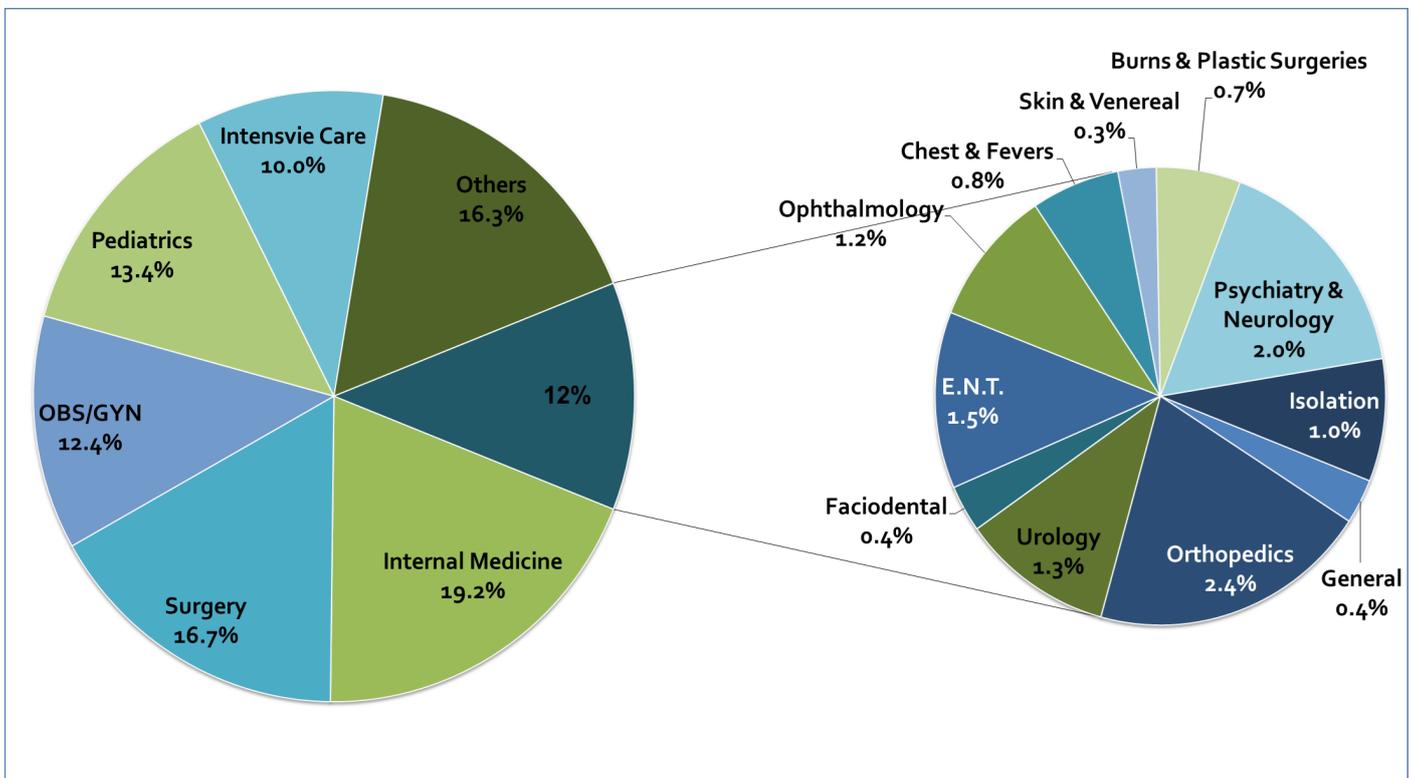


Figure 5.1: Distribution of total hospital beds in other governmental sectors by specialty, 2013

Table 5.1: Hospital beds in institutions within other governmental sectors by specialty, 2013

Institution	General	Internal Medicine	Surgery	Orthopedics	Urology	Faciodental	OBS/GYN	Pediatrics	Intensive Care	E.N.T.	Ophthalmology	Chest & Fevers	Skin & Venereal	Burns & Plastic Surgeries	Psychiatry & Neurology	Isolation#	Others	Total
K.A.U.H.,R	-	-	-	-	-	4	-	-	-	35	42	-	-	-	-	-	4	85
K.K.U.H.,R	-	177	145	55	30	6	110	104	37	-	-	13	-	18	23	8	26	752
K.K.U.H.,J	-	113	99	-	-	-	35	161	36	-	-	-	-	-	-	12	51	507
K.F.U.H.,K	-	89	104	25	-	-	47	40	50	25	-	-	-	12	36	-	-	428
A.F.Hs.*	-	702	743	126	85	29	697	503	667	71	74	68	37	35	110	85	1183	5215
N.G.Hs.	-	646	447	-	-	-	234	273	85	-	-	-	-	-	-	-	106	1791
S.F.H.	-	168	121	32	12	3	104	173	58	14	10	-	-	11	-	7	88	801
K.F.S.H.,R	29	48	38	26	20	2	50	33	145	22	2	7	1	8	46	-	292	769
K.F.S.H.,J	15	54	45	-	-	-	21	76	31	-	-	-	-	-	-	8	93	343
R.C.Hs.	-	101	82	14	4	2	106	113	20	6	6	-	-	-	-	-	36	490
ARAMCO Hs.	-	105	91	-	-	-	20	61	24	-	-	-	-	-	15	-	-	316
Total	44	2,203	1,915	278	151	46	1,424	1,537	1,153	173	134	88	38	84	230	120	1,879	11,497

K.A.U.H.,R: King Abdulaziz University Hospital, Riyadh; **K.K.U.H.,R:** King Khaled University Hospital, Riyadh; **K.A.U.H.,J:** King Abdulaziz University Hospital, Jeddah; **K.F.U.H.,K:** King Fahed University Hospital, Khobar; **A.F.Hs:** Armed Forces Hospitals; **N.G.Hs:** National Guards Hospitals; **S.F.H:** Security Forces Hospital; **K.F.S.H.,R:** King Faisal Specialist Hospital & Research Centre, Riyadh; **K.F.S.H.,J:** King Faisal Specialist Hospital & Research Centre, Jeddah; **R.C.Hs:** Royal Commission Hospitals; **ARAMCO Hs:** ARAMCO hospitals.

* Data for 2011 is used for these categories due to missing data from years 2012 and 2013

Number of isolation rooms in (Riyadh and Jeddah) and R.C.Hs are included with inpatients room

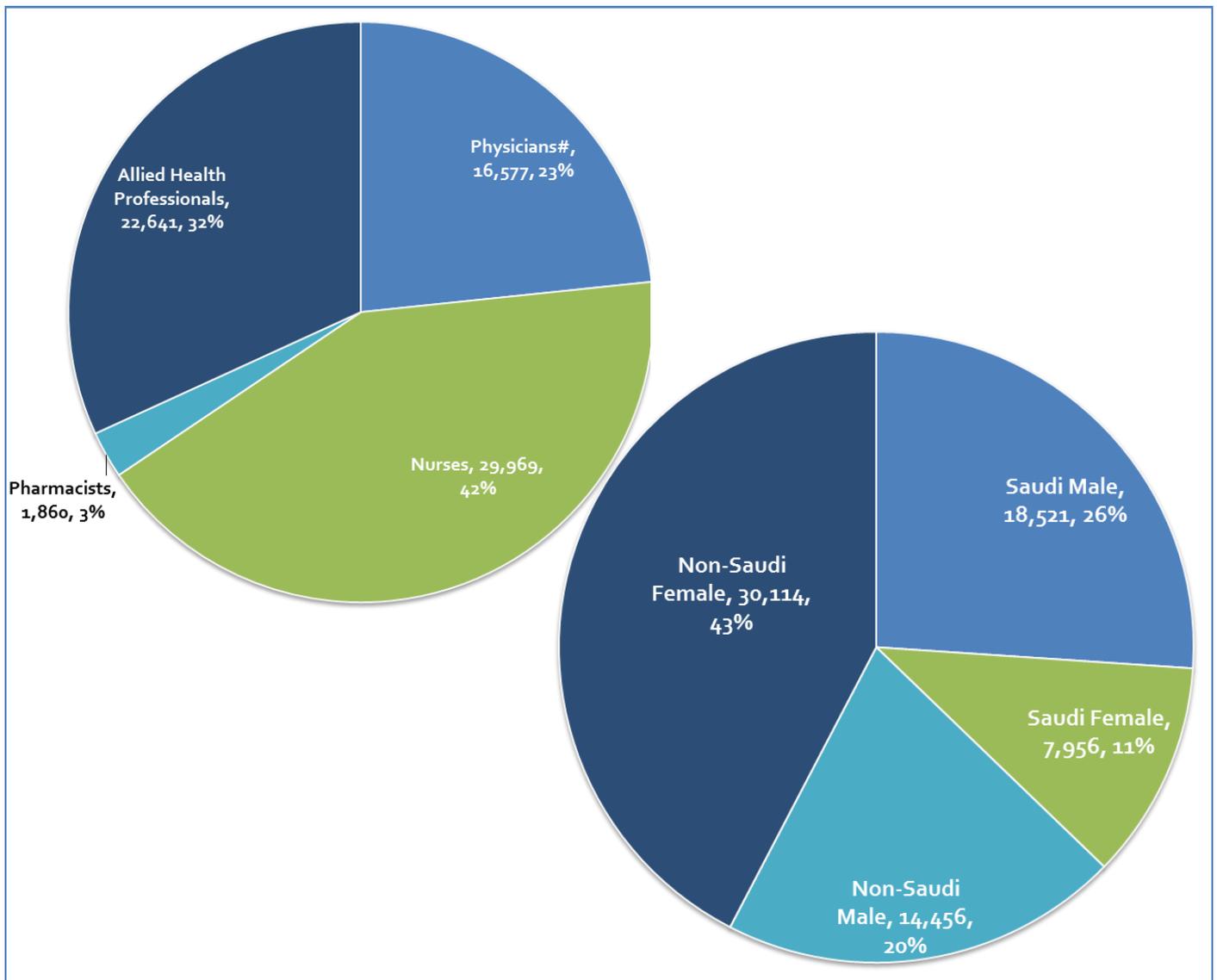


Figure 5.2: Distribution of total health manpower in other governmental sectors by category (left) and nationality/gender (right), 2013

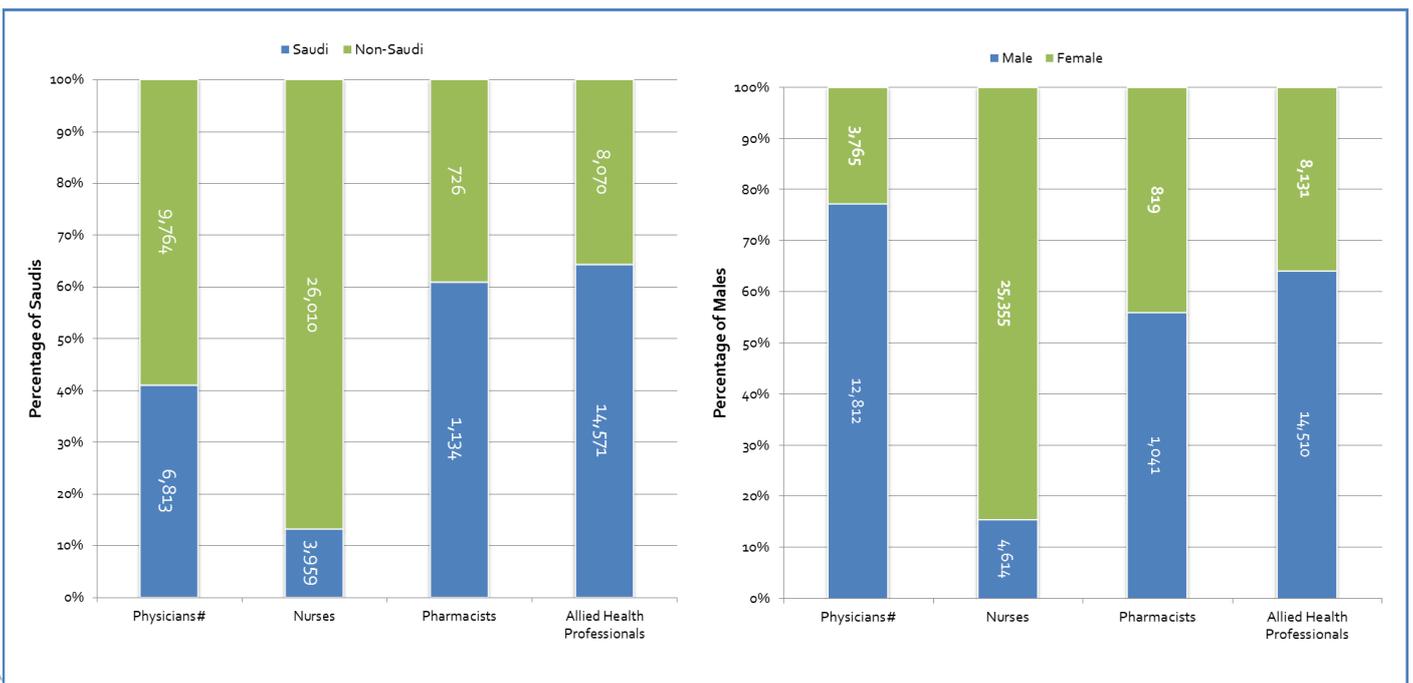


Figure 5.3: Total health manpower in other governmental sectors by category and nationality (left) and gender (right), 2013
 #Include dentists

Table 5.2: Health manpower of institutions within other governmental sector by category, gender and nationality, 2013

Category		King Abdulaziz University Hospital, Riyadh			King Khaled University Hospital, Riyadh*			King Abdulaziz University Hospital, Jeddah**			King Fahed University Hospital, Khobar		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	67	76	143	345	270	615	397	165	562	270	147	417
	Female	29	32	61	142	80	222	268	48	316	179	35	214
	Total	96	108	204	487	350	837	665	213	878	449	182	631
Nurses	Male	0	44	44	35	116	151	18	72	90	34	54	88
	Female	0	426	426	27	1817	1844	77	912	989	127	520	647
	Total	0	470	470	62	1933	1995	95	984	1079	161	574	735
Pharmacists	Male	7	8	15	80	33	113	15	7	22	19	2	21
	Female	14	6	20	61	18	79	8	10	18	18	1	19
	Total	21	14	35	141	51	192	23	17	40	37	3	40
Allied Health Professionals	Male	179	37	216	581	231	812	146	110	256	188	113	301
	Female	112	41	153	356	262	618	135	115	250	184	137	321
	Total	291	78	369	937	493	1430	281	225	506	372	250	622

Category		Armed Forces Hospitals**			National Guards Medical Services			Ministry of Interior Medical Services***			King Faisal Specialist Hospital & Research Centre, Riyadh*		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	1498	2122	3620	1123	1056	2179	204	144	348	251	262	513
	Female	708	602	1310	610	293	903	51	56	107	45	36	81
	Total	2206	2724	4930	1733	1349	3082	255	200	455	296	298	594
Nurses	Male	1302	983	2285	68	618	686	8	92	100	108	282	390
	Female	828	8618	9446	553	5944	6497	9	636	645	189	1904	2093
	Total	2130	9601	11731	621	6562	7183	17	728	745	297	2186	2483
Pharmacists	Male	226	129	355	174	39	213	35	3	38	32	49	81
	Female	106	114	220	143	43	186	17	3	20	45	91	136
	Total	332	243	575	317	82	399	52	6	58	77	140	217
Allied Health Professionals	Male	2895	886	3781	1503	597	2100	103	80	183	327	293	620
	Female	916	2105	3021	570	1200	1770	64	168	232	297	301	598
	Total	3811	2991	6802	2073	1797	3870	167	248	415	624	594	1218

Include dentists

* Represent data from year 2012 due to the absence of data for the year 2013

** Represent data from year 2011 due to the absence of data for the year 2012 and 2013

Table 5.2 (continued): Health manpower of institutions within other governmental sector by category, gender and nationality, 2013

Category		King Faisal Specialist Hospital & Research Centre, Jeddah*			Royal Commission Hospitals			ARAMCO			School health units (MOE)		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	109	166	275	17	217	234	163	193	356	33	321	354
	Female	54	27	81	9	114	123	99	26	125	71	98	169
	Total	163	193	356	26	331	357	262	219	481	104	419	523
Nurses	Male	3	111	114	10	81	91	4	147	151	206	92	298
	Female	99	780	879	18	653	671	109	990	1099	13	9	22
	Total	102	891	993	28	734	762	113	1137	1250	219	101	320
Pharmacists	Male	4	26	30	14	7	21	12	57	69	39	11	50
	Female	15	36	51	4	12	16	10	10	20	21	1	22
	Total	19	62	81	18	19	37	22	67	89	60	12	72
Allied Health Professionals	Male	71	125	196	103	97	200	387	284	671	163	36	199
	Female	61	125	186	75	104	179	246	392	638	48	36	84
	Total	132	250	382	178	201	379	633	676	1309	211	72	283

Category		Youth Welfare (YWH)*			Saudi Red Crescent Society (SRCS)			Saline Water Conversion Corporation (SWCCMU)			King Fahd University of Petroleum & Minerals (KFUPMMU)		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	1	24	25	17	39	56	0	24	24	1	9	10
	Female	0	6	6	4	0	4	2	11	13	0	1	1
	Total	1	30	31	21	39	60	2	35	37	1	10	11
Nurses	Male	2	14	16	0	0	0	20	8	28	6	8	14
	Female	3	22	25	0	0	0	7	30	37	8	6	14
	Total	5	36	41	0	0	0	27	38	65	14	14	28
Pharmacists	Male	0	0	0	3	0	3	1	1	2	1	1	2
	Female	1	2	3	0	0	0	0	2	2	1	0	1
	Total	1	2	3	3	0	3	1	3	4	2	1	3
Allied Health Professionals	Male	20	24	44	4723	131	4854	9	5	14	0	5	5
	Female	18	19	37	16	1	17	8	1	9	2	0	2
	Total	38	43	81	4739	132	4871	17	6	23	2	5	7

Include dentists

* Represent data from year 2012 due to the absence of data for the year 2013

** Represent data from year 2011 due to the absence of data for the year 2012 and 2013

*** Represent data from year 2010 due to the absence of data for the year 2011, 2012 and 2013

Table 5.2 (continued): Health manpower of institutions within other governmental sector by category, gender and nationality, 2013

Category		Medinah Islamic university (MISUMCI)*			Imam Muhammad bin Saud Islamic University (IMUMU)*			King Khaled University (MKSU, Abha)*			Omm Alqurra University in Mekkah*		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	0	16	16	29	16	45	2	2	4	3	12	15
	Female	0	6	6	3	6	9	0	2	2	9	3	12
	Total	0	22	22	32	22	54	2	4	6	12	15	27
Nurses	Male	12	0	12	28	13	41	4	1	5	10	0	10
	Female	3	0	3	2	3	5	0	2	2	9	2	11
	Total	15	0	15	30	16	46	4	3	7	19	2	21
Pharmacists	Male	1	0	1	1	0	1	0	0	0	2	2	4
	Female	0	1	1	3	1	4	0	0	0	1	0	1
	Total	1	1	2	4	1	5	0	0	0	3	2	5
Allied Health Professionals	Male	20	0	20	16	5	21	5	2	7	8	1	9
	Female	1	0	1	8	0	8	1	0	1	6	0	6
	Total	21	0	21	24	5	29	6	2	8	14	1	15

Category		Institute of Public Administration in Riyadh (IPAMCI)			Total		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	0	1	1	4530	5282	9812
	Female	0	0	0	2283	1482	3765
	Total	0	1	1	6813	6764	13577
Nurses	Male	0	0	0	1878	2736	4614
	Female	0	0	0	2081	23274	25355
	Total	0	0	0	3959	26010	29969
Pharmacists	Male	0	0	0	666	375	1041
	Female	0	0	0	468	351	819
	Total	0	0	0	1134	726	1860
Allied Health Professionals	Male	0	1	1	11447	3063	14510
	Female	0	0	0	3124	5007	8131
	Total	0	1	1	14571	8070	22641

Include dentists

* Represent data from year 2012 due to the absence of data for the year 2013

** Represent data from year 2011 due to the absence of data for the year 2012 and 2013

*** Represent data from year 2010 due to the absence of data for the year 2011, 2012 and 2013

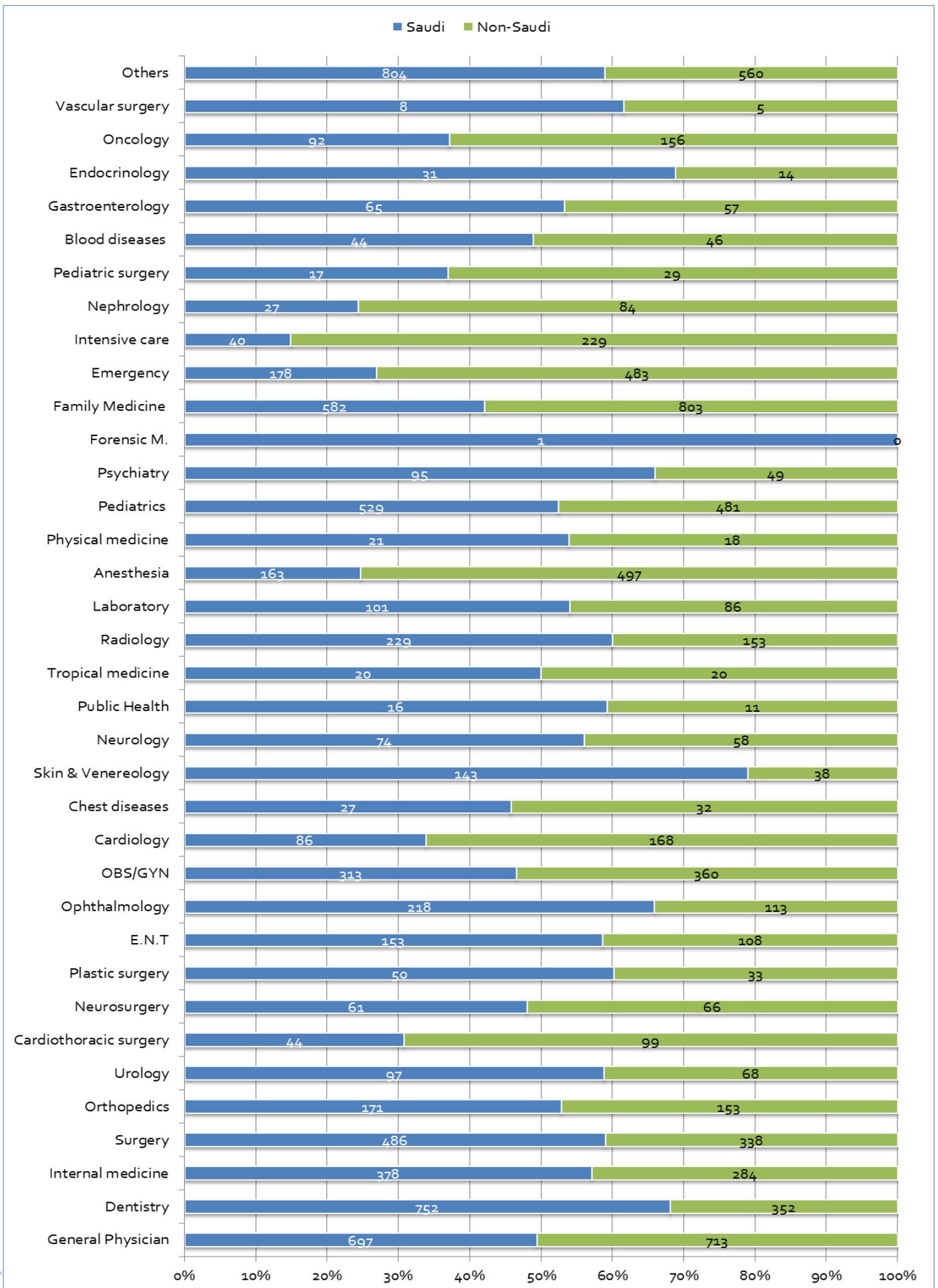


Figure 5.4: Distribution of physicians in other governmental sector by specialty and nationality, 2013

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Section II

Section III

Section IV

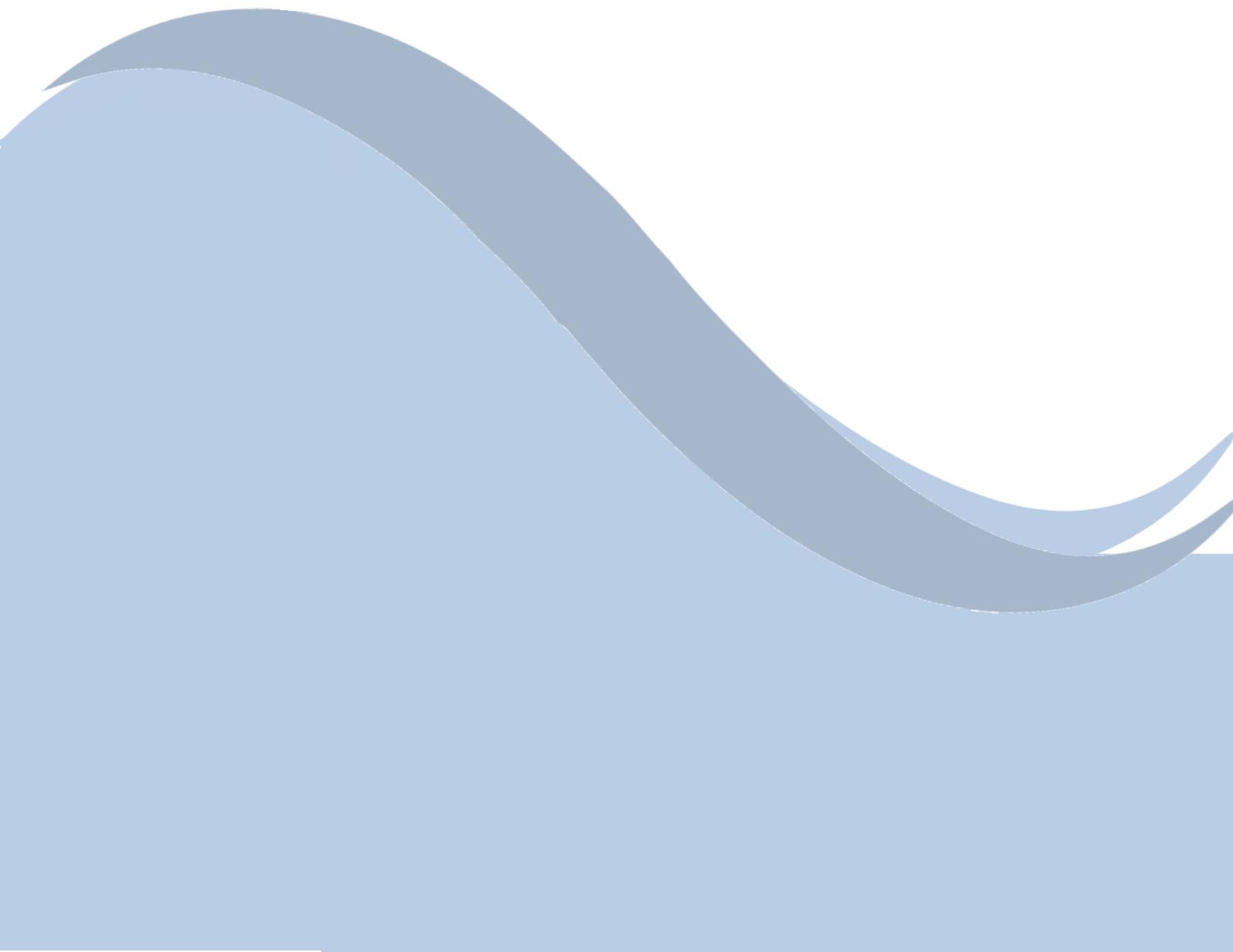
Section V

SECTION II.

HEALTH RESOURCES



Chapter 6: Health resources in the private sector



6.

HEALTH RESOURCES IN
THE PRIVATE SECTOR

First: Health Facilities in the Private Sector

The private health sector within the Kingdom encompasses different types of health facilities, which are summarized by region in Table 6.1. In 2013, the highest percentage of private hospitals (24.2%) were present in Jeddah, followed by Riyadh (23.5%). The highest number of private hospital beds were present in Riyadh (4,369 beds comprising 30.5% of the total number of hospital beds private sector), followed by Jeddah (21.2%). Figure 6.1 further displays the ratios of hospital beds in the private sector per 10,000 population by health region of the Kingdom. The highest ratio is present in the Eastern province (9.7 beds per 10,000 population).

The total number of private dispensaries is 2,249 with 775 dispensaries (34.5%) present in Riyadh and 381 dispensaries (16.9%) present in Jeddah. The total number of private pharmacies is 7,180 representing a rate of one pharmacy per 4,203 individuals.

Table 6.2 details the distribution of hospital beds in the private sector by region and specialty. The total number of private sector hospitals, beds and dispensaries has increased during the time period of 2009-2013. Figure 6.2 displays this increasing trend for each of the variables. The change in the number of the private sector hospitals, beds and dispensaries by region of the Kingdom over the time period 2009-2013 is shown in Figure 6.3.

Table 6.3 represents the distribution of private clinics (192 in total) by region and specialty for year 2013. There are 91 clinics (47.4%) present in Jeddah and 50 (26.0%) are present in Riyadh. This means that about 73% of the private clinics in the Kingdom are present in Jeddah and Riyadh health regions.

HOW DOES KSA COMPARE?

In 2013, there are 1.4 nurses for every physician employed at a health facility in the private sector in the KSA, in comparison to 1.3 nurses for every physician in the Eastern Mediterranean Region (EMR) and 1.8 nurses for every physician globally.

Source: World Health Statistics Report (2013), World Health Organization



Second: Health Manpower in the Private Sector

Health manpower in the private sector includes physicians, nurses, pharmacists and allied health professionals. The total number of physicians working in the private hospitals and polyclinics was 29,003; including dentists. In 2013, there were 40,737 nurses working in the private sector. The total number of pharmacists working in the private polyclinics, hospitals and pharmacies was 17,525. In 2013, there were a total of 18,397 allied health professionals working in the private sector. The distribution and ratios of health manpower per 10,000 population by region for year 2013 are displayed in Figure 6.4. The Eastern Province has the highest ratios for all categories of manpower: physicians (15.4 per 10,000 population), nurses (30.0 per 10,000 population), pharmacists (6.9 per 10,000 population), and Allied Health Professionals (11.8 per 10,000 population).

TREND OVER TIME...

Between 2009 and 2013, there was an 8.8% increase in the number of private hospitals, from 125 to 136 hospitals. Simultaneously, there was an addition of 2,477 beds (representing a 20.9% increase in the number of private hospital beds).

Between 2009 and 2013, the proportion of Saudis employed in health facilities of the private sector has increased by 59.5%.

The proportions of health manpower employed in the private sector by nationality and gender for year 2013 are displayed in Figure 6.5. These proportions are further detailed by region of the Kingdom in Table 6.4. The change in the proportion of the four categories of health manpower by nationality, during the time period of 2009-2013, is shown in Figure 6.6. The distribution of physicians in hospitals and dispensaries of the private sector by specialty and grade is displayed in Table 6.5.

KEY ACHIEVEMENTS ...

Between 2009 and 2013, 305 private health dispensaries were established, representing a 16% increase in total number of dispensaries in the private sector.

Table 6.1: Private sector hospitals, beds, dispensaries, and other medical facilities by region, 2013

Region	Hospitals	Beds	Dispensaries*	Private Clinics	Laboratories	Physiotherapy Centers	Opticals	Dental Prosth	Pharmacies
Riyadh	32	4369	775	50	32	30	756	21	2039
Makkah	7	473	117	15	11	1	125	9	389
Jeddah	33	3039	381	91	21	25	190	25	1119
Ta'if	3	280	77	5	3	0	68	2	267
Medinah	12	1035	104	11	3	2	145	4	375
Qaseem	5	393	90	3	2	1	78	6	325
Eastern	20	2847	197	3	6	2	203	0	605
Al-Ahsa	6	618	59	2	1	3	89	0	172
Hafr Al-Baten	1	50	28	0	0	1	23	0	98
Aseer	11	780	143	2	6	4	96	1	502
Bishah	0	0	21	0	0	0	13	0	97
Tabouk	1	86	45	6	3	1	48	2	173
Ha'il	1	60	34	2	9	17	59	1	242
Northern	0	0	16	0	1	0	7	0	66
Jazan	1	30	47	1	1	1	52	0	350
Najran	1	100	38	0	0	3	22	0	97
Al-Bahah	1	100	27	0	1	0	35	0	94
Al-Jouf	0	0	22	0	0	0	2	0	70
Qurayyat	0	0	10	1	0	0	10	0	46
Qunfudah	1	50	18	0	0	0	8	0	54
Total	136	14310	2249	192	100	91	2029	71	7180

* Include dispensaries and polyclinics, specialized and general clinics

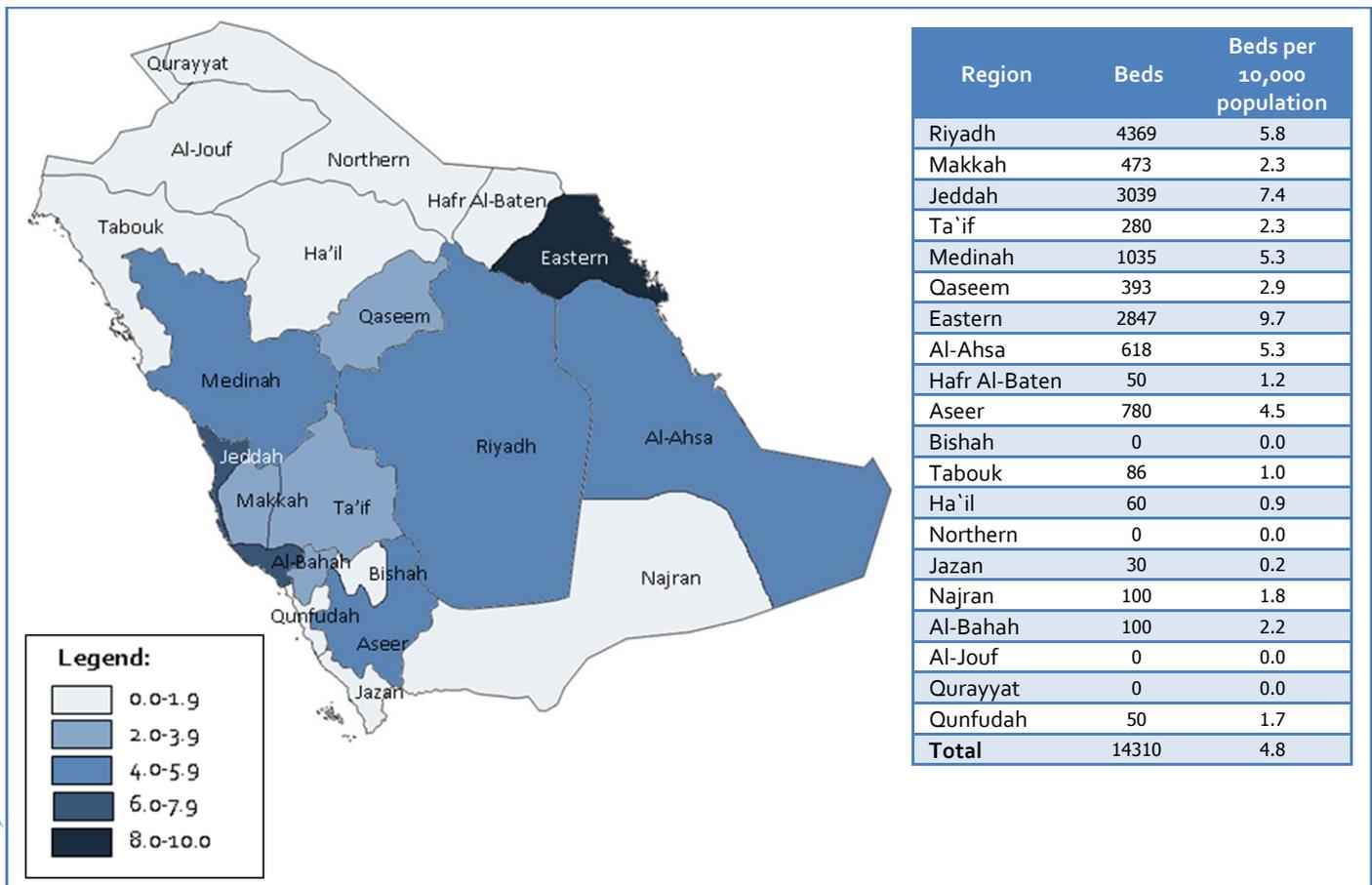


Figure 6.1: Ratio of hospital beds in the private sector per 10,000 population by region, 2013

Table 6.2: Hospital beds in the private sector by region and speciality, 2013

Region	General	Internal Medicine	Surgery	Orthopedics	Urology	Faciodental	OBS/GYN	Pediatrics	Intensive care	ENT	Ophthalmology	Chest & fevers	Skin & venereal	Burns & Plastic Surgeries	Psychiatry & Neurology	Isolation	Others	Total
Riyadh	820	640	696	54	23	32	795	581	242	84	84	2	12	30	18	10	246	4369
Makkah	473	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	473
Jeddah	0	664	561	36	19		365	361	445	43	39	2	1	14	122	54	313	3039
Ta'if	280	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	280
Medinah	218	97	133	8	14	1	121	153	63	6	13	2	0	0	7	10	189	1035
Qaseem	24	62	53	10	0	0	130	65	29	14	2	2	2	0	0	0	0	393
Eastern	35	723	749	22	0	21	436	550	168	46	37	0	0	0	23	6	31	2847
Al-Ahsa	81	139	68	32	11	9	84	110	35	10	11	7	2	4	5	4	6	618
Hafr Al-Baten	0	10	10	0	0	0	20	10	0	0	0	0	0	0	0	0	0	50
Aseer	444	100	63	0	0	0	98	0	30	21	24	0	0	0	0	0	0	780
Tabouk	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86
Ha'il	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
Jazan	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
Najran	5	15	8	8	8	0	20	10	4	8	5	0	2	0	2	0	5	100
Al-Bahah	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
Qunfudah	0	15	7	0	0	0	10	5	5	0	0	0	0	0	0	0	8	50
Total	2656	2465	2348	170	75	63	2079	1845	1021	232	215	15	19	48	177	84	798	14310

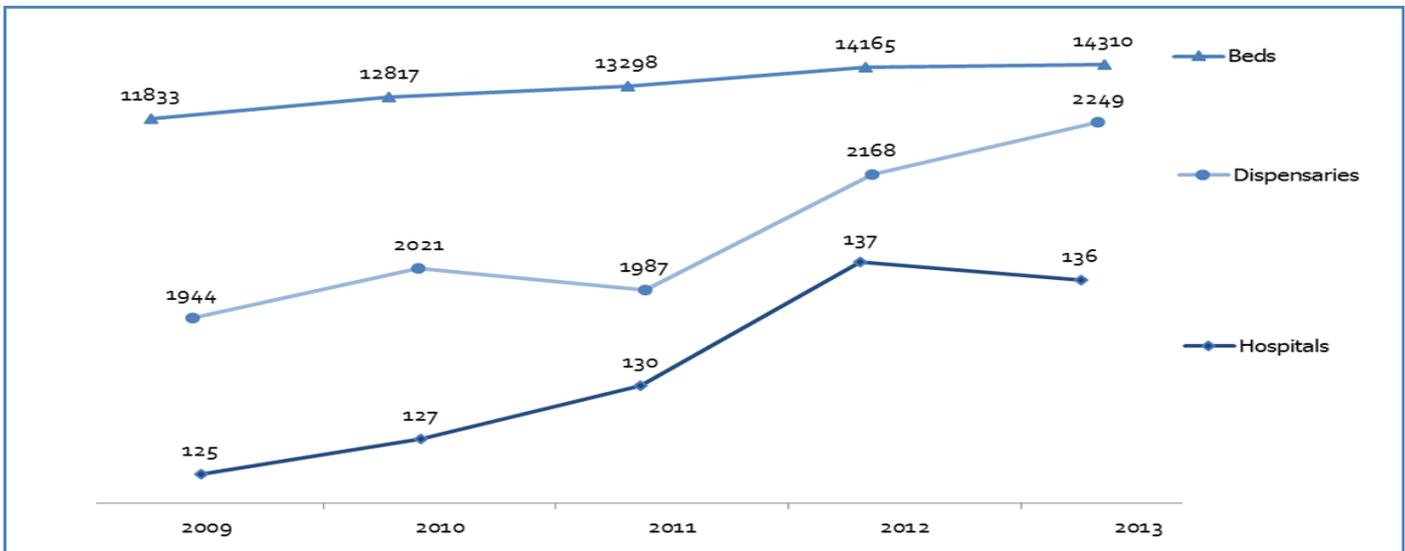


Figure 6.2: Total number of private sector hospitals, beds and dispensaries, 2009 –2013

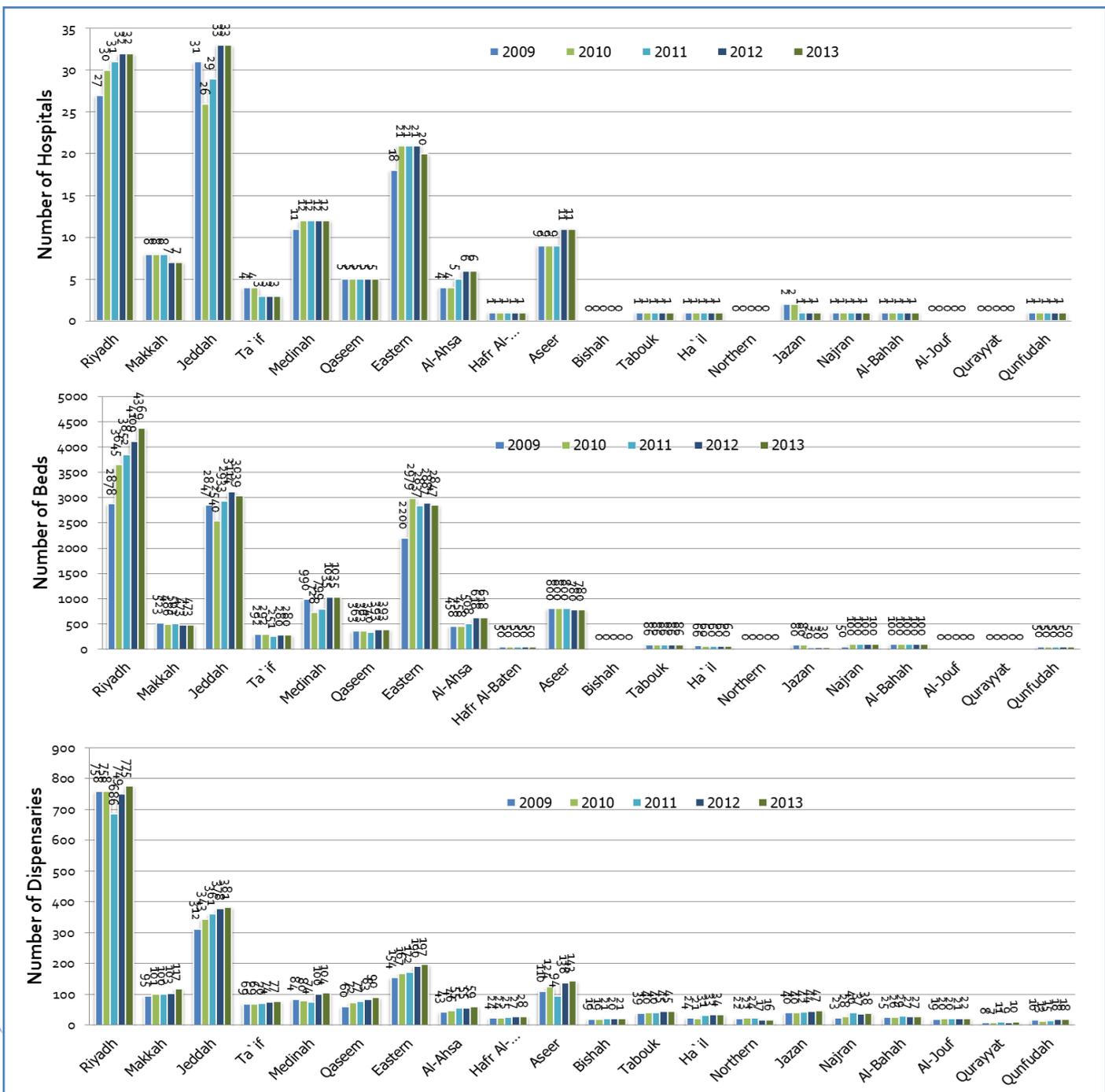


Figure 6.3: Private sector hospitals, beds and dispensaries by region, 2009 –2013

Table 6.3: Clinics in private sector by region and specialty, 2013

Region	General Medicine	Dentistry	Internal Medicine	General surgery	OBS/GYN	Pediatrics	Ophthalmology	Orthopedics	Psychiatry & Neurology	Heart & Chest	ENT	Skin & venereal	Urology	Others	Total
Riyadh	9	13	5	0	5	4	2	0	0	2	6	2	1	1	50
Makkah	4	1	1	0	2	2	1	1	0	1	1	1	0	0	15
Jeddah	11	12	4	6	11	14	7	2	4	3	6	6	1	4	91
Ta'if	0	3	1	0	0	1	0	0	0	0	0	0	0	0	5
Medinah	2	8	0	0	0	0	1	0	0	0	0	0	0	0	11
Qaseem	0	2	0	0	0	0	1	0	0	0	0	0	0	0	3
Eastern	0	0	0	0	1	1	0	0	0	0	1	0	0	0	3
Al-Ahsa	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Hafr Al-Batan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aseer	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
Bishah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tabouk	3	1	1	0	0	0	0	0	0	0	0	1	0	0	6
Ha'il	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
Northern	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jazan	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Najran	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Al-Bahah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Al-Jouf	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Qurayyat	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Qunfudah	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	30	43	13	6	20	22	12	3	4	6	14	11	2	6	192

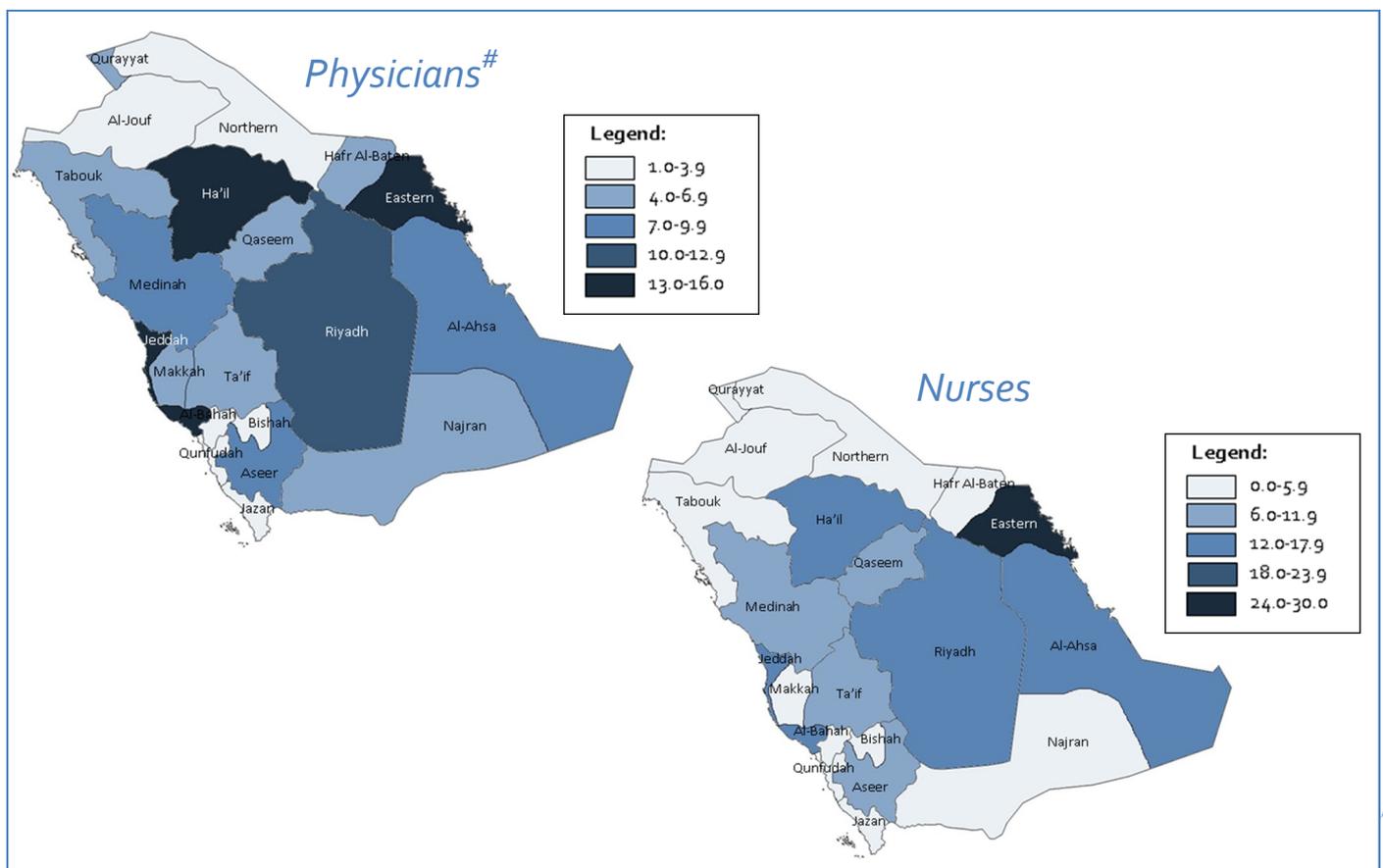


Figure 6.4: Ratio of health manpower in private sector per 10,000 population by region, 2013

Includes dentists

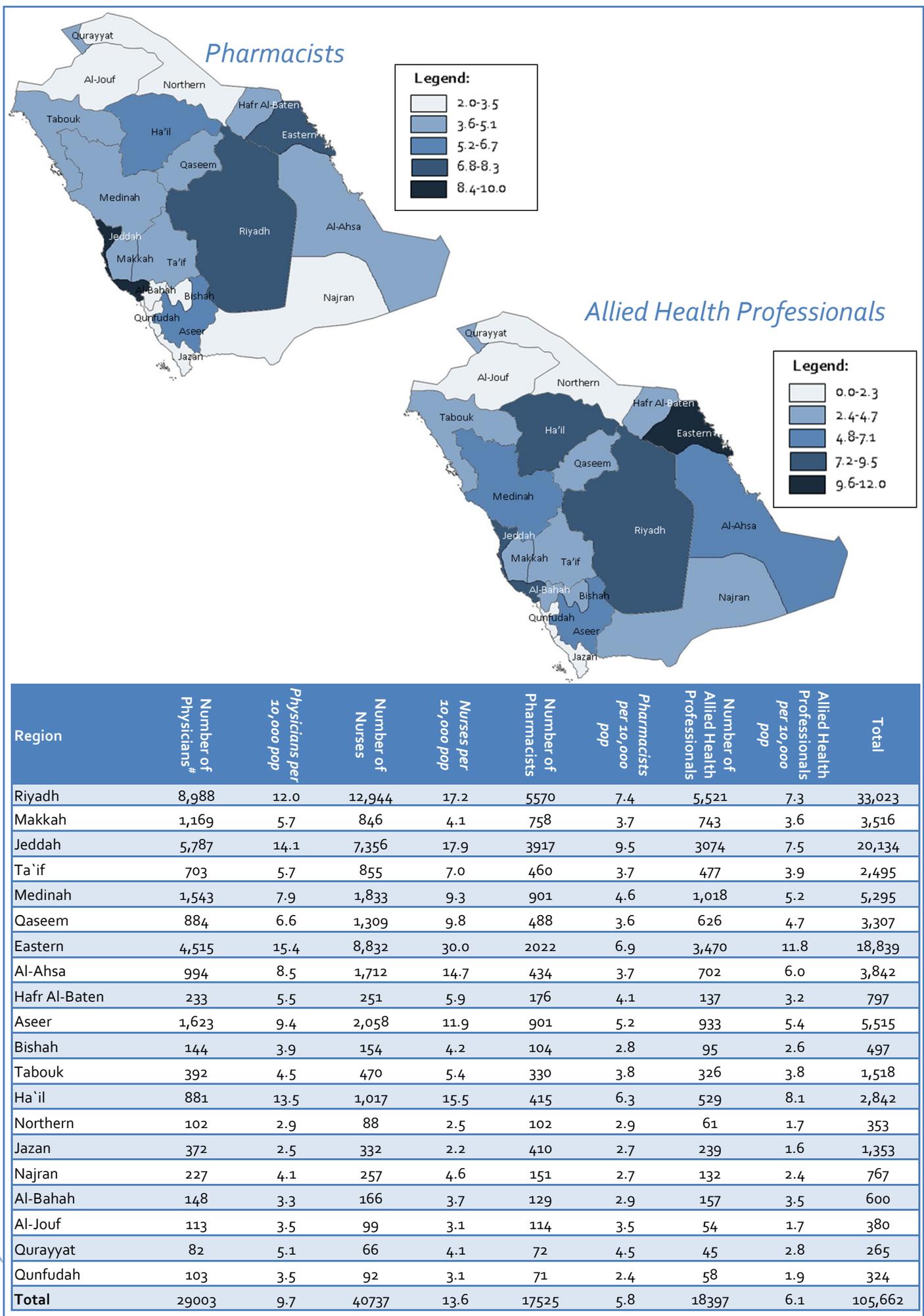


Figure 6.4 (continued): Ratio of health manpower in private sector per 10,000 population by region, 2013

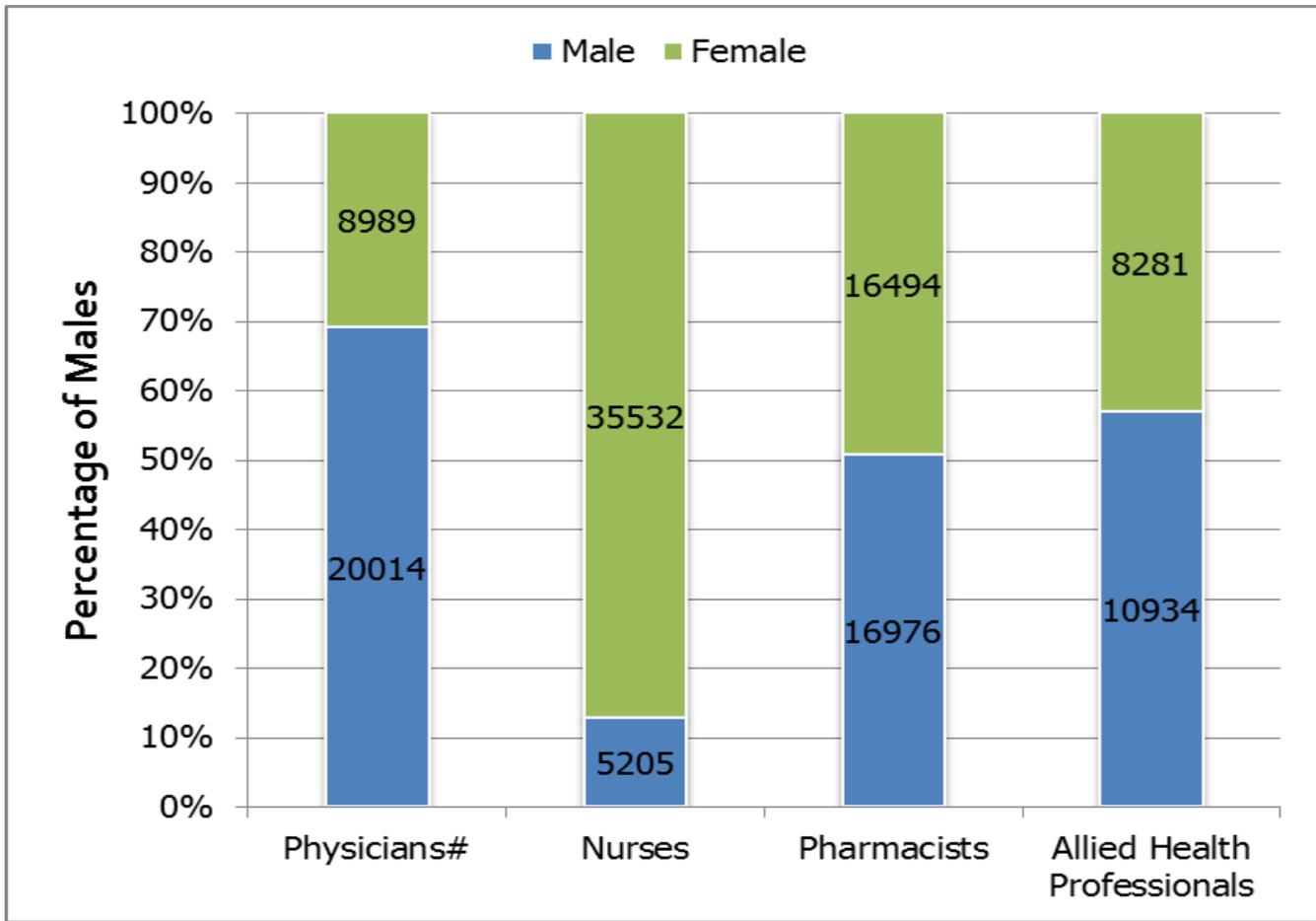
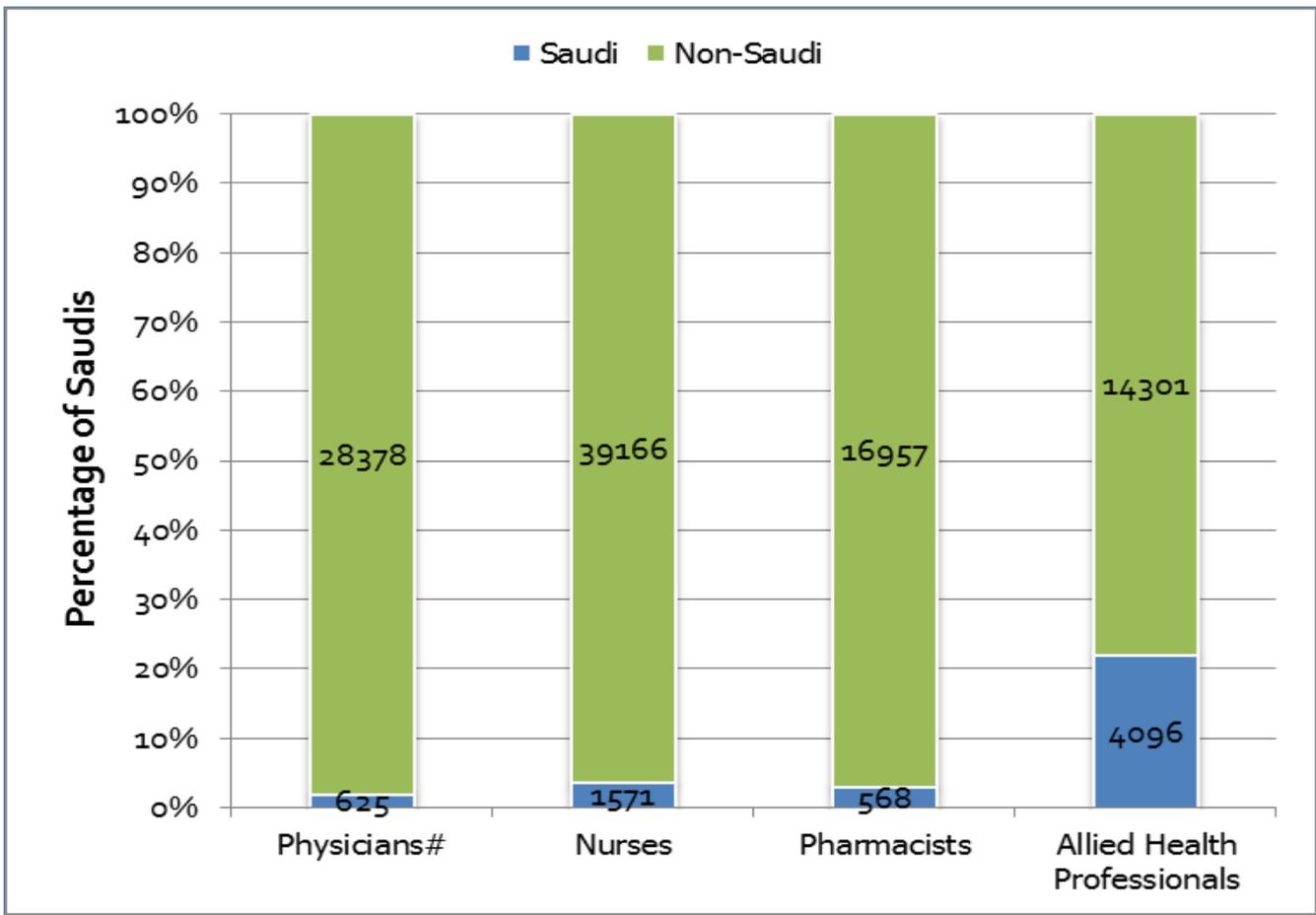


Figure 6.5: Proportions of manpower in private sector by nationality (top) and gender (bottom), 2013

Include dentists

Table 6.4: Manpower in private sector by category, gender, nationality and region, 2013

Category		Riyadh			Makkah			Jeddah			Ta'if		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	201	5808	6009	5	812	817	47	4214	4261	2	461	463
	Female	95	2884	2979	7	345	352	56	1470	1526	1	239	240
	Total	296	8692	8988	12	1157	1169	103	5684	5787	3	700	703
Nurses	Male	110	1030	1140	37	97	134	156	600	756	70	44	114
	Female	32	11772	11804	15	697	712	98	6502	6600	12	729	741
	Total	142	12802	12944	52	794	846	254	7102	7356	82	773	855
Pharmacists	Male	264	5178	5442	2	741	743	113	3634	3747	0	452	452
	Female	25	103	128	9	6	15	21	149	170	0	8	8
	Total	289	5281	5570	11	747	758	134	3783	3917	0	460	460
Allied Health Professionals	Male	494	2744	3238	166	417	583	576	1119	1695	68	248	316
	Female	238	2045	2283	68	92	160	324	1055	1379	30	131	161
	Total	732	4789	5521	234	509	743	900	2174	3074	98	379	477

Category		Medinah			Qaseem			Eastern			Al-Ahsa		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	18	1083	1101	11	530	541	64	3141	3205	5	689	694
	Female	7	435	442	1	342	343	58	1252	1310	5	295	300
	Total	25	1518	1543	12	872	884	122	4393	4515	10	984	994
Nurses	Male	138	146	284	39	114	153	106	1701	1807	68	228	296
	Female	59	1490	1549	5	1151	1156	292	6733	7025	49	1367	1416
	Total	197	1636	1833	44	1265	1309	398	8434	8832	117	1595	1712
Pharmacists	Male	18	867	885	6	472	478	56	1833	1889	8	407	415
	Female	0	16	16	0	10	10	29	104	133	1	18	19
	Total	18	883	901	6	482	488	85	1937	2022	9	425	434
Allied Health Professionals	Male	272	489	761	145	273	418	418	1243	1661	64	315	379
	Female	83	174	257	4	204	208	564	1245	1809	77	246	323
	Total	355	663	1018	149	477	626	982	2488	3470	141	561	702

Includes dentists

Table 6.4 (continued): Manpower in private sector by category, gender, nationality and region, 2013

Category		Hafr Al-Baten			Aseer			Bishah			Tabouk		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	1	156	157	27	1030	1057	0	90	90	1	284	285
	Female	0	76	76	2	564	566	0	54	54	0	107	107
	Total	1	232	233	29	1594	1623	0	144	144	1	391	392
Nurses	Male	10	11	21	101	106	207	1	10	11	23	37	60
	Female	12	218	230	9	1842	1851	1	142	143	36	374	410
	Total	22	229	251	110	1948	2058	2	152	154	59	411	470
Pharmacists	Male	1	175	176	8	855	863	0	104	104	3	324	327
	Female	0	0	0	1	37	38	0	0	0	0	3	3
	Total	1	175	176	9	892	901	0	104	104	3	327	330
Allied Health Professionals	Male	6	100	106	152	443	595	9	60	69	86	141	227
	Female	0	31	31	18	320	338	0	26	26	28	71	99
	Total	6	131	137	170	763	933	9	86	95	114	212	326

Category		Ha'il			Northern			Jazan			Najran		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	1	588	589	3	69	72	3	225	228	1	149	150
	Female	0	292	292	0	30	30	0	144	144	0	77	77
	Total	1	880	881	3	99	102	3	369	372	1	226	227
Nurses	Male	10	74	84	1	7	8	14	13	27	14	15	29
	Female	5	928	933	7	73	80	3	302	305	4	224	228
	Total	15	1002	1017	8	80	88	17	315	332	18	239	257
Pharmacists	Male	1	410	411	0	102	102	0	410	410	1	149	150
	Female	0	4	4	0	0	0	0	0	0	0	1	1
	Total	1	414	415	0	102	102	0	410	410	1	150	151
Allied Health Professionals	Male	45	253	298	3	46	49	47	135	182	28	68	96
	Female	1	230	231	0	12	12	2	55	57	0	36	36
	Total	46	483	529	3	58	61	49	190	239	28	104	132

Includes dentists

Table 6.4 (continued): Manpower in private sector by category, gender, nationality and region, 2013

Category		Al-Bahah			Al-Jouf			Qurayyat			Qunfudah			Total		
		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians [#]	Male	1	76	77	1	86	87	0	61	61	0	70	70	392	19622	20014
	Female	0	71	71	0	26	26	1	20	21	0	33	33	233	8756	8989
	Total	1	147	148	1	112	113	1	81	82	0	103	103	625	28378	29003
Nurses	Male	10	5	15	5	15	20	15	11	26	2	11	13	930	4275	5205
	Female	1	150	151	0	79	79	0	40	40	1	78	79	641	34891	35532
	Total	11	155	166	5	94	99	15	51	66	3	89	92	1571	39166	40737
Pharmacists	Male	0	125	125	1	113	114	0	72	72	0	71	71	482	16494	16976
	Female	0	4	4	0	0	0	0	0	0	0	0	0	86	463	549
	Total	0	129	129	1	113	114	0	72	72	0	71	71	568	16957	17525
Allied Health Professionals	Male	42	79	121	4	42	46	10	34	44	18	32	50	2653	8281	10934
	Female	3	33	36	0	8	8	0	1	1	3	5	8	1443	6020	7463
	Total	45	112	157	4	50	54	10	35	45	21	37	58	4096	14301	18397

Includes dentists

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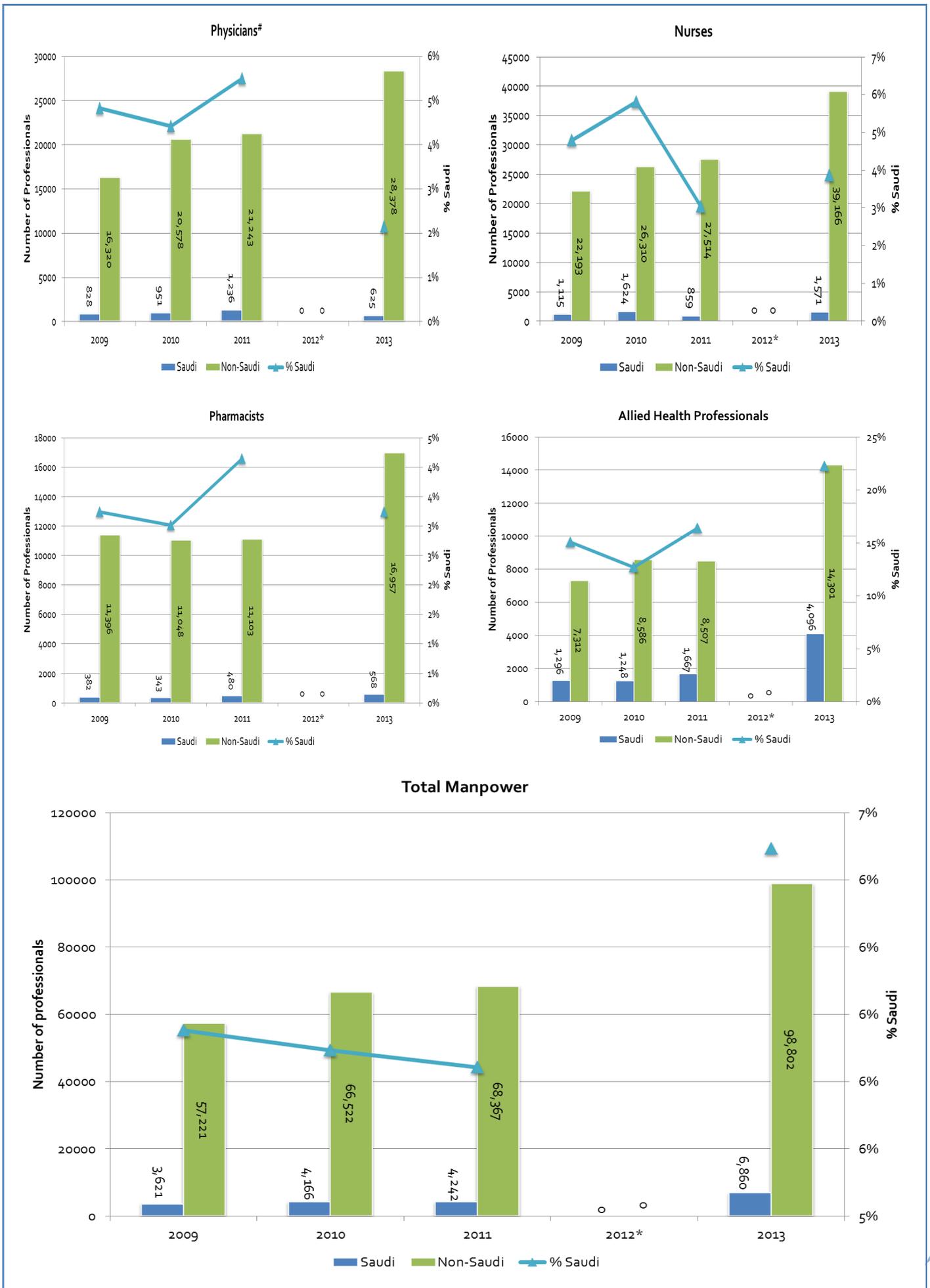


Figure 6.6: Physicians#, nurses and allied health professionals* working in the private sector by nationality, 2009-2013

Include dentists

* Data for 2013 is not available

Table 6.5: Physicians in hospitals and dispensaries of the private sector by specialty and grade, 2013

Specialty	Grade			Total
	Resident	Specialist	Consultant	
General Physician	4493	4	2	4499
Dentistry	6678	1364	235	8277
Internal medicine	285	1356	273	1914
Surgery	116	745	290	1151
Orthopedics	99	534	184	817
Urology	31	289	121	441
Cardiothoracic surgery	5	16	25	46
Neurosurgery	6	33	43	82
Plastic Surgery	8	64	78	150
E.N.T	53	625	155	833
Ophthalmology	93	531	206	830
OBS/GYN	423	1605	406	2434
Cardiology	71	229	144	444
Chest diseases	11	142	64	217
Skin & Venereology	185	744	154	1083
Neurology	16	41	47	104
Public Health	-	10	9	19
Tropical Medicine	3	35	14	52
Radiology	110	704	114	928
Laboratory	40	395	117	552
Anesthesia	138	473	224	835
Physical medicine	11	76	44	131
Pediatrics	348	1572	375	2295
Psychiatry	32	84	64	180
Forensic M.	-	-	-	-
Family medicine	14	66	41	121
Emergency	38	74	16	128
Intensive care	42	33	6	81
Nephrology	6	32	28	66
Pediatric surgery	-	2	13	15
Blood diseases	2	4	12	18
Gastroenterology	2	42	62	106
Endocrinology	-	10	37	47
Oncology	1	4	15	20
Vascular surgery	3	7	15	25
Others	-	26	36	62
Total	13363	11971	3669	29003

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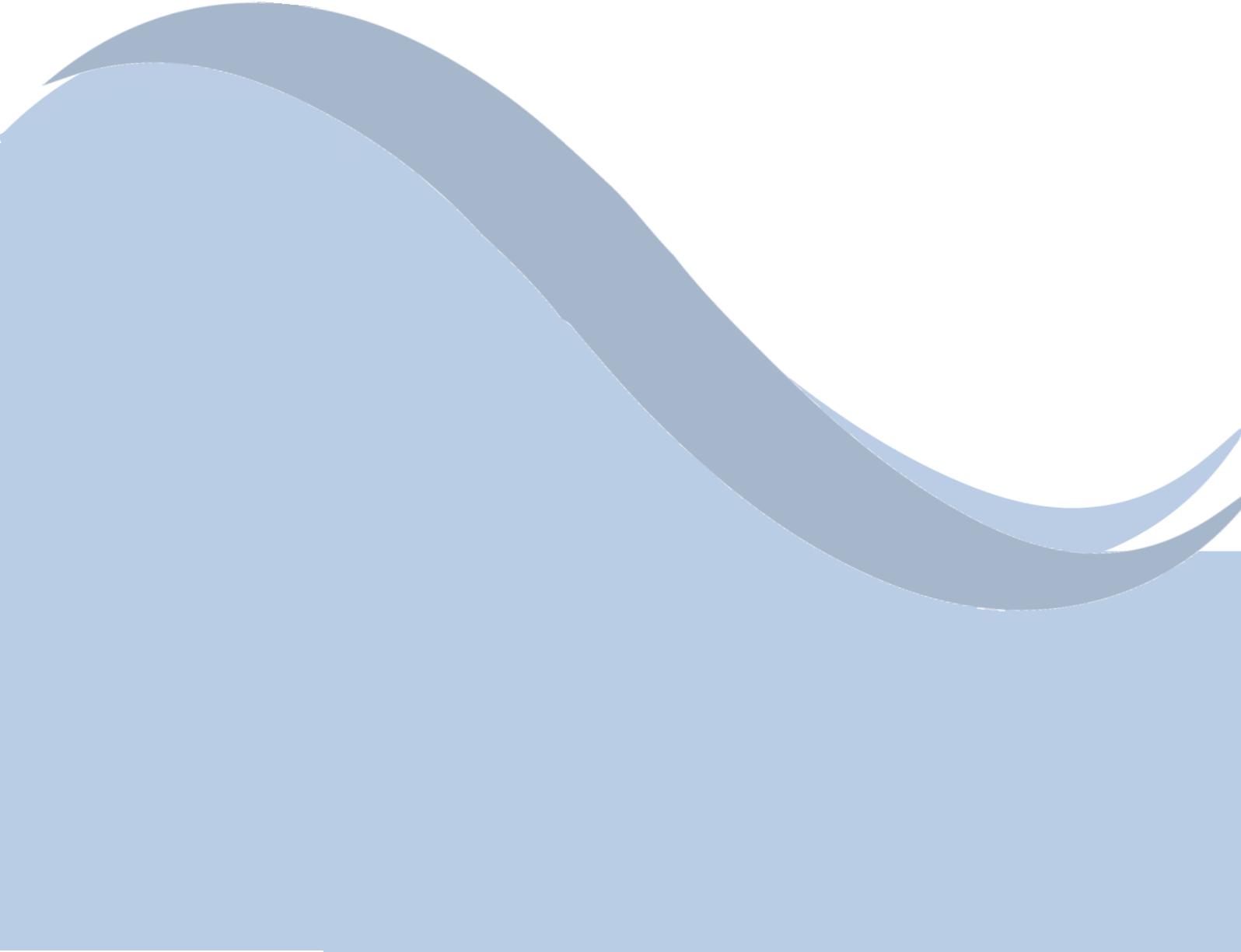
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SECTION II.

HEALTH RESOURCES



Chapter 7: Total health resources in all health sectors in the Kingdom



7.

TOTAL HEALTH RESOURCES IN ALL HEALTH SECTORS IN THE KINGDOM



First: Health Facilities

In 2013, the total number of hospitals in the Kingdom is 445. Figure 7.1 displays the distribution of hospitals across the different health sectors. In 2013, the total number of beds in all hospitals in the Kingdom was 64,777. It is significant to note that there were 38,970 beds under the management of the MOH, corresponding to 60.4% of the total beds in the Kingdom (Figure 7.2). Figure 7.3 displays the increasing trend in the number of hospitals and hospital beds in the Kingdom for the years 2009 to 2013. Between the years 2012 and 2013, the Kingdom witnessed an increase of 10 hospitals (a 2.2% increase). Figure 7.4 further details this increasing pattern in the number of hospitals and hospital beds per health sector, i.e. MOH, other governmental and private, during the period 2009-2013.

Second: Health Manpower

The total number of health manpower for the categories of physicians, nurses, pharmacists and allied health professionals in 2013 is shown in Figure 7.5, along with the change in the numbers during the period of 2009-2013. In year 2013, total health manpower working in the Kingdom were distributed as follows: 80,475 physicians (including dentists), 154,568 nurses, 21,766 pharmacists, and 91,781 allied health professionals. The change in the numbers of the four categories of health manpower during the time period of 2009-2013 is further detailed per health sector of employment in Figure 7.6.

In year 2013, the proportion of health manpower working in the Kingdom who are Saudis was as follows: physicians (22.4%), nurses (35.0%), pharmacists (17.7%), and allied health professionals (69.6%). Figure 7.7 reveals the change in the proportions of Saudis among the total number of physicians, nurses and allied health professionals working in the Kingdom for the time period of 2009-2013. This change in proportions is further detailed per health sector of employment in Figure 7.10.

HOW DOES KSA COMPARE?

In 2013, there are 1.9 nurses for every physician employed in KSA, in comparison to 1.3 nurses for every physician in the Eastern Mediterranean Region (EMR) and 1.8 nurses for every physician globally.

In 2013, there are 21.6 hospital beds per 10,000 population in KSA, in comparison to 12 hospital beds per 10,000 population in the Eastern Mediterranean Region (EMR) and 30 hospital beds per 10,000 population globally.

Source: World Health Statistics Report (2013), World Health Organization



TREND OVER TIME...

Between 2009 and 2013, among the health sectors, the MOH witnessed the highest increase in the number of hospitals (9.4%), followed by the private sector (8.8%).

Between 2009 and 2013, there was a total addition of 8,845 hospital beds (16% increase); the health sector witnessing the highest increase in hospital beds was the private sector (20.9%), followed by the MOH (16.3%).

The rate of total hospital beds per 10,000 population dropped from 22.0 beds in 2009 to 21.6 beds in 2013.

Between 2009 and 2013, the number of health manpower increased among all health manpower categories, except pharmacists. Increases were as follows: physicians (45.6%), nurse (39.4%), and allied health professionals (53.9%).

Table 7.1 shows the distribution of physicians and dentists working in all health sectors of the Kingdom, by specialty, gender, nationality, and region.

Figure 7.11 displays the 2013 distribution of physicians and dentists working in all health sectors by specialty and exhibits the proportion of Saudis working in each specialty. The specialty with the highest proportion of Saudis is Endocrinology (47.2%), while the specialty with the least proportion of Saudi is Anesthesia (11.9%).

KEY ACHIEVEMENTS ...

Between 2009 and 2013, 37 new hospitals were built in KSA, resulting in an increase of 9.1% in the number of hospitals and an addition of 8,845 beds (16% increase) to the Kingdom's hospital bed capacity.

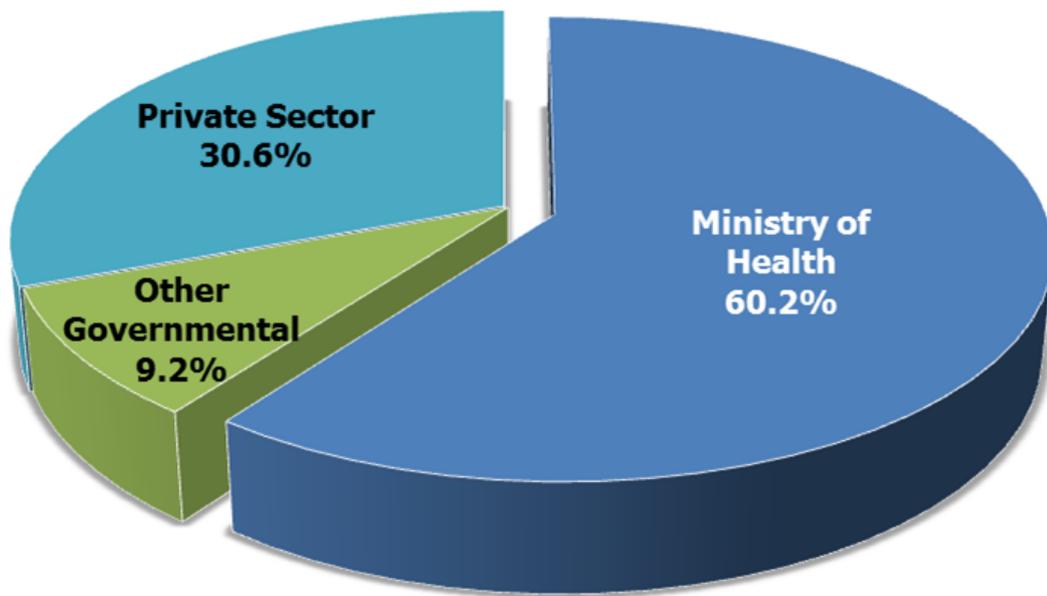


Figure 7.1: Hospitals in various health sectors, KSA, 2013

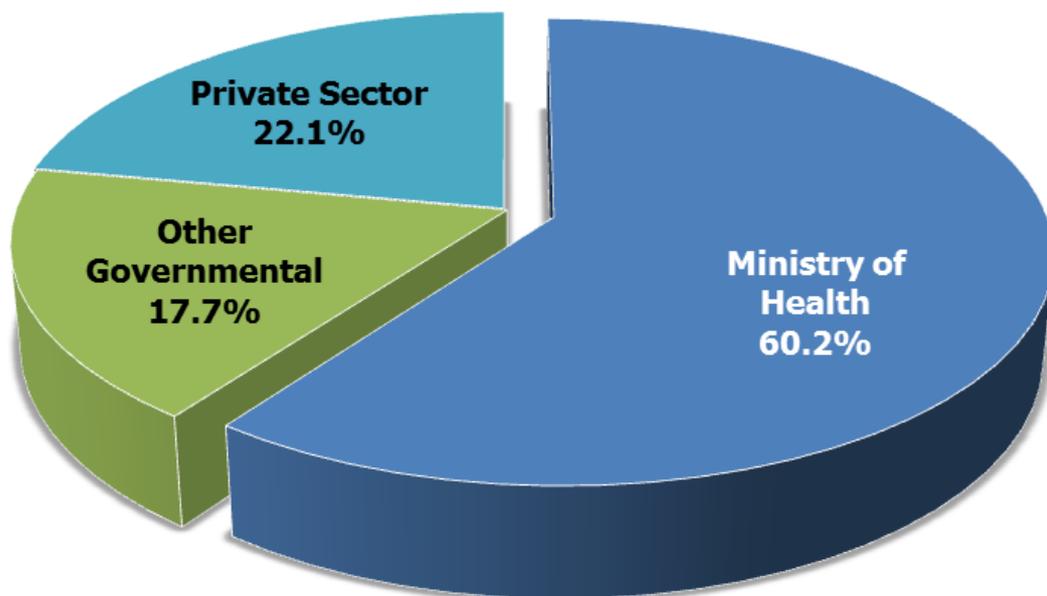


Figure 7.2: Hospital beds in various health sectors, KSA, 2013

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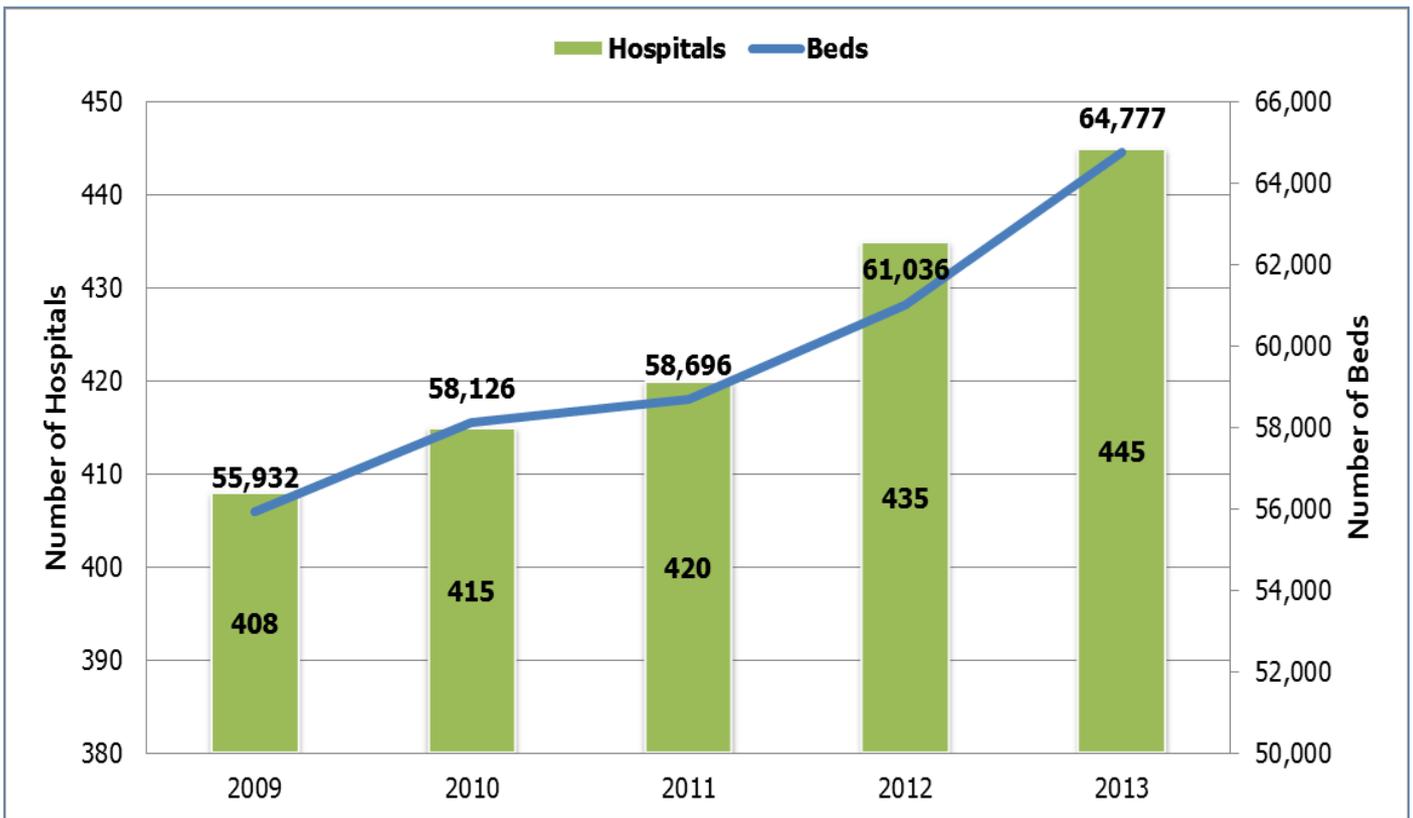


Figure 7.3: Total number of hospitals and beds in all health sectors, 2009-2013

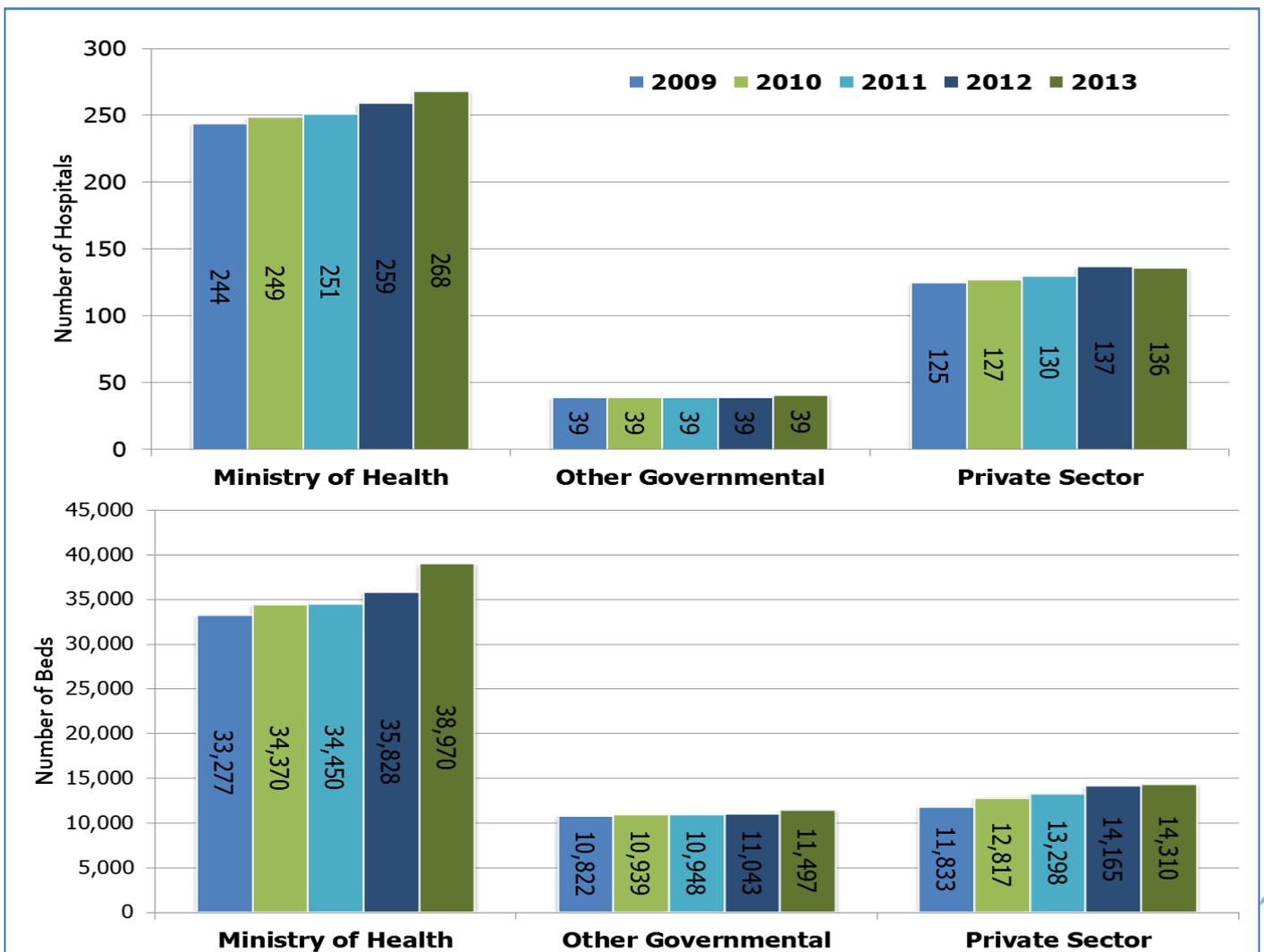


Figure 7.4: Number of hospitals and beds in MOH, other governmental sectors and private sector, 2009-2013

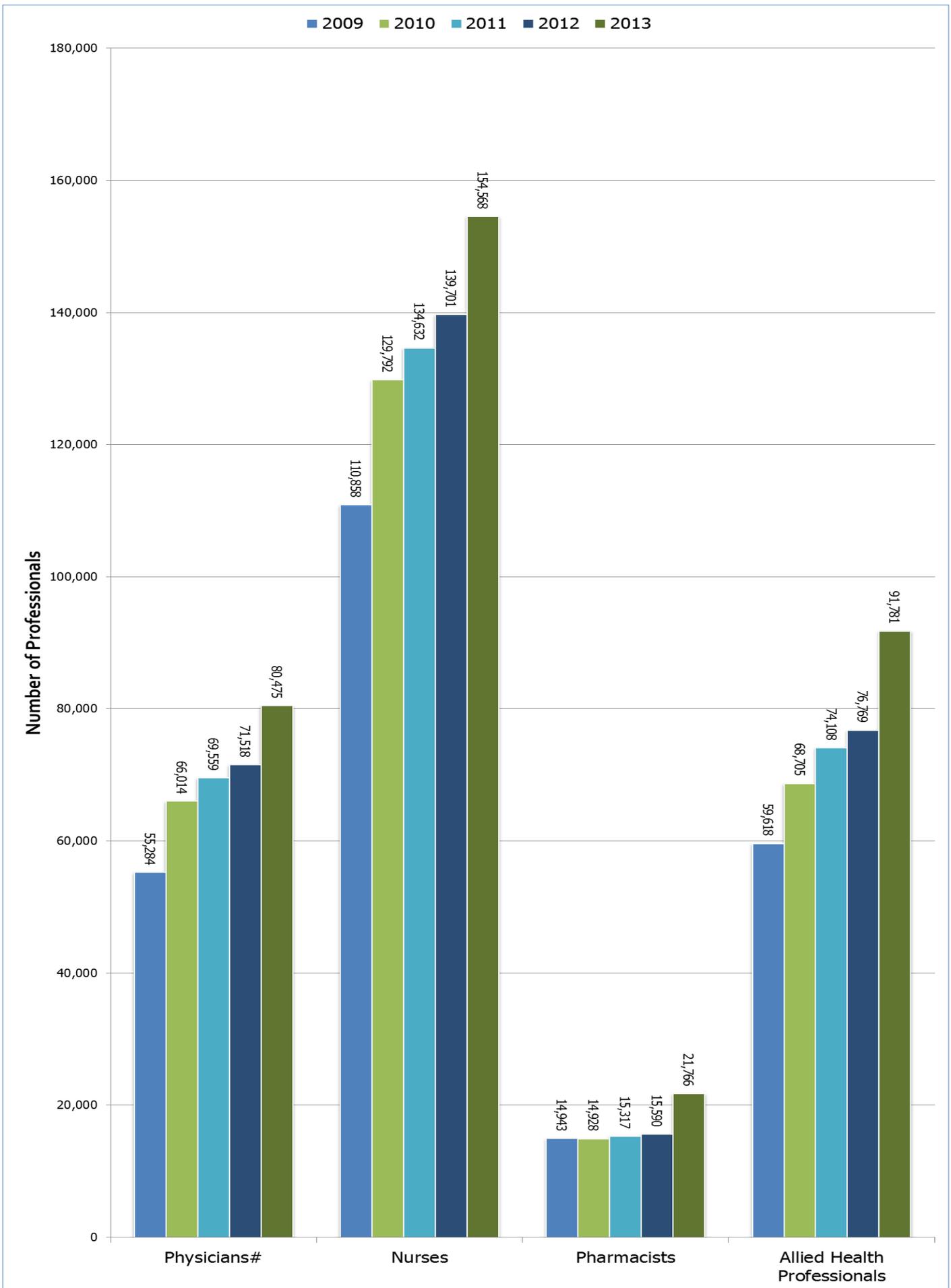


Figure 7.5: Total number of physicians[#], nurses, pharmacists and allied health professionals in KSA, 2009-2013
 # Physicians include dentists

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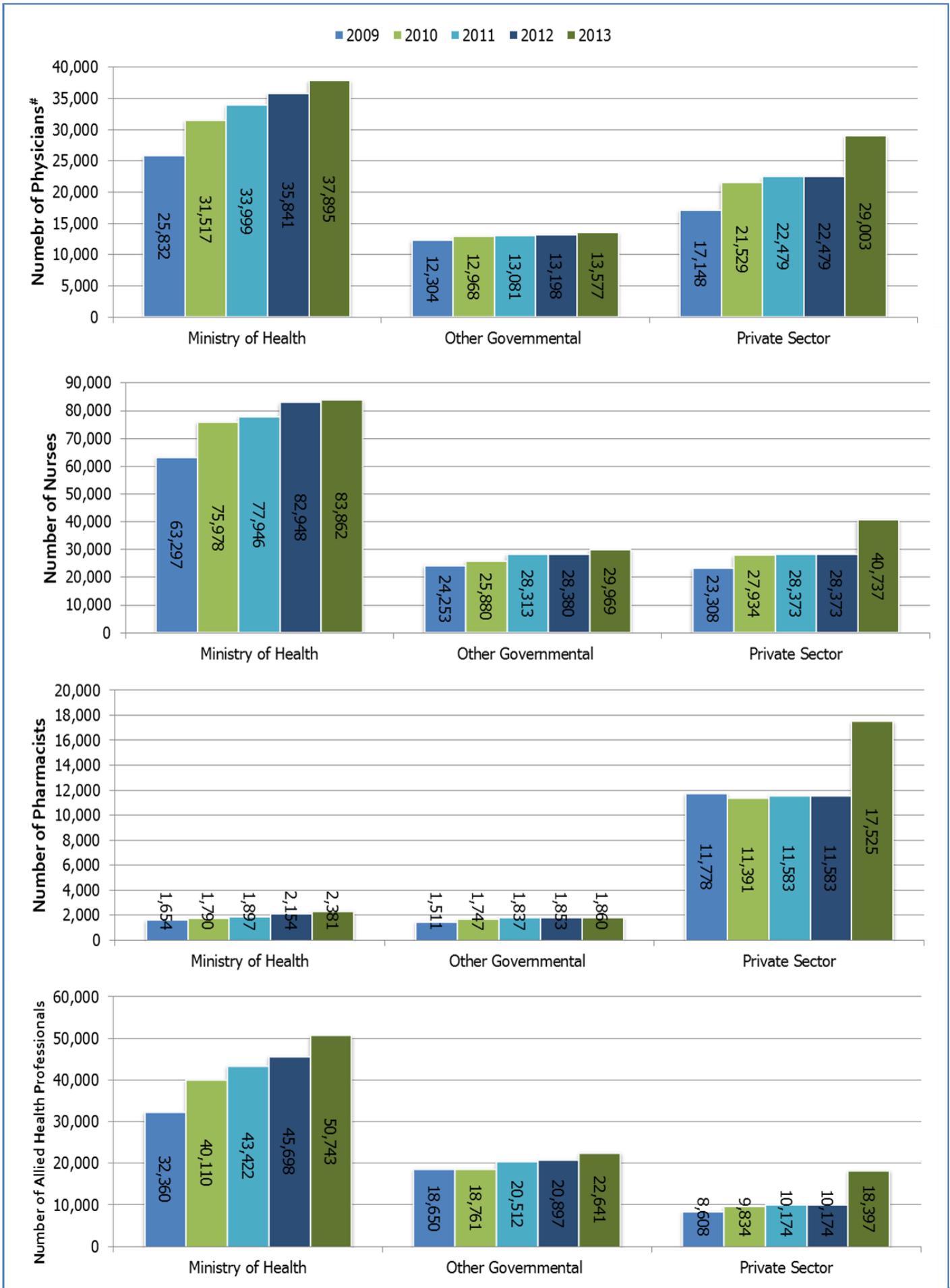


Figure 7.6: Number of physicians[#], nurses, pharmacists and allied health professionals in MOH, other governmental sectors and private sector, 2009-2013

[#] Physicians include dentists

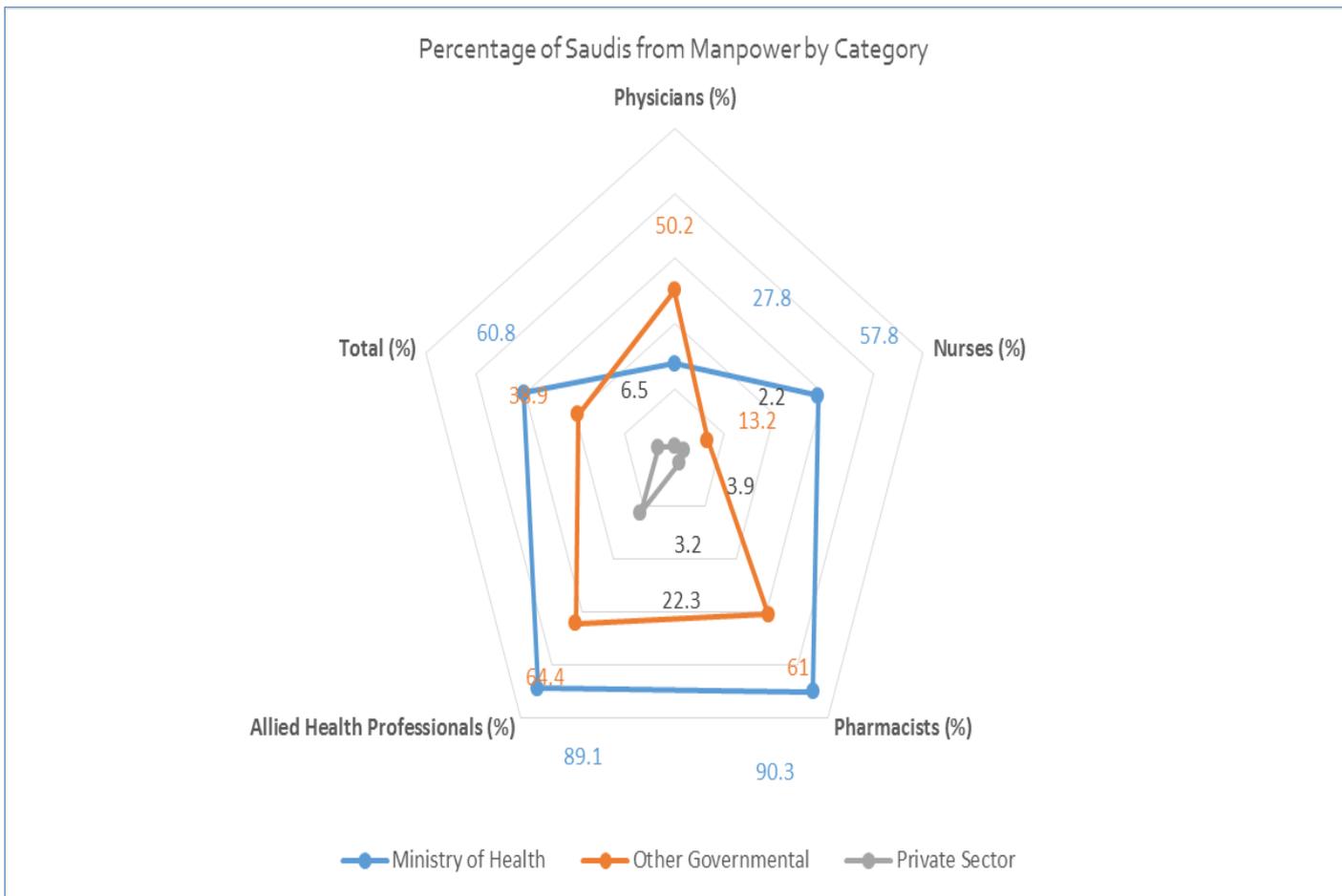


Figure 7.7: Percentage Saudis from manpower by category, KSA, 2013

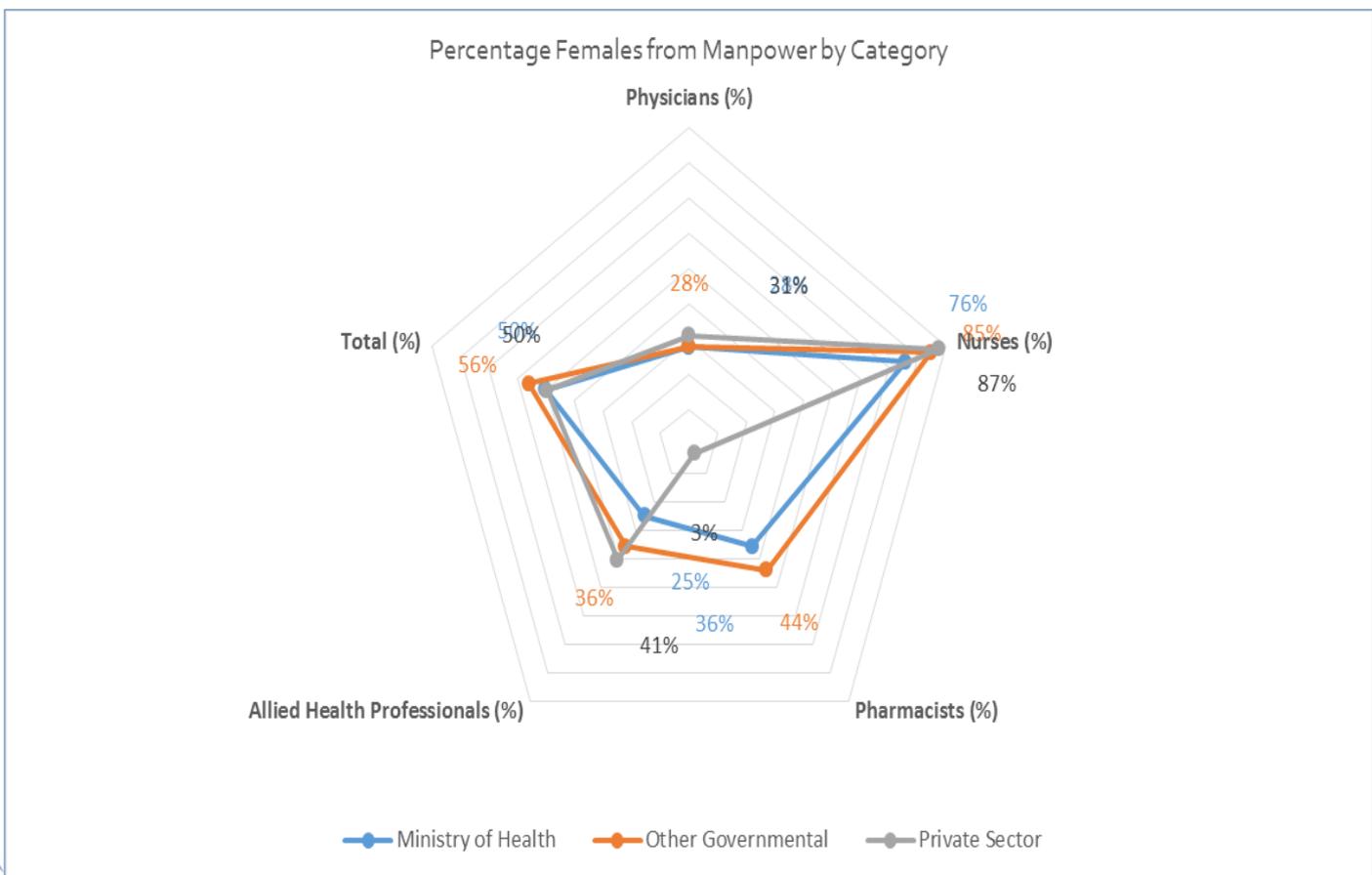


Figure 7.8: Percentage females from manpower by category, KSA, 2013

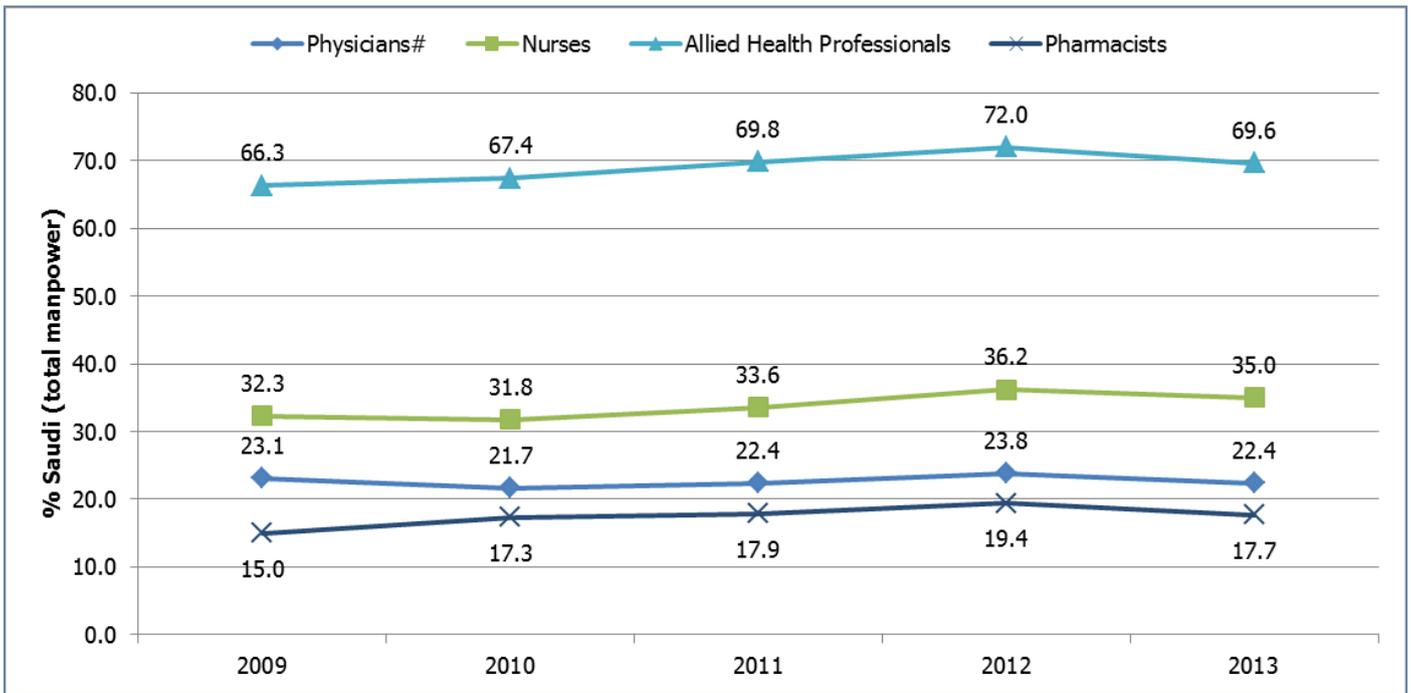


Figure 7.9: Proportion of Saudis among total number of physicians #, nurses, pharmacists and allied health professionals in the Kingdom, 2009-2013
#Includes dentists

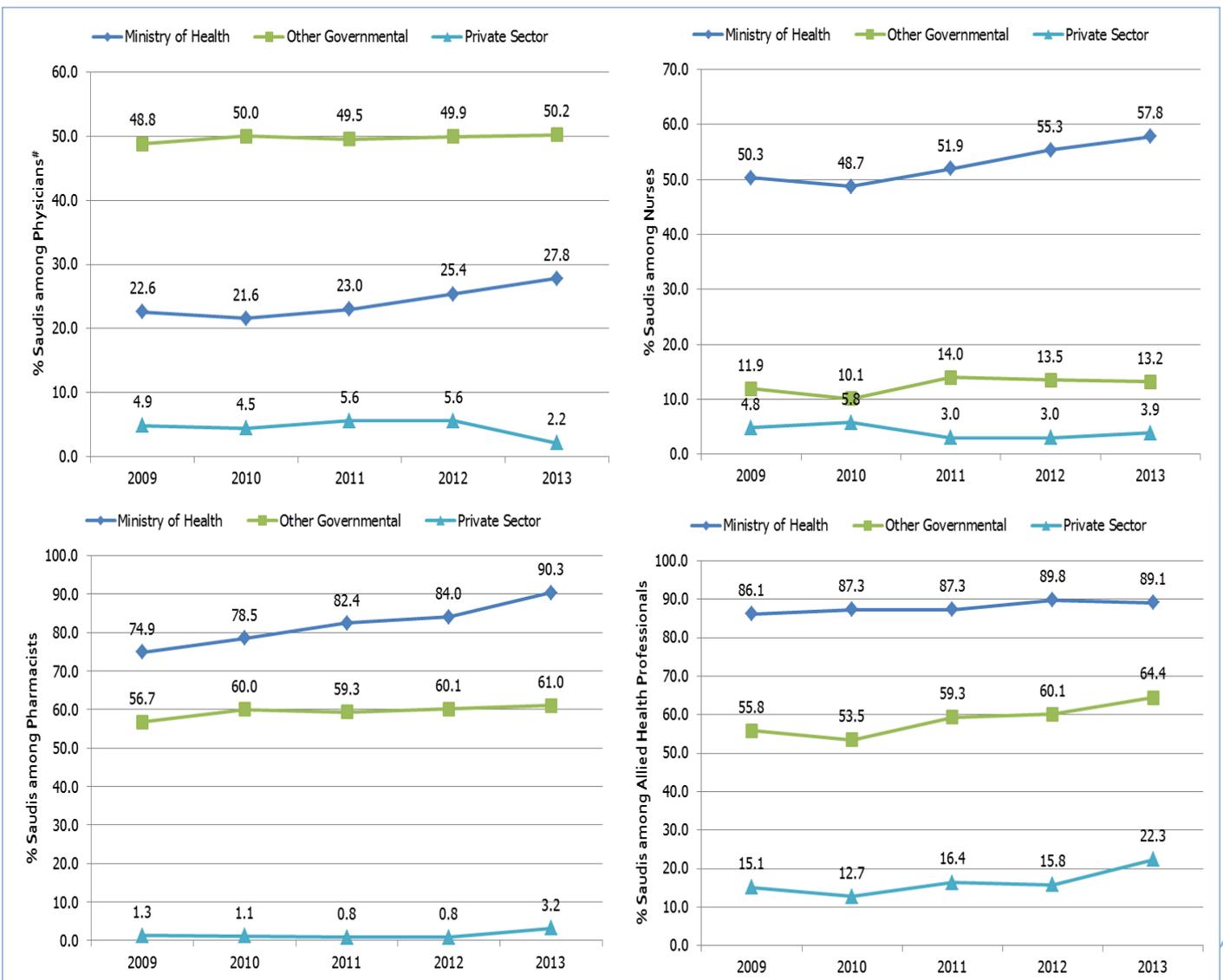


Figure 7.10: Proportion of Saudis among categories on manpower in various health sectors, KSA, 2009-2013
Includes dentists

Table 7.1: Manpower in the Private Sector Institutions by category, gender and nationality, 2013

Category	Hospitals			Dispensaries			Private Clinics			Laboratories			Physiotherapy Centers		
	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians*															
Male	107	7430	7537	273	11756	12029	6	156	162	2	42	44	0	5	5
Female	66	2437	2503	161	6214	6375	4	27	31	1	35	36	0	1	1
Total	173	9867	10040	434	17970	18404	10	183	193	3	77	80	0	6	6
Nurses															
Male	516	2672	3188	377	1385	1762	12	9	21	0	0	0	0	1	1
Female	370	17355	17725	256	17230	17486	8	160	168	3	2	5	0	2	2
Total	886	20027	20913	633	18615	19248	20	169	189	3	2	5	0	3	3
Pharmacists															
Male	46	632	678	2	39	41	0	0	0	0	0	0	0	0	0
Female	80	418	498	5	9	14	0	0	0	0	0	0	0	0	0
Total	126	1050	1176	7	48	55	0	0	0	0	0	0	0	0	0
Allied Health Professionals															
Male	1154	1997	3151	571	3062	3633	0	12	12	100	209	309	18	156	174
Female	837	2308	3145	452	3400	3852	6	16	22	67	93	160	27	76	103
Total	1991	4305	6296	1023	6462	7485	6	28	34	167	302	469	45	232	277

*Include dentists

Table 7.1 (continued): Manpower in the Private Sector Institutions by category, gender and nationality, 2013

Category	Opticals			Dental Prosthesis			Pharmacies			Other Institutions			Total		
	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Physicians*	Male	0	36	0	15	15	0	0	0	4	182	186	392	19622	20014
	Female	0	0	0	4	4	0	0	0	1	38	39	233	8756	8989
	Total	0	36	0	19	19	0	0	0	5	220	225	625	28378	29003
Nurses	Male	0	0	2	2	4	0	0	0	23	206	229	930	4275	5205
	Female	0	0	1	5	6	0	0	0	3	137	140	641	34891	35532
	Total	0	0	3	7	10	0	0	0	26	343	369	1571	39166	40737
Pharmacists	Male	0	0	0	0	0	146	12663	12809	288	3160	3448	482	16494	16976
	Female	0	0	0	0	0	1	26	27	0	10	10	86	463	549
	Total	0	0	0	0	0	147	12689	12836	288	3170	3458	568	16957	17525
Allied Health Professionals	Male	210	2545	2755	64	92	156	49	305	280	159	439	2653	8281	10934
	Female	2	33	35	1	6	7	2	3	50	86	136	1443	6020	7463
	Total	212	2578	2790	65	98	163	51	308	330	245	575	4096	14301	18397

*Include dentists

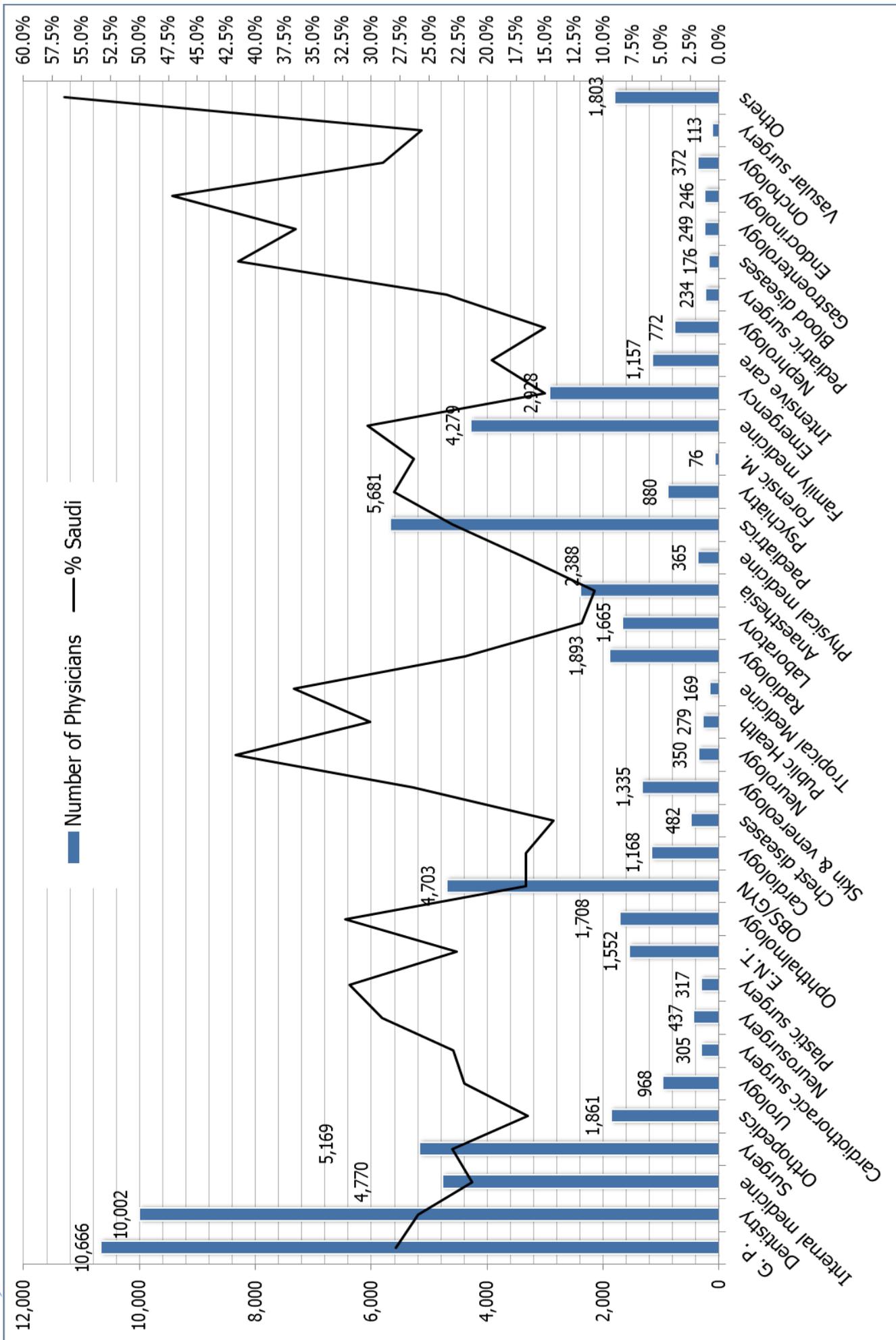


Figure 7.11: Total physicians in all health centers by specialty (showing % of Saudis), 2013

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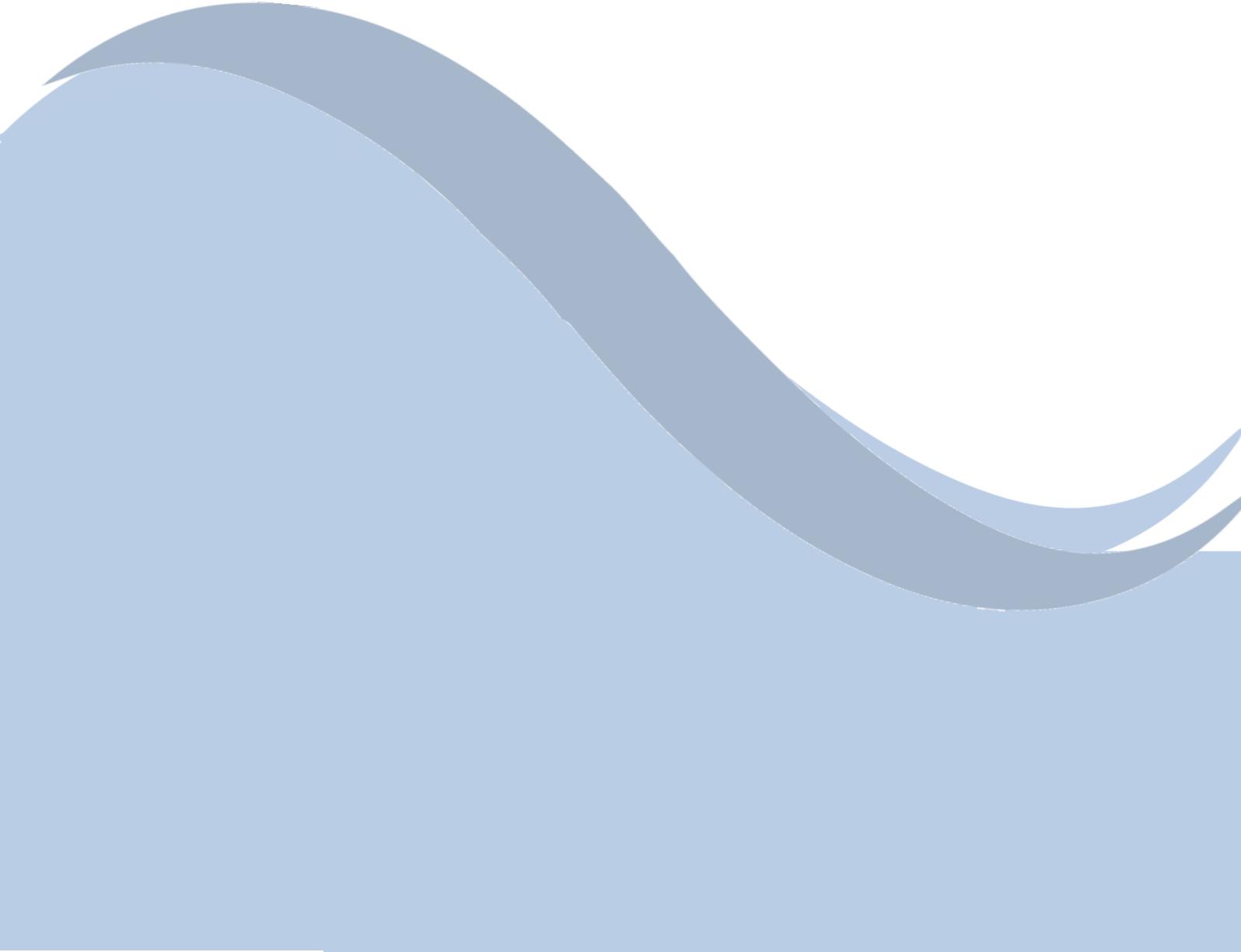
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SECTION II.

HEALTH RESOURCES



Chapter 8: Medical Education



8. MEDICAL EDUCATION



Under the umbrella of the general governmental policy, the Ministry of Health aims at enhancing the skills and expertise of the human resources. There is a plan to update the scientific skills of the national personnel and to encourage them to specialize in the different health and medical fields. The health institutes are being invested in and some of them have been changed to colleges of health science. The intermediate health institutes were constructed to give a chance to the graduates of the general secondary schools and the secondary health institutes to get a distinguished level of education. There is a continuous updating of the curriculum, training methods, as well as field and practical work. Moreover, the MOH has laid the foundation and basic guidelines for local and overseas training.

Figure 8.1 represents the distribution of students of medicine and other health majors in various universities, by gender and nationality. They were distributed as follows: medicine (16,230), dentistry (4,152), pharmacy (7,394), applied sciences (20,292) and nursing (4,815). The female students represented 50.0% of all students. In terms of nationality, 98% of students were of Saudi nationality.

Figure 8.2 represents the distribution of graduates of medicine and other health majors in various universities, by gender and by nationality. In 2013, they were distributed as follows: medicine (2,123), dentistry (382), pharmacy (666), applied health sciences (2,682), and nursing (629). The female graduates represented 50.0% of all graduates. Around 97% of graduate were Saudi nationals.

Figure 8.3 displays the trends of graduates of medicine and other health majors in the Kingdom by gender and nationality.

KEY ACHIEVEMENTS ...

During the time period of 2009-2013, the total number of graduates of medicine and other health majors increased several folds.

Table 8.1: Students of medicine and health majors in various universities for the academic year 2013/2014

College	Saudi			Non-Saudi			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Medicine, King Saud U., Riyadh	1041	664	1705	51	48	99	1092	712	1804
Medicine , King Abdul Aziz U., J.	1143	983	2126	63	53	116	1206	1036	2242
Medicine , Dammam U.	675	604	1279	5	9	14	680	613	1293
Medicine , King Khalied U. Abha	1009	524	1533	0	0	0	1009	524	1533
Medicine , Taibah U.	339	353	692	2	2	4	341	355	696
Medicine , Umm Al-qura U.	681	743	1424	21	18	39	702	761	1463
Medicine , I.M.U.M.U.	356	0	356	4	0	4	360	0	360
Medicine, King Faisal U. Al-Ahsa	469	440	909	0	2	2	469	442	911
Medicine , Qassem U.	409	228	637	3	1	4	412	229	641
Medicine , Jazan U.	376	396	772	0	0	0	376	396	772
Medicine , King Fahad Medical City	132	37	169	0	0	0	132	37	169
Medicine , King Saud bin Abdulaziz for	734	247	981	0	0	0	734	247	981
Medicine , Norah Bint Abdulrahman U.	0	108	108	0	0	0	0	108	108
Medicine Salman bin Abdulaziz U.	177	0	177	0	0	0	177	0	177
Medicine Taif U.	635	329	964	0	0	0	635	329	964
Medicine Tabouk U.	237	187	424	0	0	0	237	187	424
Medicine Hail U.	194	192	386	0	0	0	194	192	386
Medicine , Al-Bahah U.	161	0	161	0	0	0	161	0	161
Medicine , Najran U.	145	88	233	3	0	3	148	88	236
Medicine , Northern Border U.	207	264	471	0	2	2	207	266	473
Medicine , Majmaah U.	184	28	212	0	0	0	184	28	212
Medicine , Al jouf U.	223	0	223	1	0	1	224	0	224
Total	9,527	6,415	15,942	153	135	288	9,680	6,550	16,230

Table 8.1 (continued): Students of medicine and health majors in various universities for the academic year 2013/2014

College	Saudi			Non-Saudi			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Dentistry, King Saud U., R.	371	261	632	5	9	14	376	270	646
Dentistry, King Abdul Aziz U.J.	281	430	711	10	17	27	291	447	738
Dentistry, Dammam U.	160	33	193	0	0	0	160	33	193
Dentistry, Umm Al-qura U.	59	63	122	3	1	4	62	64	126
Dentistry, Taibah U.	133	114	247	1	1	2	134	115	249
Dentistry, King Khalied U. Abha	459	263	722	0	0	0	459	263	722
Dentistry, King Saud bin Abdulaziz for	102	0	102	0	0	0	102	0	102
Health Sciences National Guard	102	0	102	0	0	0	102	0	102
Dentistry, Norah Bint Abdulrahman U.	0	40	40	0	0	0	0	40	40
Dentistry, Salman bin Abdulaziz U.	148	0	148	0	0	0	148	0	148
Dentistry, Qassem U.	146	74	220	0	0	0	146	74	220
Dentistry, Taif U.	20	0	20	0	0	0	20	0	20
Dentistry, Jazan U.	246	242	488	0	0	0	246	242	488
Dentistry, Najran U.	113	0	113	0	0	0	113	0	113
Dentistry, Majmaah U.	89	0	89	0	0	0	89	0	89
Dentistry, Aljouf U.	116	0	116	0	0	0	116	0	116
Total	2,515	1,590	4,105	19	28	47	2,534	1,618	4,152
Pharmacy, King Saud U., R.	535	455	990	50	100	150	585	555	1140
Pharmacy, King Abdul Aziz U..J.	243	317	560	14	12	26	257	329	586
Pharmacy, King Faisal U. Al-Ahsa.	235	234	469	1	0	1	236	234	470
Pharmacy, Umm Al-qura U.	230	291	521	4	12	16	234	303	537
Pharmacy, Taibah U.	105	119	224	0	0	0	105	119	224
Pharmacy, King Khalied U. Abha	528	472	1000	1	0	1	529	472	1001
Pharmacy, King Saud bin Abdulaziz for	75	0	75	0	0	0	75	0	75
Health Sciences National Guard	75	0	75	0	0	0	75	0	75
Pharmacy, Salman bin Abdulaziz U.	247	49	296	0	0	0	247	49	296
Pharmacy, Norah Bint Abdulrahman U.	0	401	401	0	13	13	0	414	414

Table 8.1 (continued): Students of medicine and health majors in various universities for the academic year 2013/2014

College	Saudi			Non-Saudi			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Pharmacy, Qassem U.	349	167	516	1	1	2	350	168	518
Pharmacy, Hail U.	21	36	57	0	0	0	21	36	57
Pharmacy, Jazan U.	346	350	696	0	0	0	346	350	696
Pharmacy, Taif U.	351	144	495	0	0	0	351	144	495
Pharmacy, Al-Bahah U.	82	0	82	0	0	0	82	0	82
Pharmacy, Najran U.	164	0	164	0	0	0	164	0	164
Pharmacy, Shaqra U.	70	0	70	0	0	0	70	0	70
Pharmacy, Northern Border U.	157	176	333	0	0	0	157	176	333
Pharmacy, Aljouf U.	177	58	235	1	0	1	178	58	236
Total	3,915	3,269	7,184	72	138	210	3,987	3,407	7,394
Applied Science, King Saud U., R.	1110	1160	2270	47	107	154	1157	1267	2424
Applied Science, Abdul Aziz U..J.	179	728	907	6	38	44	185	766	951
Applied Science, Umm Al-Qura U.	324	472	796	4	10	14	328	482	810
Applied Science, Taibah U.	216	415	631	0	2	2	216	417	633
Applied Science, King Khalid U. Abha	1117	1530	2647	0	1	1	1117	1531	2648
Applied, King Saud bin Abdulaziz for	106	0	106	0	0	0	106	0	106
Health Sciences National Guard	106	0	106	0	0	0	106	0	106
Applied Science, King Faisal U. Al-Ahsa	42	146	188	0	0	0	42	146	188
Applied Science, Salman bin Abdulaziz U.	317	742	1059	0	0	0	317	742	1059
Applied Science, Qassem U.	387	106	493	1	0	1	388	106	494
Applied Science, Jazan U.	1162	1339	2501	0	0	0	1162	1339	2501
Applied Science, Taif U.	592	413	1005	0	0	0	592	413	1005
Applied Science, Tabouk U.	316	389	705	3	5	8	319	394	713
Applied Science, Hail U.	452	212	664	0	0	0	452	212	664
Applied Science, Al-Bahah U.	487	326	813	0	0	0	487	326	813

Table 8.1 (continued): Students of medicine and health majors in various universities for the academic year 2013/2014

College	Saudi			Non-Saudi			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Applied Science, Najran U.	428	101	529	0	1	1	428	102	530
Applied Science, Shaqra U.	554	543	1097	0	3	3	554	546	1100
Applied Science, Majmaah U.	882	320	1202	0	0	0	882	320	1202
Applied Science, Northern Border U.	218	262	480	0	0	0	218	262	480
Applied Science, Al jouf U.	286	819	1105	0	1	1	286	820	1106
Total	9,500	10,561	20,061	61	170	231	9,561	10,731	20,292
Nurse, King Saud U., R.	240	309	549	17	12	29	257	321	578
Nurse , Dammam U.	24	421	445	0	0	0	24	421	445
Nurse , Umm Al-Qura U.	0	109	109	0	1	1	0	110	110
Nurse , Taibah U.	69	336	405	0	11	11	69	347	416
Nurse , King Khalied U. Abha	42	330	372	0	0	0	42	330	372
Nurse , King Saud bin Abdulaziz for Health Sciences National	0	928	928	0	0	0	0	928	928
Nurse , Norah Bint Abdulrahman U.	0	287	287	0	4	4	0	291	291
Nurse , Qassem U.	0	75	75	0	0	0	0	75	75
Nurse , Hail U.	149	229	378	0	0	0	149	229	378
Nurse, Northern Border U.	0	181	181	0	0	0	0	181	181
Nurse , Jazan U.	119	711	830	0	0	0	119	711	830
Nurse , Najran U.	0	211	211	0	0	0	0	211	211
Total	643	4127	4770	17	28	45	660	4155	4815
Physiotherapy Norah Bint Abdulrahman U.	0	613	613	0	9	9	0	622	622
Total	0	613	613	0	9	9	0	622	622
College of Public Health & Health Information in the Univ of King Saud bin Abdulaziz for Health Sciences National Guard	76	0	76	0	0	9	76	0	85
College of Public Health & Health Information in the Hail Univ	219	83	302	0	0	0	219	83	302
Total	295	83	378	0	0	9	295	83	387
Grand Total	26,395	26,658	53,053	322	508	839	26,717	27,166	53,892

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Table 8.2: Graduates of medicine and health majors in various universities for the academic year 2012/2013

College	Saudi			Non-Saudi			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Medicine, King Saud U., Riyadh	258	150	408	13	10	23	271	160	431
Medicine, King Abdul Aziz U., J.*	202	200	402	14	17	31	216	217	433
Medicine, Dammam U.	107	134	241	2	2	4	109	136	245
Medicine, King Khalied U. Abha	143	55	198	0	0	0	143	55	198
Medicine, Taibah U.	53	63	116	0	2	2	53	65	118
Medicine, King Faisal U. Al-Ahsa.	87	64	151	0	0	0	87	64	151
Medicine, Umm Al-qura U.*	68	80	148	1	0	1	69	80	149
Medicine, Jazan U.*	28	0	28	0	0	0	28	0	28
Medicine, King Fahad Medical City	52	34	86	0	0	0	52	34	86
Medicine, King Saud bin Abdulaziz for Health Sciences Na-	86	34	120	0	0	0	86	34	120
Medicine Taif U.	62	0	62	0	0	0	62	0	62
Medicine, Qassem U.*	54	35	89	0	0	0	54	35	89
Medicine, Aljouf U.	13	0	13	0	0	0	13	0	13
Total	1213	849	2,062	30	31	61	1,243	880	2,123
Dentistry, King Saud U., R.	88	43	131	1	2	3	89	45	134
Dentistry, King Abdul Aziz U., J.*	55	63	118	2	3	5	57	66	123
Dentistry, Dammam U.	23	0	23	0	0	0	23	0	23
Dentistry, Taibah U.	14	0	14	0	0	0	14	0	14
Dentistry, King Khalied U. Abha	64	0	64	0	0	0	64	0	64
Dentistry, Qassem U.*	24	0	24	0	0	0	24	0	24
Total	268	106	374	3	5	8	271	111	382

Table 8.2 (continued): Graduates of medicine and health majors in various universities for the academic year 2012/2013

College	Saudi			Non-Saudi			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Pharmacy,King Saud U.,R.	99	110	209	9	23	32	108	133	241
Pharmacy, King Abdul Aziz U..J.*	34	60	94	2	5	7	36	65	101
Pharmacy,Umm Al-Qura U.*	42	53	95	1	1	2	43	54	97
Pharmacy,Taibah U.	15	0	15	0	0	0	15	0	15
Pharmacy, King Khalied U.Abha	72	38	110	0	0	0	72	38	110
Pharmacy, King Faisal U.Al-Ahsa.	30	0	30	0	0	0	30	0	30
Pharmacy, Taif U.	52	0	52	0	0	0	52	0	52
Pharmacy, Qassem U.*	8	0	8	0	0	0	8	0	8
Pharmacy, Najran U.	12	0	12	0	0	0	12	0	12
Total	364	261	625	12	29	41	376	290	666
Applied Science,King Saud U.,R.	164	282	446	3	11	14	167	293	460
Applied Science,Abdul Aziz U..J.	39	55	94	37	4	41	76	59	135
Applied Science,Dammam U.	99	113	212	0	0	0	99	113	212
Applied Science,Umm Al-Qura U.	101	167	268	1	7	8	102	174	276
Applied Science,Taibah U.	27	48	75	0	1	1	27	49	76
Applied Science,King Khalied U.Abha	89	186	275	0	0	0	89	186	275
Applied , King Saud bin Abdulaziz for Health Sciences National Guard	35	0	35	0	0	0	35	0	35
Applied Science, Salman bin Abdulaziz U.	24	28	52	0	0	0	24	28	52
Applied Science, Taif U.	44	57	101	0	0	0	44	57	101
Applied Science, Jazan U.	77	110	187	0	2	2	77	112	189
Applied Science, Najran U.	107	7	114	0	0	0	107	7	114
Applied Science, Al-Bahah U.	89	68	157	0	0	0	89	68	157
Applied Science, Salman bin Abdulaziz U.	21	34	55	0	0	0	21	34	55
Applied Science, Hail U.	67	46	113	0	0	0	67	46	113
Applied Science,Qassem U.	23	13	36	0	0	0	23	13	36
Applied Science,Majmaah U.	71	30	101	0	0	0	71	30	101
Applied Science, Shaqra U.	24	57	81	0	0	0	24	57	81
Applied Science, Al jouf U.	74	58	132	0	0	0	74	58	132
Applied Science, Northern Border U.	30	52	82	0	0	0	30	52	82
Total	1,205	1,411	2,616	41	25	66	1,246	1,436	2,682

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Table 8.2 (continued): Graduates of medicine and health majors in various universities for the academic year 2012/2013

College	Saudi			Non-Saudi			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Nurse, King Saud U., R.	92	96	188	5	5	10	97	101	198
Nurse , Umm Al-Qura U.*	0	49	49	0	2	2	0	51	51
Nurse , Dammam U.	0	131	131	0	0	0	0	131	131
Nurse , King Saud bin Abdulaziz for Health Sciences National Guard	0	91	91	0	0	0	0	91	91
Nurse , King Khalid U. Abha	0	49	49	0	0	0	0	49	49
Nurse , Hail U.	27	28	55	0	0	0	27	28	55
Nurse , Jazan U.	0	37	37	0	0	0	0	37	37
Nurse , Najran U.	0	17	17	0	0	0	0	17	17
Total	119	498	617	5	7	12	124	505	629
G.Total	3,169	3,125	6,294	91	97	188	3,260	3,222	6,482

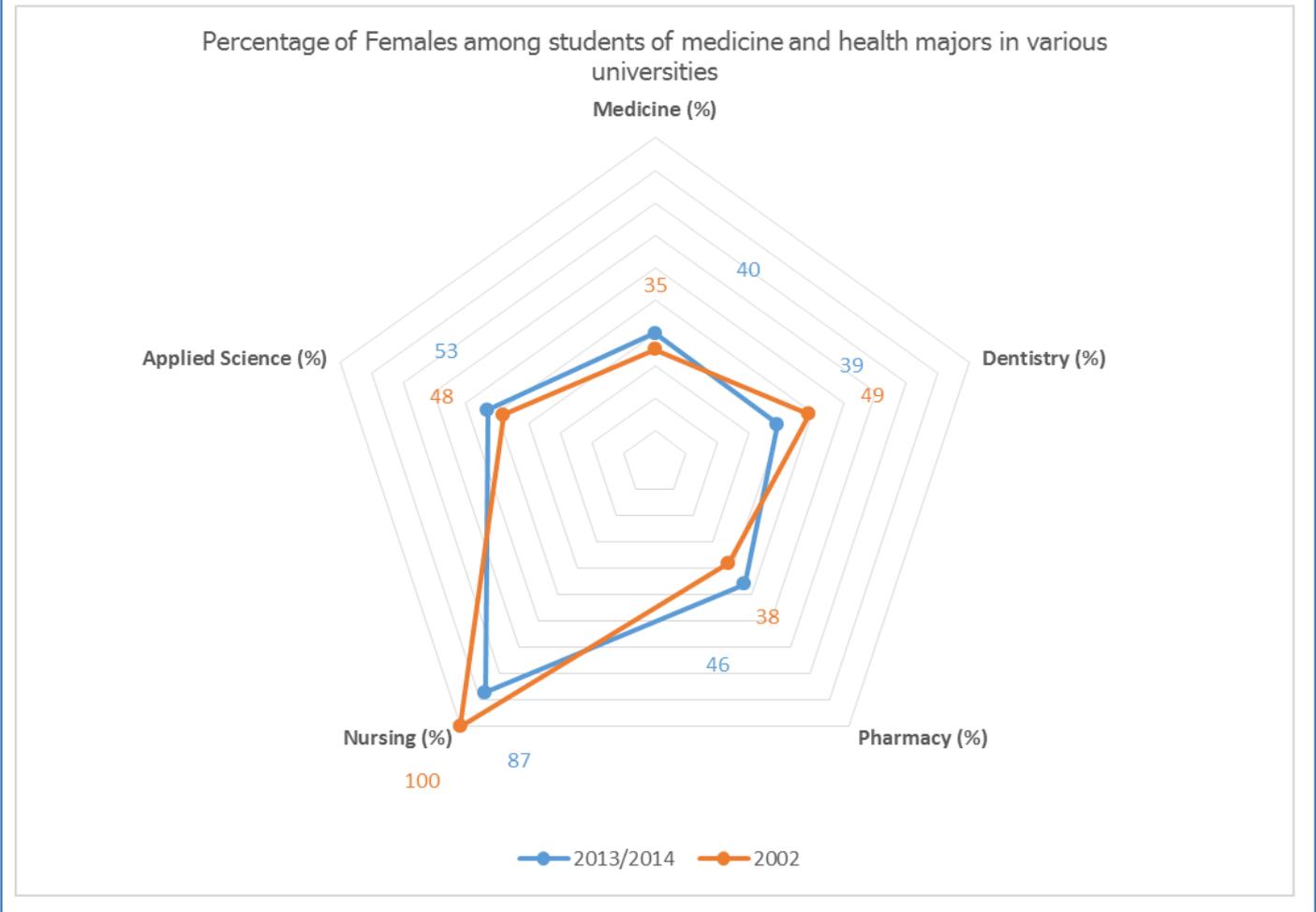
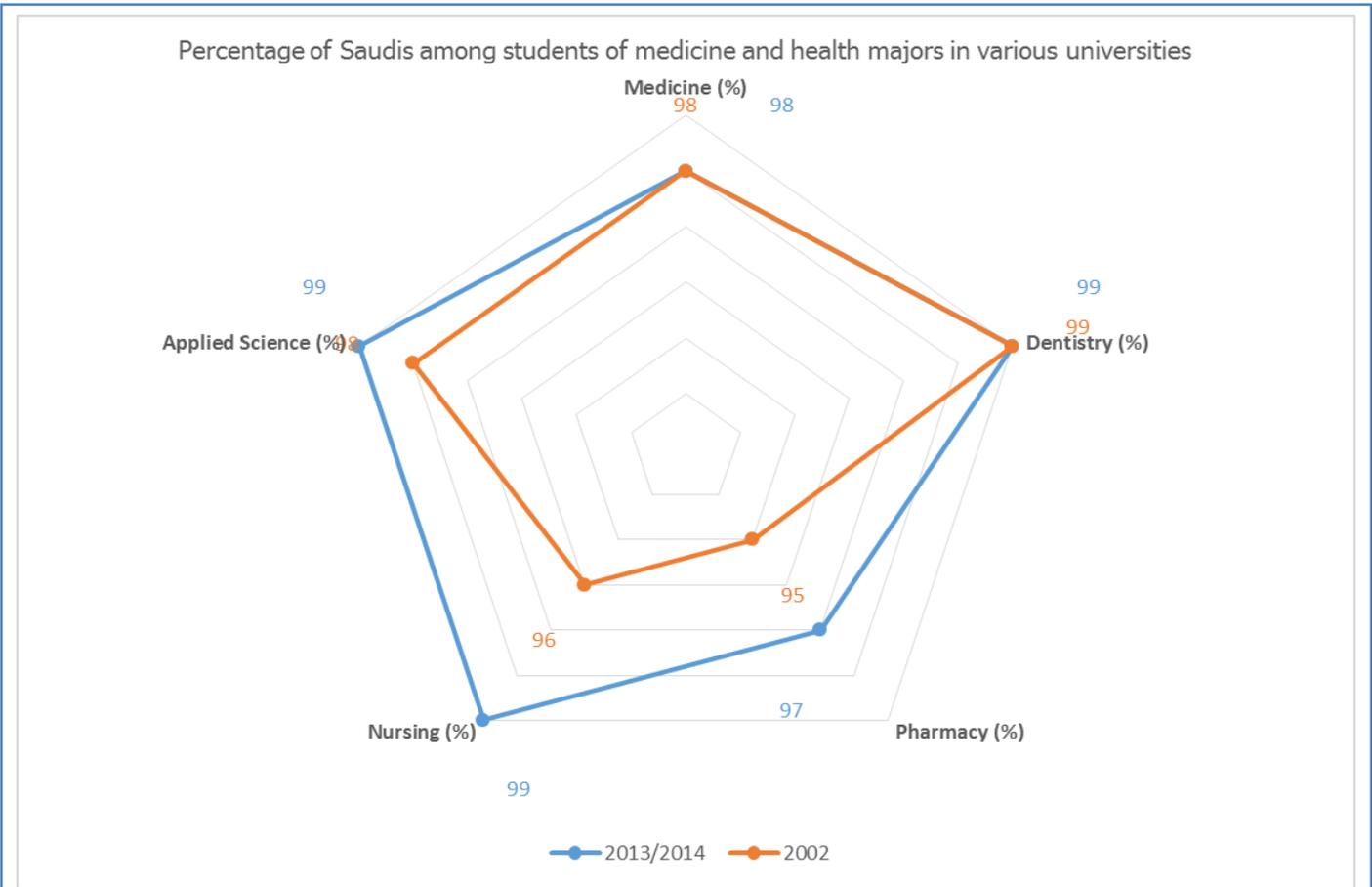
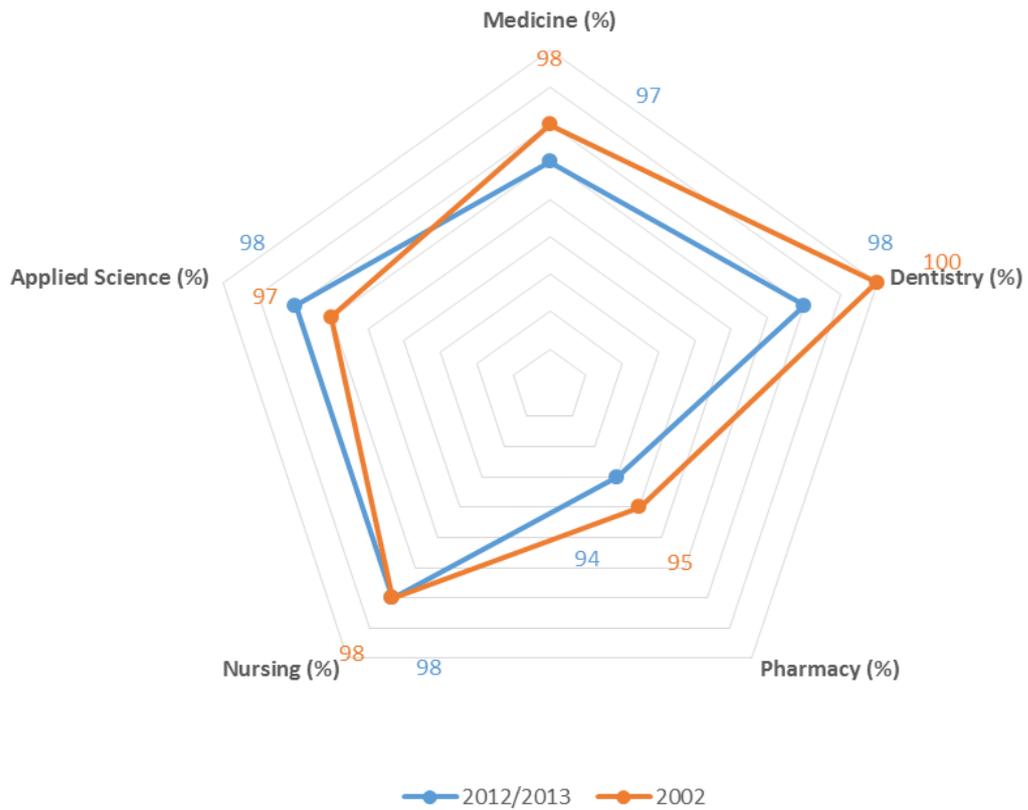


Figure 8.1: Students of medicine and health majors in various universities for the academic years 2002 and 2013/2014

Percentage of Saudis among graduates of medicine and health majors in various universities



Percentage of Females among graduates of medicine and health majors in various universities

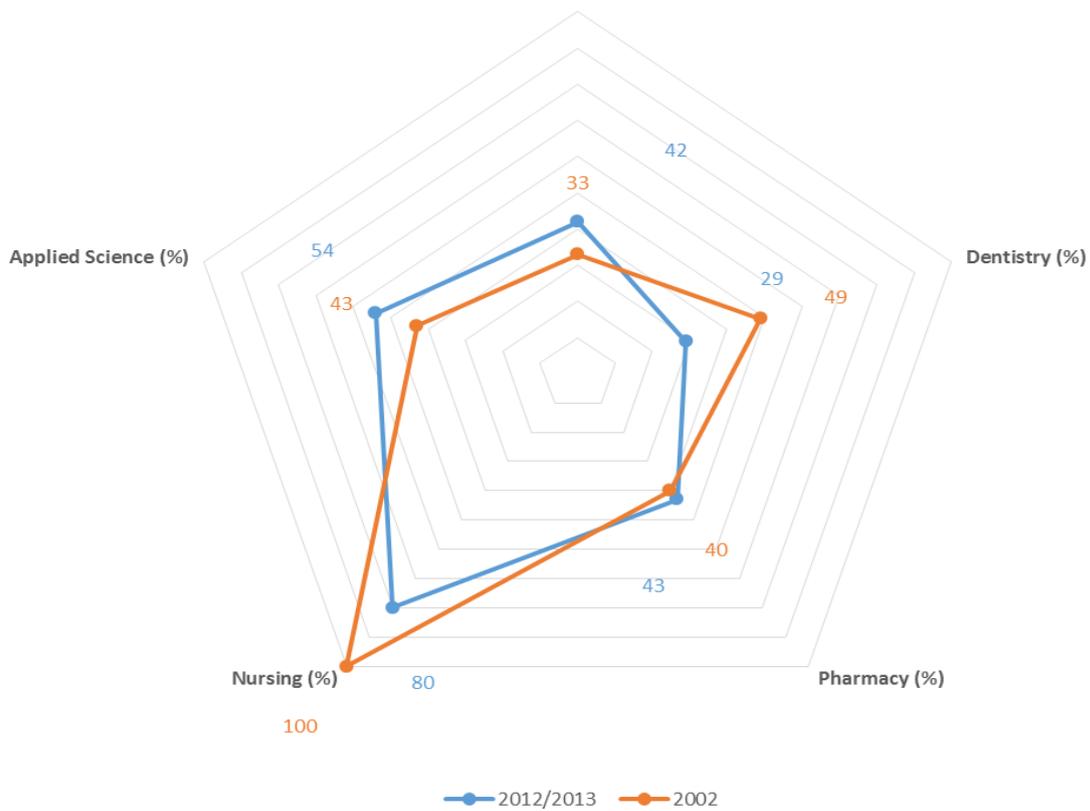


Figure 8.2: Graduates of medicine and health majors in various universities for the academic years 2002 and 2012/2013

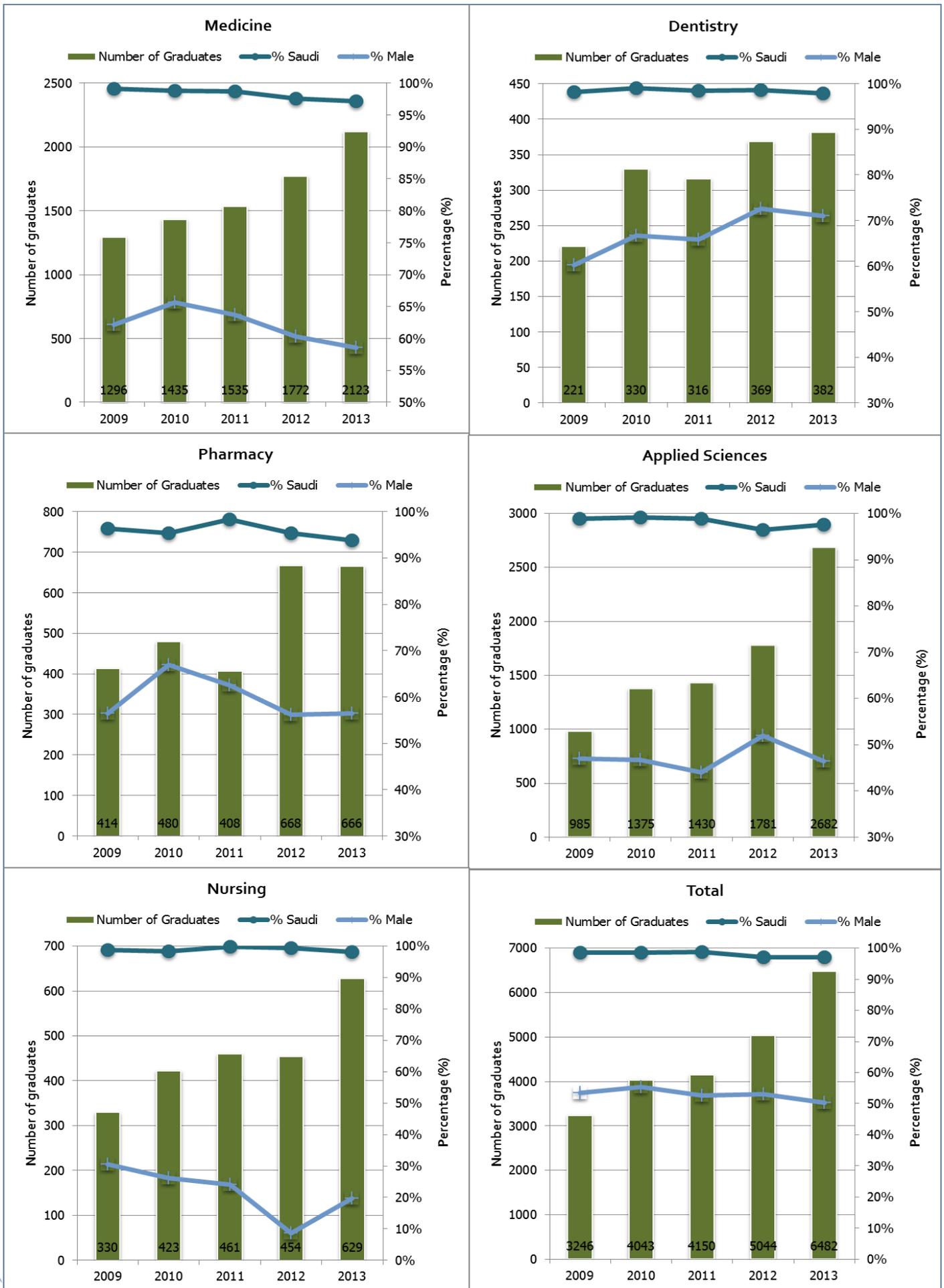


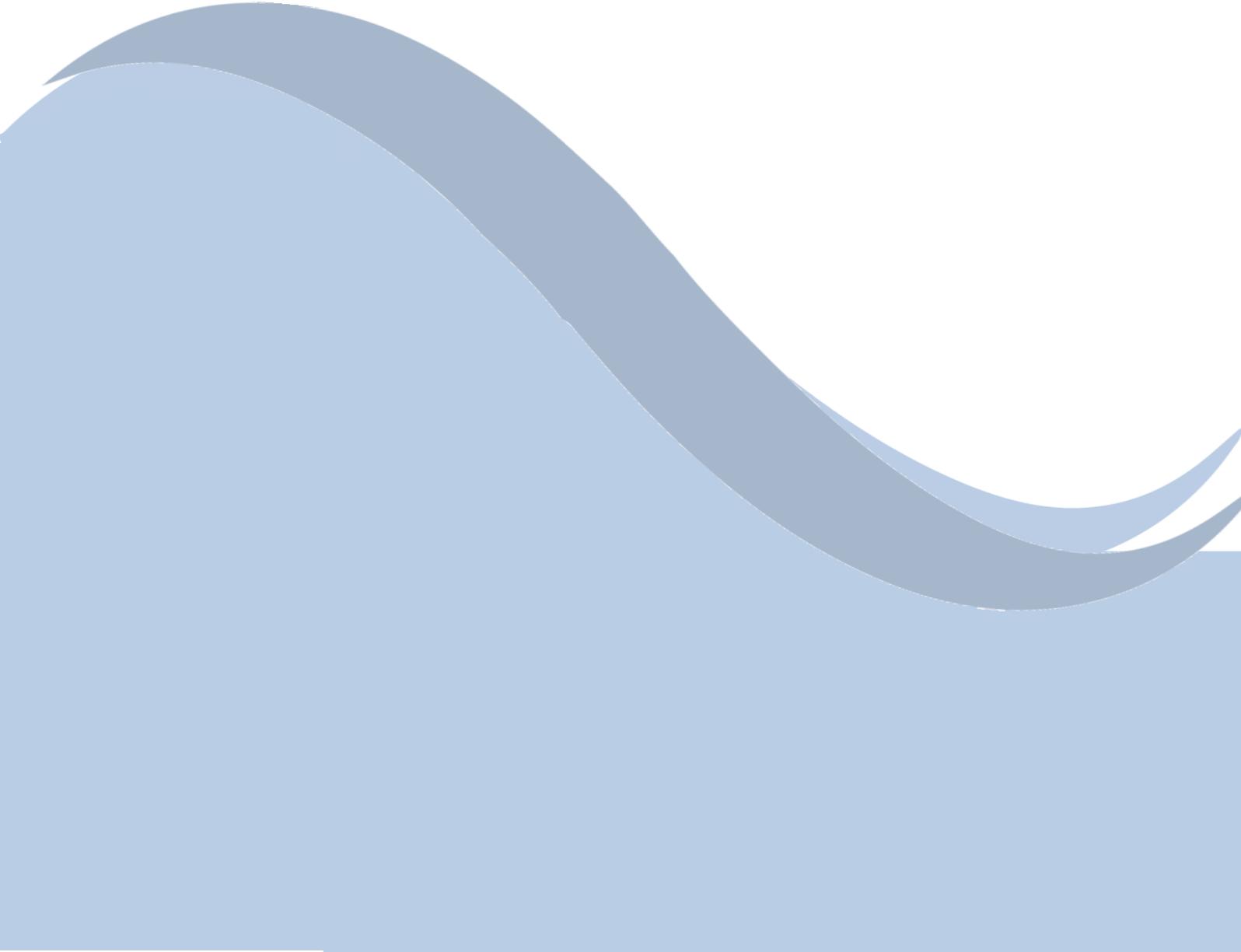
Figure 8.3: Trends of graduates of medicine and health majors in the Kingdom by gender and nationality, 2009-2013

SECTION II.

HEALTH RESOURCES



Chapter 9: Training



9. TRAINING

The Ministry of Health continues to provide opportunities for manpower working in different specialties in the health sector to receive training locally and even abroad. Its aim is to improve their levels of performance and enhance their competencies, as well as introduce them to the most up-to-date technical developments and the modern healthcare methods and systems. Additionally, the MOH strives to train graduates of the university colleges of medicine and health in the specialties deemed needed by the MOH.

Table 9.1 displays the distribution of manpower from the MOH in various fellowship programs and postgraduate studies, by specialty. Programs with the highest number of students included: Internal Medicine (84), Pediatrics (79), Family Medicine (69), Dentistry (50), General Surgery (43), and Radiology (31). As shown in Figure 9.1 as well, students studying locally in the Kingdom constituted around 75% of total number of students. The majority of enrolled students were males (70%).

Figure 9.2 displays three variables related to quality assurance workshops given at health centers: the number of training courses provided, the number of trainees, and the percentage of the targeted number of trainees that were actually trained. This data is shown by region of the Kingdom. Displayed in Figure 9.3 is the change in the number of trainees in maternal and child care at health centers by region over the time period of 2008-2012. The trend from 2008 to 2012 is summarized in Figure 9.4 for the Kingdom as a whole. Table 9.2 shows the number of trainees who have completed training courses in technical skills development centers during the year 2012. A total of 35,192 trainees attended to these centers in 2013. Table 9.3 displays the distribution of Central Board for Accreditation of Healthcare Institutions (CBAHI) accredited private hospitals across the Kingdom. Displayed in Table 9.4 is the distribution of CBAHI accredited MOH hospitals across the Kingdom.

TREND OVER TIME...

Between 2008 and 2012, the total number of trainees attending maternal & child care workshops at health centers of the Kingdom increased by 22.7% (2,525 to 3,099 trainees).

KEY ACHIEVEMENTS ...

In 2012, several regions of the Kingdom, including Medinah, Qaseem, Aseer, Jazan, and Al-Bahah, succeeded in achieving more than 60% of the targeted number of trainees in quality assurance workshops.

Table 9.1: Physicians from MOH Newly Enrolled in Fellowship Programs & High Studies by Specialty, 2013

Specialty	Locally		Abroad		Total
	Male	Female	Male	Female	
Internal Medicine	56	15	12	1	84
Pediatrics	46	29	3	1	79
Psychiatry	1	0	2	0	3
Dermatology & Venereology	2	1	11	2	16
Family medicine	44	25	0	0	69
Community medicine	4	6	0	0	10
Family & Community medicine	0	0	0	0	0
Public Health	0	0	13	3	16
Neurology	7	4	1	1	13
Pathology	1	0	0	1	2
Epidemiology	1	0	0	0	1
General surgery	28	2	12	1	43
OBS/GYN	6	6	0	0	12
Ophthalmology	1	1	6	0	8
ENT	5	0	9	3	17
Anesthesia	3	5	6	0	14
Radiology	9	8	12	2	31
Orthopedics	7	0	14	0	21
Urology	6	0	6	0	12
Emergency Medicine	2	1	1	0	4
Forensic Medicine	3	2	2	0	7
Anatomy	0	0	0	0	0
Medical Diploma	22	35	0	0	57
Plastic Surgery	0	1	4	1	6
Occupational Medicine	1	0	0	0	1
Rehabilitative Medicine	0	0	0	0	0
Dentistry	25	14	7	4	50
Other specialist fellowship	9	1	4	1	15
Total	289	156	125	21	591

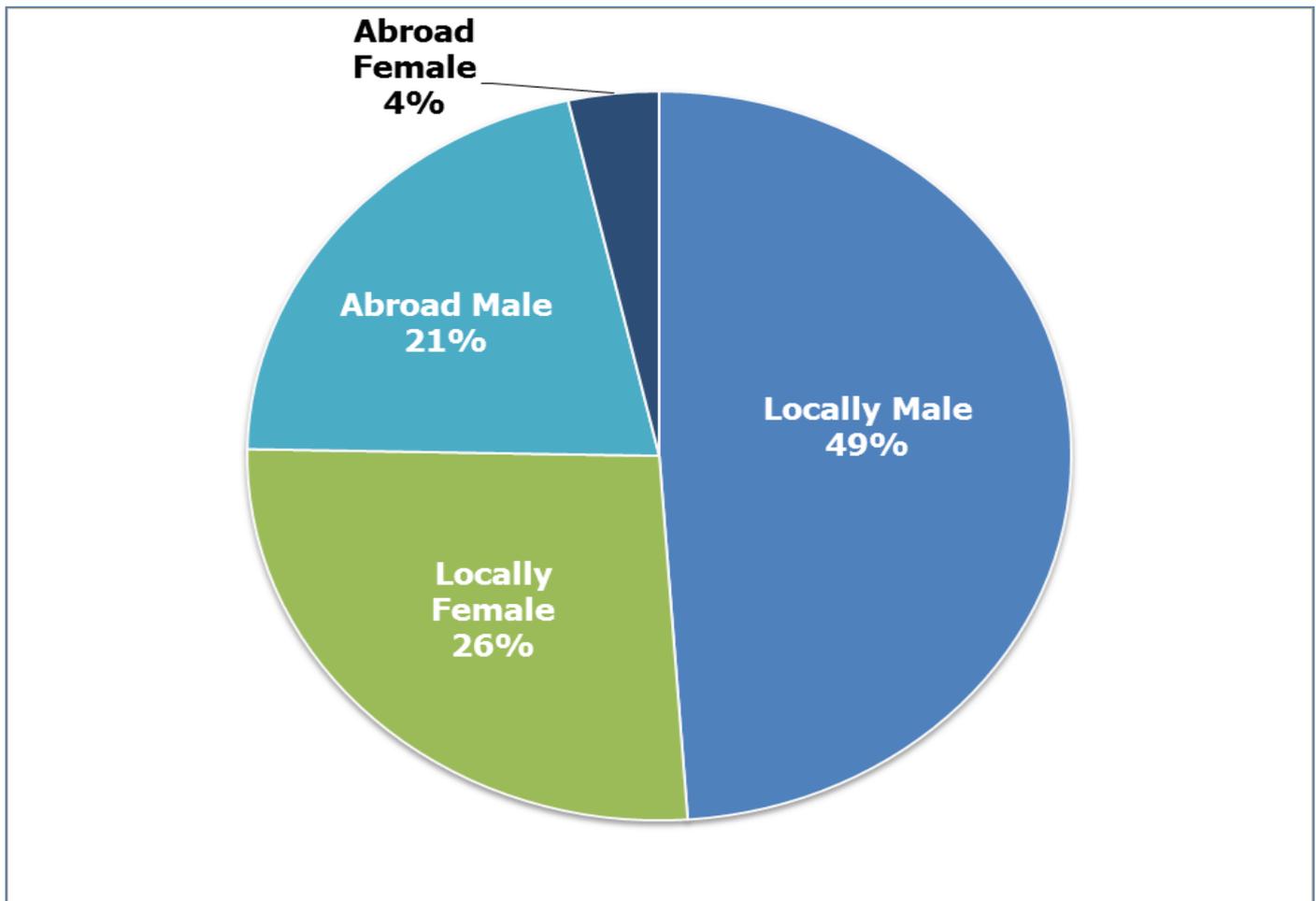


Figure 9.1: Total manpower from MOH enrolled in fellowship programs & post-graduate studies by gender and place of study, 2013

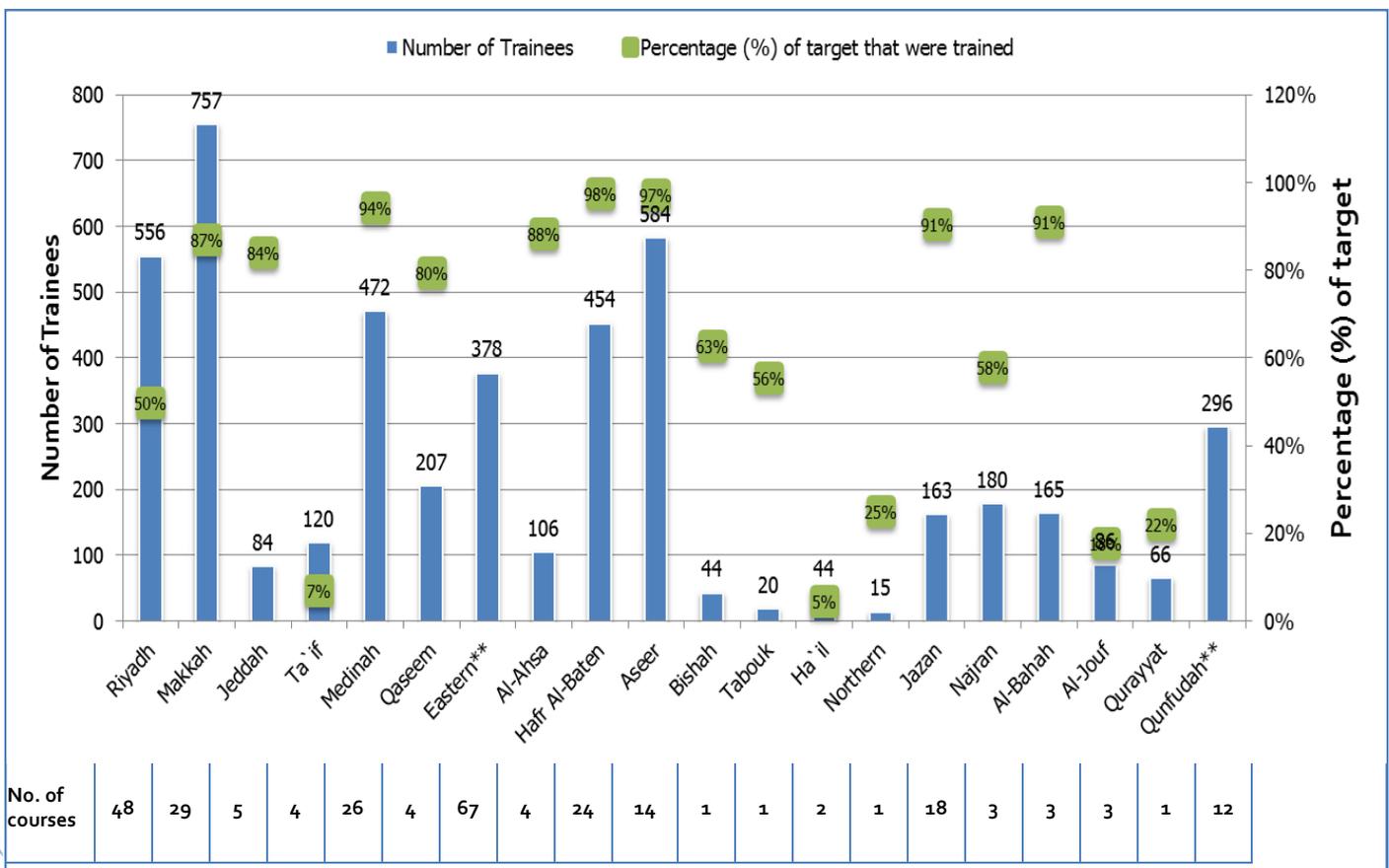


Figure 9.2: Quality assurance workshops at health centers by region, 2012*

*Data for 2012 because data for 2013 is not released yet

**Data was missing for the number of target trainees in workshops for Eastern and Qunfudah

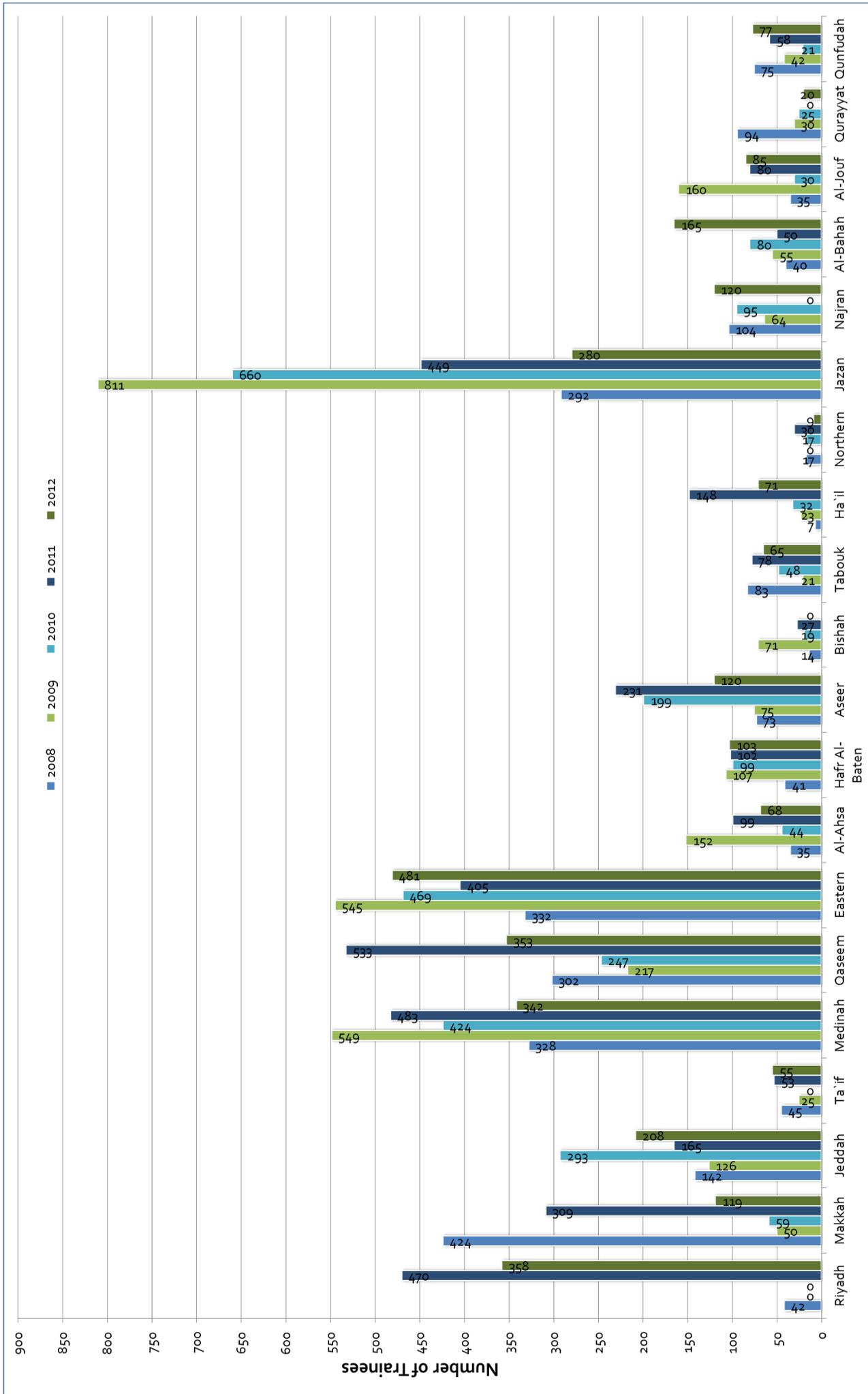


Figure 9-3: Trainees in maternal and child care workshops at health centers by region, 2008-2012**

** Data was missing for the number of trainees in Maternal and Child Care Workshops in Riyadh for year 2010 ; Data for the number of trainees in Maternal and Child Care Workshops was not available for year 2013

Table 9.2: Number of trainees in technical skills' development centers, 2013

Course	No. of Trainees
Pediatric Fundamentals of Critical Care Support (PFCCS)	25
Basic Cardiovascular Life Support (BCLS)	31,582
Advanced Cardiovascular Life Support (ACLS)	1,698
Advanced Trauma Life Support (ATLS)	144
Neonatal Resuscitation Program (NRP)	1,447
Pediatric Advanced Life Support (PALS)	250
Advanced Pediatric Life Support (APLS)	-
Fundamental Critical Care Support (FCCS)	12
Advanced Trauma Care for Nurses (ATCN)	-
TRIAGE	-
Critical Care Nursing (CCN)	-
Adult Mechanical Ventilation (AMV)	-
Pediatric Mechanical Ventilation (PMV)	-
Registered Respiratory Therapist (RRT)	-
Basic Life Support in Obstetrics (BLSO)	-
Advanced Life Support in Obstetrics (ALSO)	-
Fundamental Disaster Management (FDM)	19
Electrocardiography (ECG)	15
TOXIO	-
AIR WAY	-
Total	35,192

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Table 9.3: CBAHI Accredited Private Hospitals at the end of 2013

Region	Hospital Name	Date of Accreditation
Riyadh	1 King Fahad Medical City	2010
	2 Al-Yamama Hospital	2010
	3 Al-Eman General Hospital	2010
	4 Prince Salman Hospital	2010
	5 King Saud Medical City	2010
	6 King Khalid Hospital- Al Kharj	2012
	7 Al Aflaj General Hospital	2012
	8 Wadi Al Dawasir General Hospital	2012
	9 Al Dawadmi General Hospital	2012
	10 Al-Quayeeah General Hospital	2013
Makkah	11 Herra General Hospital	2010
	12 King Abdulaziz Hospital	2010
	13 Al-Noor Specialized Hospital	2013
Jeddah	14 King Abdulaziz Hospital & Oncology Center	2010
	15 King Fahad Hospital	2010
	16 Maternity & Children Hospital	2010
	17 Rabegh General Hospital	2012
Ta'if	18 Al-Thager General Hospital	2013
	19 King Abdulaziz Specialized Hospital	2010
Madinah	20 Maternity & Children Hospital	2011
	21 King Fahad Hospital	2011
	22 Ohoud General Hospital	2011
	23 Al Ansar General Hospital	2012
	24 Jubail General Hospital	2012
Qaseem	25 King Fahad Specialized Hospital	2010
	26 King Saud Hospital	2010
	27 Maternity & Children Hospital	2012
Eastern	28 Maternity & Children Hospital	2010
	29 Saud Al Babtain Cardiac Center	2010
	30 Jubail General Hospital	2011
	31 Qateef General Hospital	2011
	32 Dammam Medical Complex	2011
	33 Al Khafji General Hospital	2012
Al-Ahsa	34 King Fahad Hospital	2010
	35 Maternity & Children Hospital	2011
	36 Prince Saud Bin Jalawi Hospital	2012
Hafr Al Baten	37 King Khalid Hospital	2011
Aseer	38 Aseer Central Hospital	2010
	39 Khamis Mushayt General Hospital	2010
	40 Abha General Hospital	2012
	41 Billasmar General Hospital	2012
	42 Sarat Obaida General Hospital	2012
	43 Al Namas General Hospital	2012
Bishah	44 King Abdullah Hospital	2012
Tabouk	45 King Khalid Hospital	2011
Ha'il	46 King Khalid Hospital	2010
Northern	47 Arar Central Hospital	2012
	48 Prince Abdulaziz Bin MUSAAD Hospital	2012
Jazan	49 King Fahad Hospital	2010
Najran	50 King Khalid Hospital	2010
	51 Maternity & Children Hospital	2012
	52 Sharourah General Hospital	2012
Al-Baha	53 King Fahad Hospital	2010

Table 9.4: CBAHI Accredited MOH Hospitals at the end of 2013

Region	Hospital Name	Date of Accreditation
Riyadh	1 King Fahad Medical City	2010
	2 Al-Yamama Hospital	2010
	3 Al-Eman General Hospital	2010
	4 Prince Salman Hospital	2010
	5 King Saud Medical City	2010
	6 King Khalid Hospital- Al Kharj	2012
	7 Al Aflaj General Hospital	2012
	8 Wadi Al Dawasir General Hospital	2012
	9 Al Dawadmi General Hospital	2012
	10 Al-Quayeeah General Hospital	2013
Makkah	11 Herra General Hospital	2010
	12 King Abdulaziz Hospital	2010
	13 Al-Noor Specialized Hospital	2013
Jeddah	14 King Abdulaziz Hospital & Oncology Center	2010
	15 King Fahad Hospital	2010
	16 Maternity & Children Hospital	2010
	17 Rabegh General Hospital	2012
	18 Al-Thager General Hospital	2013
Ta'if	19 King Abdulaziz Specialized Hospital	2010
Madinah	20 Maternity & Children Hospital	2011
	21 King Fahad Hospital	2011
	22 Ohoud General Hospital	2011
	23 Al Ansar General Hospital	2012
	24 Jubail General Hospital	2012
Qaseem	25 King Fahad Specialized Hospital	2010
	26 King Saud Hospital	2010
	27 Maternity & Children Hospital	2012
Eastern	28 Maternity & Children Hospital	2010
	29 Saud Al Babtain Cardiac Center	2010
	30 Jubail General Hospital	2011
	31 Qateef General Hospital	2011
	32 Dammam Medical Complex	2011
	33 Al Khafji General Hospital	2012
Al-Ahsa	34 King Fahad Hospital	2010
	35 Maternity & Children Hospital	2011
	36 Prince Saud Bin Jalawi Hospital	2012
Hafr Al-Baten	37 King Khalid Hospital	2011
Aseer	38 Aseer Central Hospital	2010
	39 Khamis Mushayt General Hospital	2010
	40 Abha General Hospital	2012
	41 Billasmar General Hospital	2012
	42 Sarat Obaida General Hospital	2012
	43 Al Namas General Hospital	2012
Bishah	44 King Abdullah Hospital	2012
Tabuk	45 King Khalid Hospital	2011
Ha'il	46 King Khalid Hospital	2010
Northern	47 Arar Central Hospital	2012
	48 Prince Abdulaziz Bin MUSAAD Hospital	2012
Jazan	49 King Fahad Hospital	2010
Najran	50 King Khalid Hospital	2010
	51 Maternity & Children Hospital	2012
	52 Sharourah General Hospital	2012
Al-Baha	53 King Fahad Hospital	2010

SECTION III.

PUBLIC HEALTH AND PREVENTIVE MEDICINE



Chapter 10: Infectious diseases

Chapter 11: Chest disease

Chapter 12: Bilharziasis

Chapter 13: Leishmaniasis

Chapter 14: Malaria

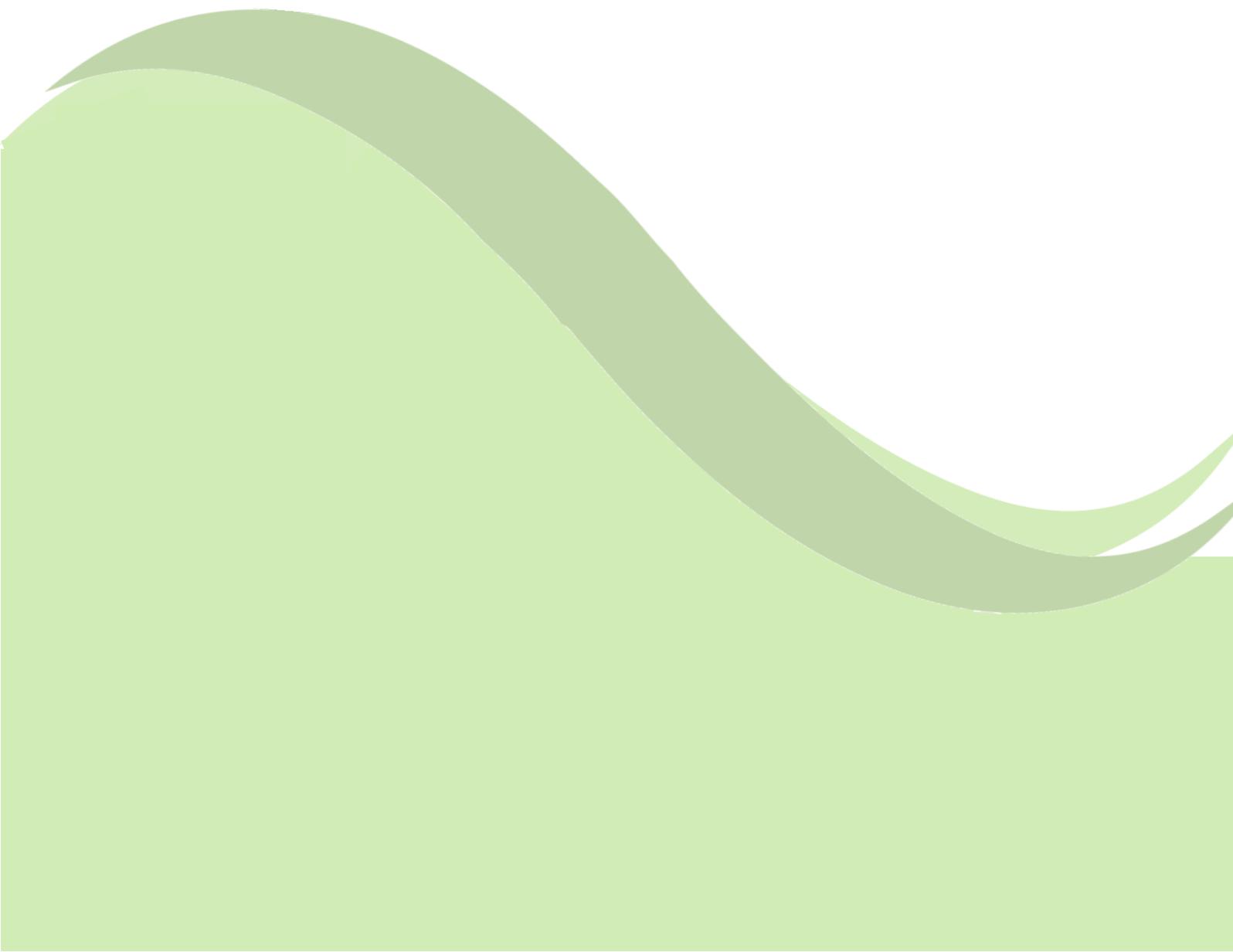
Chapter 15: Environmental health and health education activities

SECTION III.

PUBLIC HEALTH AND
PREVENTIVE MEDICINE



Chapter 10: Infectious diseases



10. INFECTIOUS DISEASES



Infectious diseases are caused by pathogenic microorganisms, such as bacteria, viruses, parasites and fungi. They can be spread, directly or indirectly, from one person to another. Additionally, zoonotic diseases are infectious diseases of animals that can cause disease when transmitted to humans.

The Ministry of Health in the Kingdom aims at eliminating infectious diseases through the continuous upgrade of the surveillance system, as well as the solid implementation of prevention and control programs. The continuous efforts during the previous years have resulted in the successful elimination of many infectious diseases. Moreover, the spread of epidemiological control units all over the Kingdom has helped control other infectious diseases; and this has been witnessed through reduced incidence rates.

The statistics of infectious diseases were processed according to the Gregorian calendar year of 2013 corresponding to the period from 19 Safar 1434 to 28 Safar 1435 Hijri.

HOW DOES KSA COMPARE?

The incidence rate of Measles in KSA for year 2013 is 0.84 per 100,000 population. This rate is considered very low in comparison to the EMR incidence rate of 5.9 per 100,000 population and the global rate of 5.1 per 100,000 population.

Source: World Health Statistics Report (2013), World Health Organization



A. Important Epidemiological Diseases

As shown in Table 10.1a, four cases of meningococcal meningitis have been discovered during the year 2013, representing an incidence rate of 0.01 per 100,000 population. One case was recorded in each of Jeddah and Eastern. The incidence of other types of cerebrospinal meningitis, including pneumococcal and hemophilus influenza, was 0.01 per 100,000 population.

The reporting of cases for all notifiable communicable diseases by province in the Kingdom (Table 10.1a) shows a geographical variation for 'Other Meningitis'. The highest percentage of 'Other Meningitis' cases is recorded in Riyadh (198 cases, 67.6% of all cases).

Figure 10.5a shows that the highest incidence rates of total meningitis in the year 2013 are present in Qaseem (3.66 cases per a 100,000 population) and Riyadh (2.63 cases per 100,000 population) .

KEY ACHIEVEMENTS ...

The expanded program of immunization (EPI) for vaccine-preventable diseases is undergoing continuous growth. As a result of the high immunization coverage (more than 90%) achieved during this decade, a reduction in the incidence of certain vaccination targeted diseases has been witnessed.

B. Vaccine-Preventable Diseases

The incidence rate recorded for the vaccine-preventable diseases for the year 2013 is as follows: Neonatal Tetanus (0.03 per 1,000 live births), Measles (0.84 per 100,000 population), Mumps (0.12 per 100,000 population), Rubella (0.22 per 100,000 population), Hepatitis B (14.20 per 100,000 population) and Chickenpox (36.43 per 100,000 population). No cases of Whooping Cough, Diphtheria or Poliomyelitis are recorded this year.

Seasonal variation, displayed in Figure 10.1b, is observed with Measles cases, as infections increased in the period between January and June. Additionally, a surge is observed in Chickenpox cases during spring (May-June) 2013.

The immunization coverage of the complete three doses of DPT (Diphtheria, Pertussis- Whooping Cough, and Tetanus), HBV₃ (Hepatitis B) and OPV (Oral Poliomyelitis Vaccine) is 97.7%, while the immunization coverage for MMR (Measles, Mumps and Rubella) is 97.9% in year 2013.

As shown in Figure 10.3b, the distribution of infectious diseases according to nationality shows that the incidence of the vaccine-preventable diseases is more or less the same among Saudis and non-Saudis except for a few diseases, including Chickenpox, Hepatitis B, Tetanus, and Diphtheria. The difference in Chickenpox rates may be due to the fact that most of the non-Saudis living in the Kingdom are adults.

The distribution of cases according to age groups (Figure 10.4b) demonstrates some characteristic features among vaccine-preventable diseases; more than half of the Chickenpox cases (50.6%) occurred among the age group 5-14 years. For Hepatitis B, 68.6% of cases occurred among the age group 15-44 years.

The geographical distribution of reported cases for all vaccine-preventable diseases is shown in Table 10.1b. Figure 10.5b provides insight on the incidence rates of Chickenpox and Hepatitis B for the year 2013 across the regions of the Kingdom.

C. Environment-acquired Diseases

The incidence rate for the environment-acquired diseases for the year 2013 is as follows: Cholera (0.01 per 100,000 population), Amoebic Dysentery (6.06 per 100,000 population), Typhoid and Paratyphoid (0.74 per 100,000 population), Shigellosis (0.11 per 100,000 population), Salmonellosis (3.48 per 100,000 population), and Hepatitis A (0.79 per 100,000 population).

Salmonellosis displays a geographical variation (Table 2.1c); the Eastern Province notifies the largest number of Salmonella cases (377 cases, 36.1%).

D. Zoonotic Diseases (Animal-acquired Diseases)

The incidence rate of Brucellosis (Malta Fever) is 10.88 per 100,000 population in year 2013, in comparison with 12.54 per 100,000 population in year 2012. Successful control of this disease is attributed to the engagement of the Ministry of Health in the Brucellosis Control Program, which is implemented by the Ministry of Agriculture and Water and the Ministry of Municipal and Rural Affairs through the committee of zoonotic diseases. The incidence rates for Dengue Fever and Khurma Fever for year 2013 are 21.71 and 0.20 per 100,000 population, respectively. No case of Rabies and Rift Valley Fever is notified this year. Dengue fever and Brucellosis (Malta Fever) both display seasonal variation (Figure 10.1d), with infections following an increase from April to July.

Brucellosis (Malta Fever) and Dengue Fever display variation in distribution by nationality (Figure 10.3d). The incidence rate of Brucellosis among Saudis is 14.64 per 100,000 population while it is 36.5 per 100,000 population among the Non-Saudis.

KEY ACHIEVEMENTS ...

The Kingdom is implementing a comprehensive program to eradicate Measles through immunizing the students in the intermediate and secondary school levels (above 14 years) by MMR. The incidence of the disease decreased due to implementation of the second stage of vaccination against Measles, Rubella and Mumps.

Dengue fever also exhibits geographical variation, as shown in Table 10.1d. Jeddah markedly contains the highest number of cases of Dengue fever (67.73% of cases). Age distribution, reported in Figure 10.4d, shows that for Brucellosis (Malta Fever), 60.96% of cases occur among the age group of 15-44 years, followed by the age group of above 45 years (23.59%). For Dengue Fever, a majority of cases (70.98%) are present among the age group of 15-44 years.

E. Quarantinable Diseases

No case of any of the quarantinable diseases (yellow fever and plague) are reported in year 2013.

F. Other Infectious Diseases

The incidence rates for Hepatitis C and unspecified Hepatitis diseases for year 2013 are 5.26 and 0.11 per 100,000 population, respectively. In terms of seasonal variation (Figure 10.1e), Hepatitis C infections show a peak during the winter (January—March) of year 2013.

TREND OVER TIME...

This incidence rate of meningococcal meningitis for year 2013 (0.01 per 100,000 population) is half the rate recorded during the previous year.

Between years 2012 and 2013, there has been a decrease in the incidence rate of environment-acquired diseases: Salmonellosis (from 3.91 to 3.48 per 100,000 population) and Hepatitis A (from 1.06 to 0.79 per 100,000 population).

The incidence rate of Brucellosis (Malta Fever) decreased from 12.53 per 100,000 population in year 2012 to 10.88 per 100,000 population in 2013 (representing a 13.2% decrease).

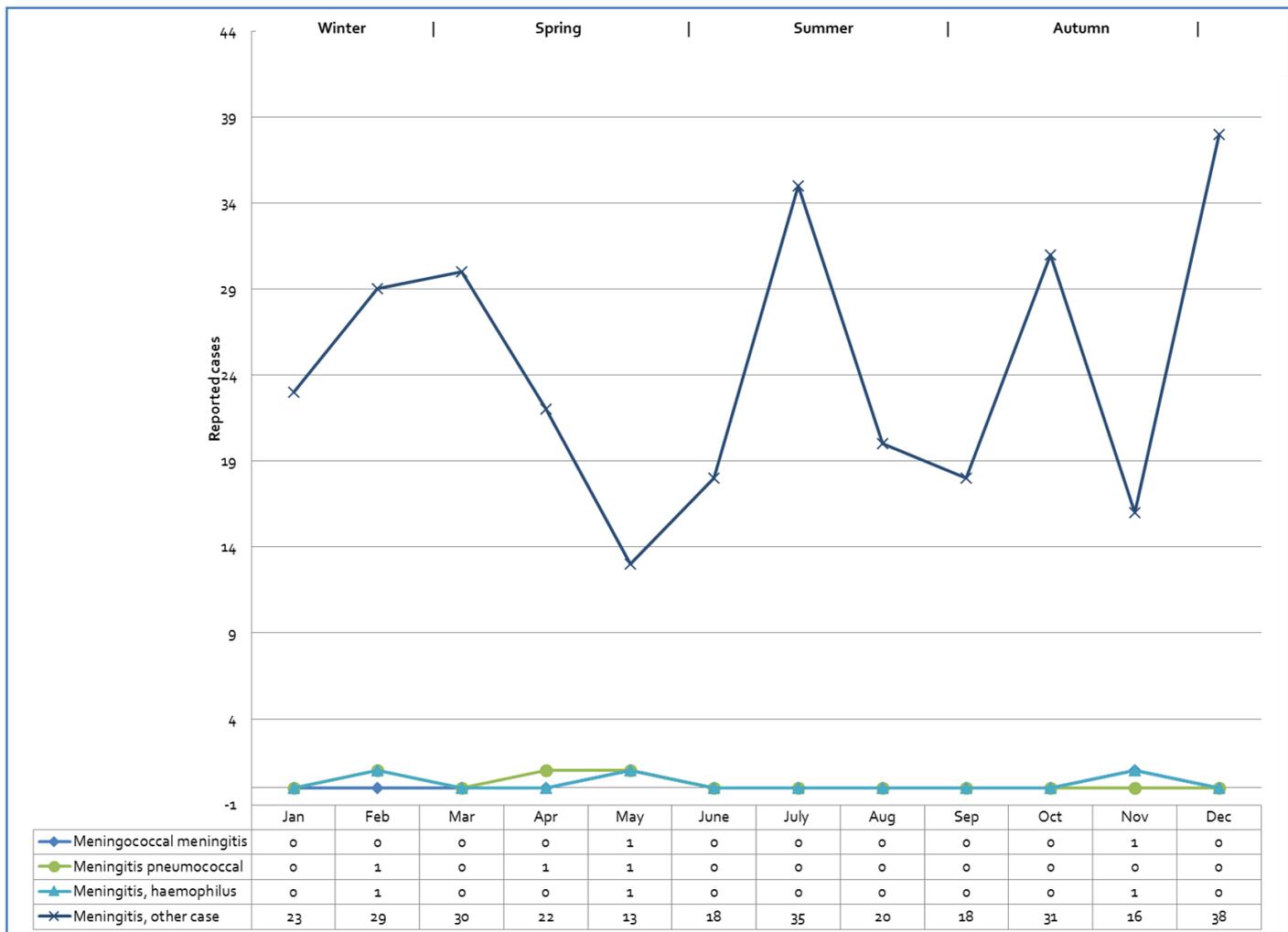


Figure 10.1a: Reported cases of meningitis by month and season, KSA, 2013

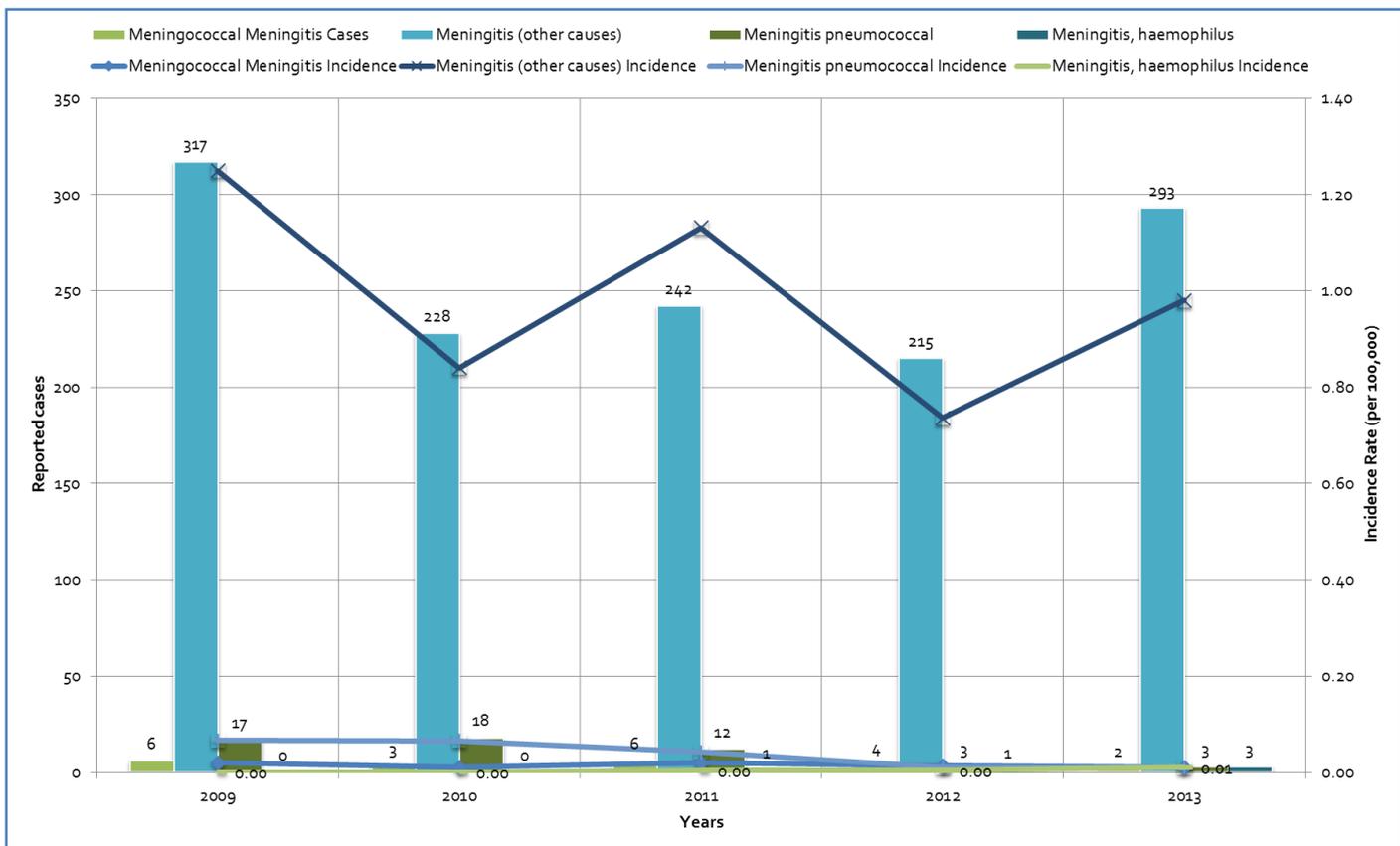


Figure 10.2a: Reported cases and incidence of meningitis, KSA, 2009—2013

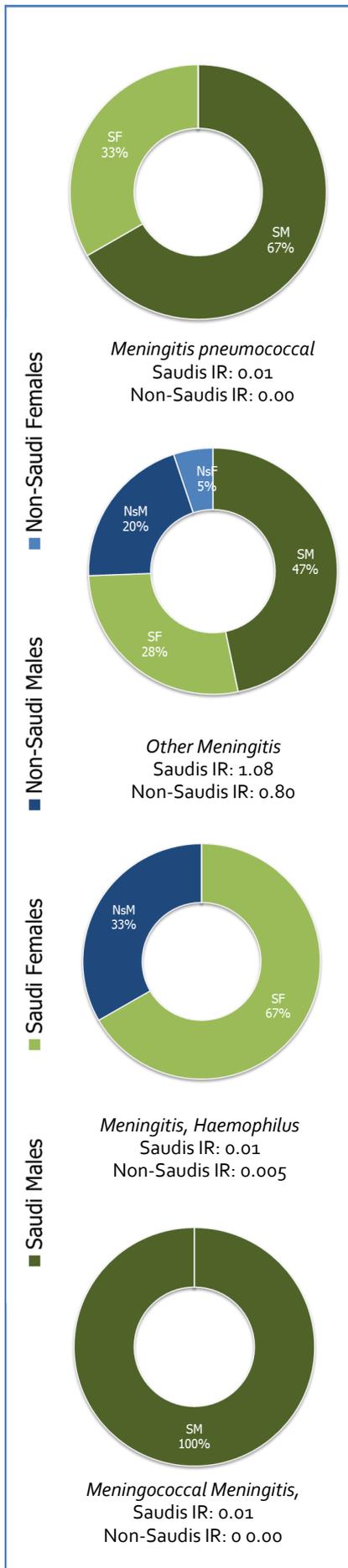


Figure 10.3a: Reported cases and incidence rate (IR, per 100,000) of meningitis by nationality and gender, KSA, 2013

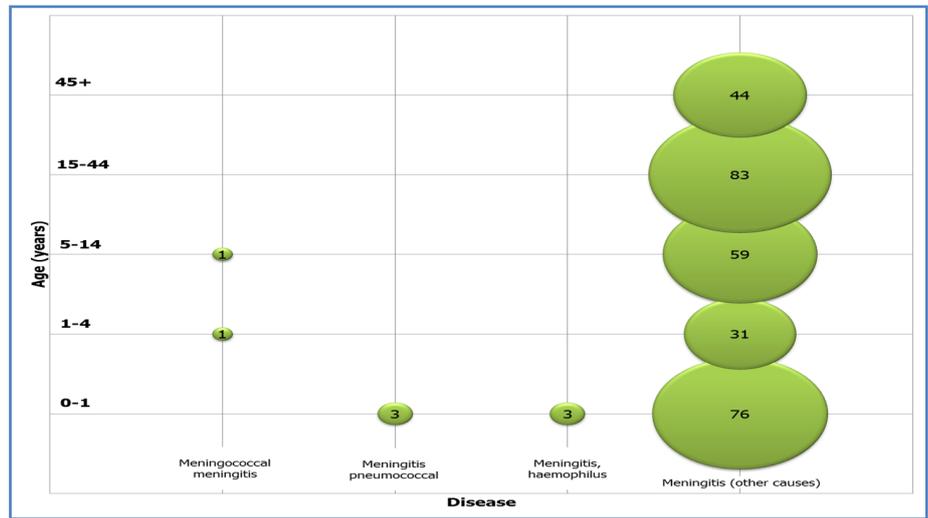


Figure 10.4a: Reported cases of meningitis by age group, KSA, 2013

Table 10.1a: Reported cases of meningitis by region, KSA, 2013

Region	Meningitis				Total
	Meningococcal	Pneumococcal	H. influenzae	Others	
Riyadh	0	0	0	198	198
Makkah	0	0	0	0	0
Jeddah	1	0	1	14	16
Ta'if	0	0	0	0	0
Medinah	0	0	0	3	3
Qaseem	0	1	1	47	49
Eastern	1	0	1	2	4
Al-Ahsa	0	2	0	13	15
Hafr Al-Baten	0	0	0	0	0
Aseer	0	0	0	6	6
Bishah	0	0	0	0	0
Tabouk	0	0	0	0	0
Ha'il	0	0	0	1	1
Northern	0	0	0	1	1
Jazan	0	0	0	1	1
Najran	0	0	0	7	7
Al-Bahah	0	0	0	0	0
Al-Jouf	0	0	0	0	0
Qurayyat	0	0	0	0	0
Qunfudah	0	0	0	0	0
Total	2	3	3	293	301

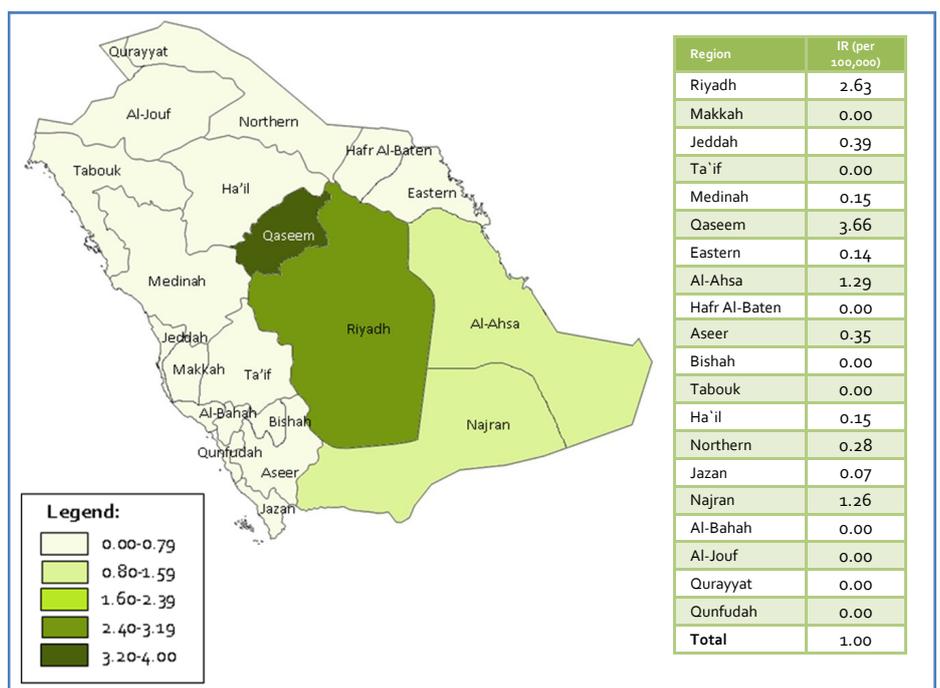


Figure 10.5a: Incidence Rate (IR, per 100,000) of total meningitis by region, KSA, 2013

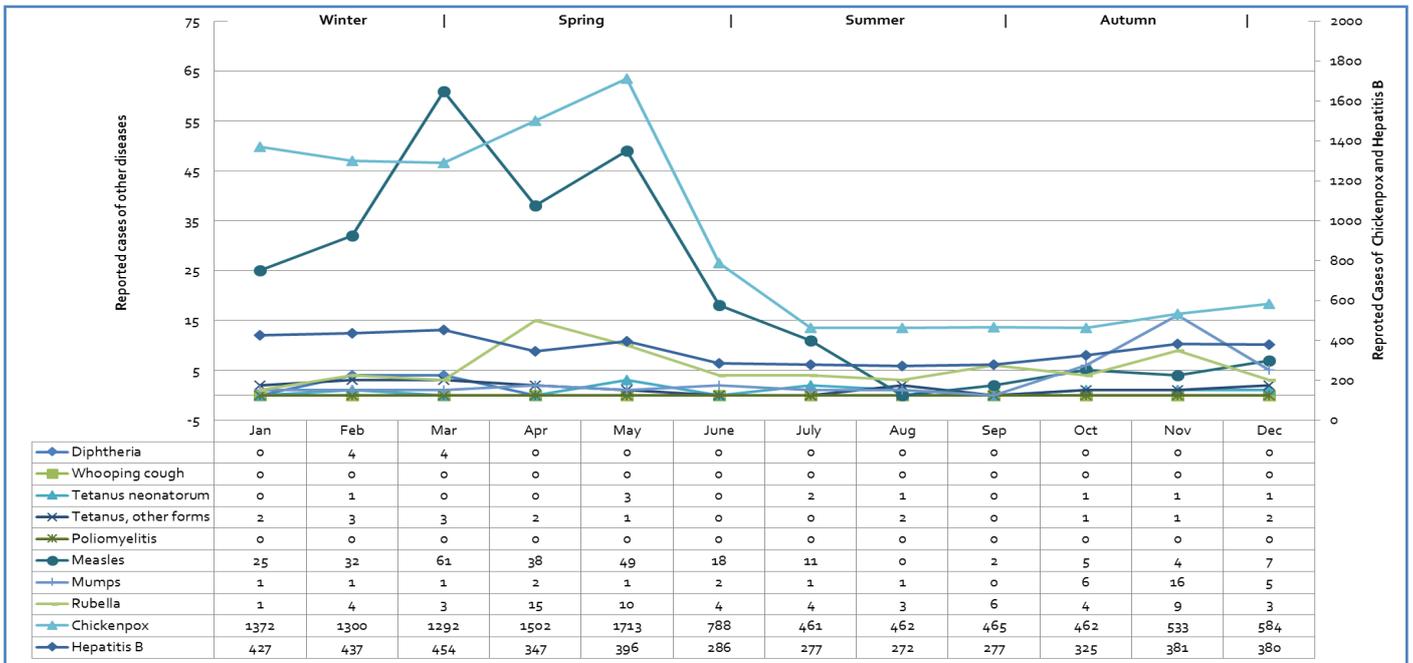


Figure 10.1b: Reported cases of vaccine-preventable diseases by month and season, KSA, 2013

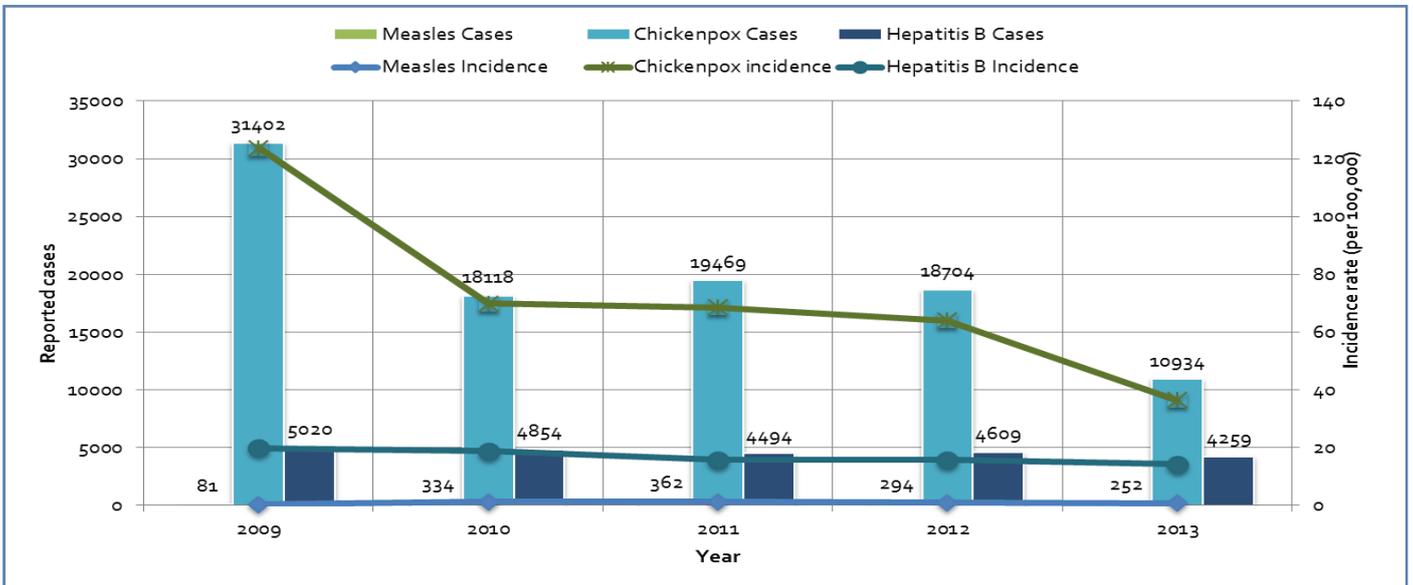


Figure 10.2b: Reported cases and incidence of vaccine-preventable diseases, KSA, 2009–2013 (i)

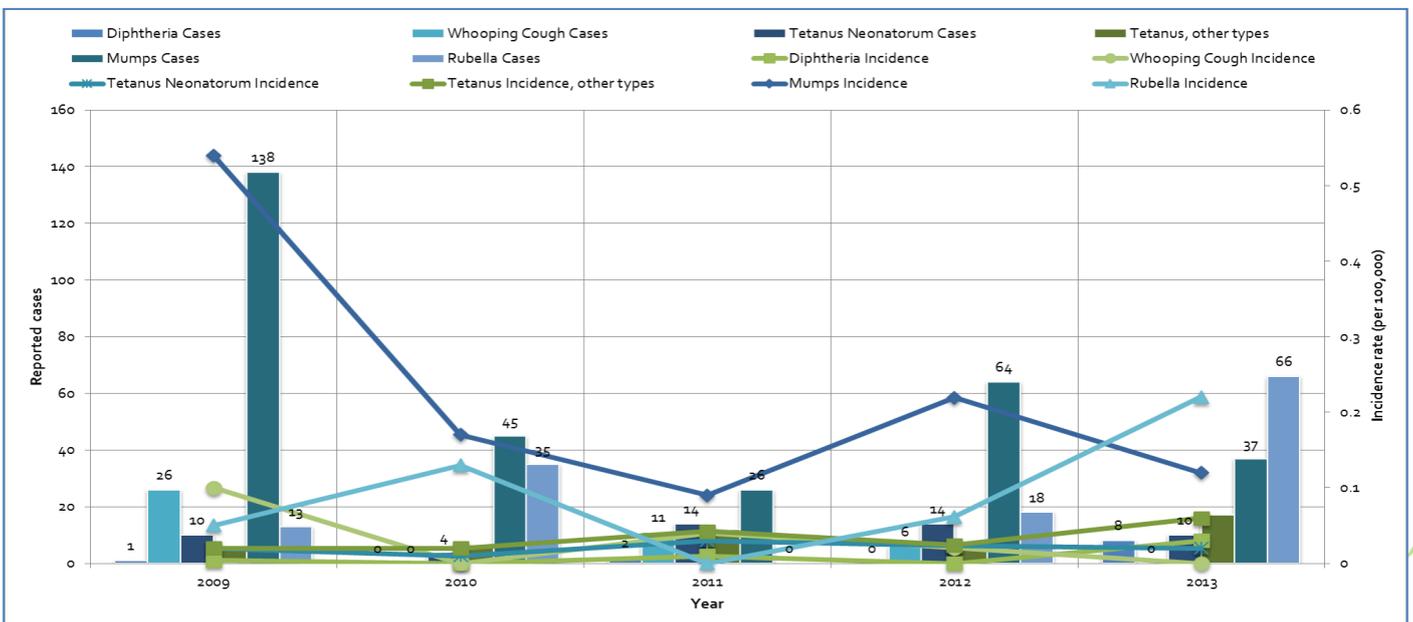


Figure 10.2b: Reported cases and incidence of vaccine-preventable diseases, KSA, 2009–2013 (ii)*

*The incidence rate of Rubella was not checked for 2011 due to lack of reagents
 NNT Incidence /1000 Live Birth

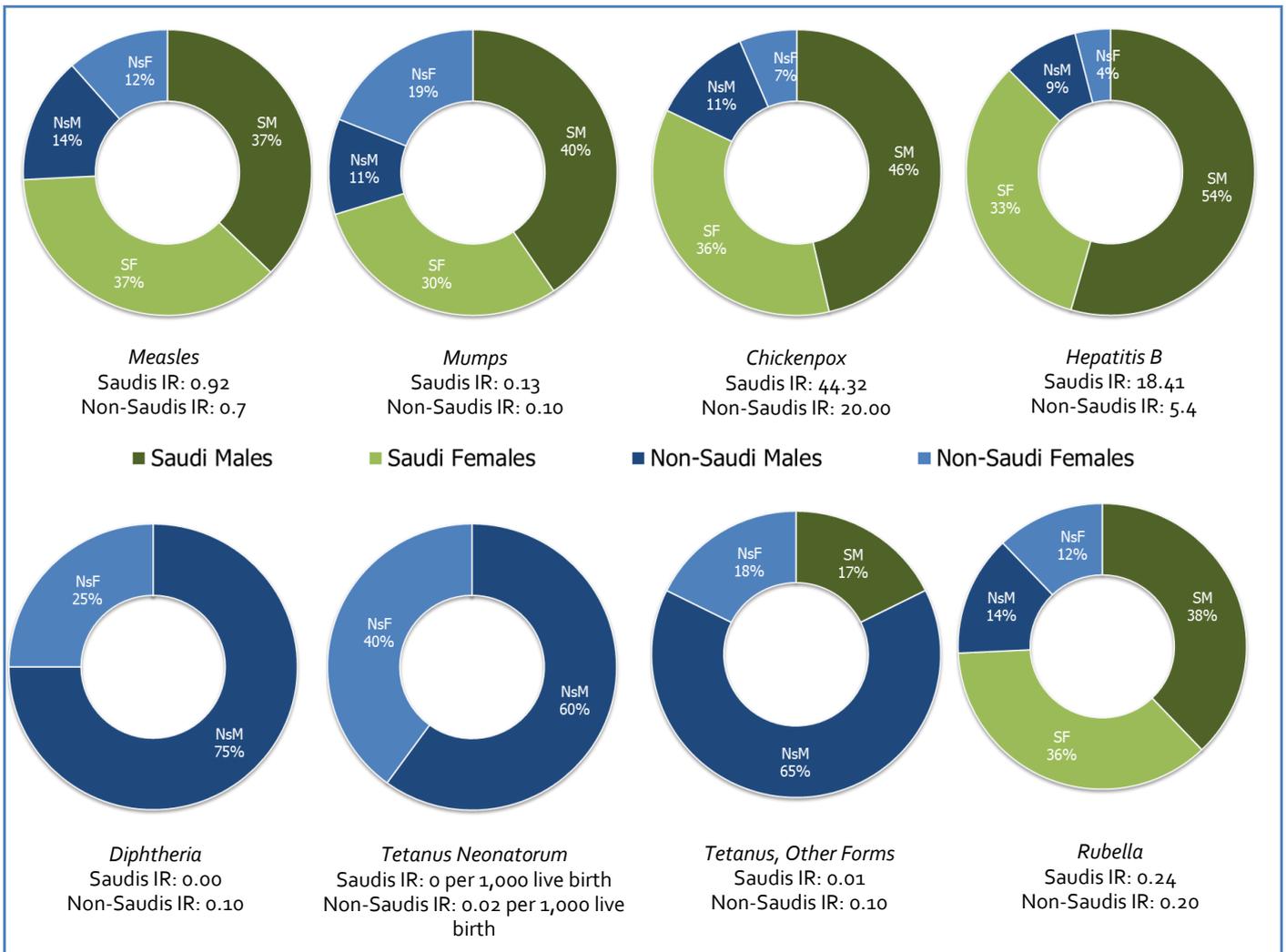


Figure 10.3b: Reported cases and incidence (per 100,000) of vaccine-preventable diseases by nationality and gender, KSA, 2013

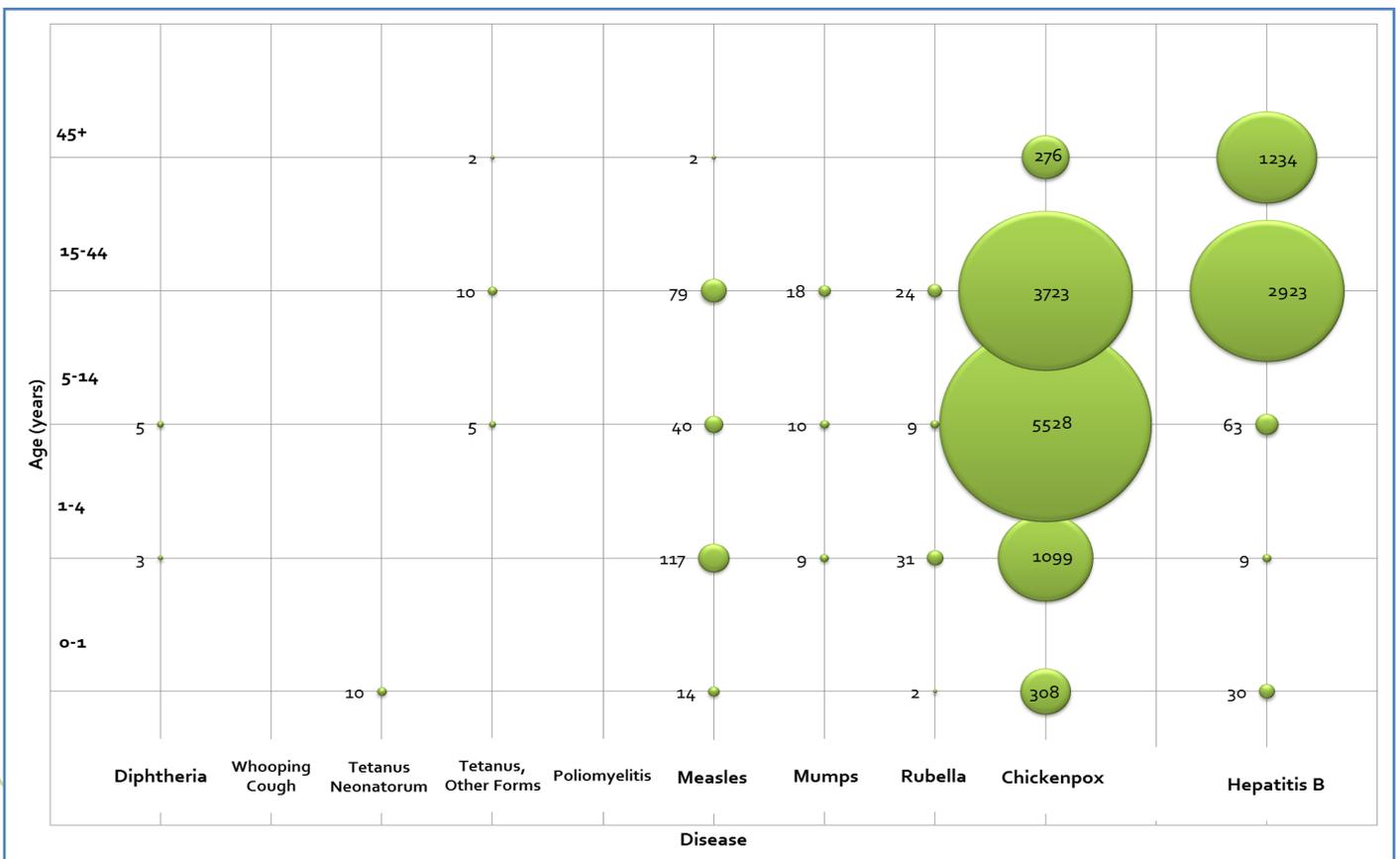


Figure 10.4b: Reported cases of vaccine-preventable diseases by age group, KSA, 2013

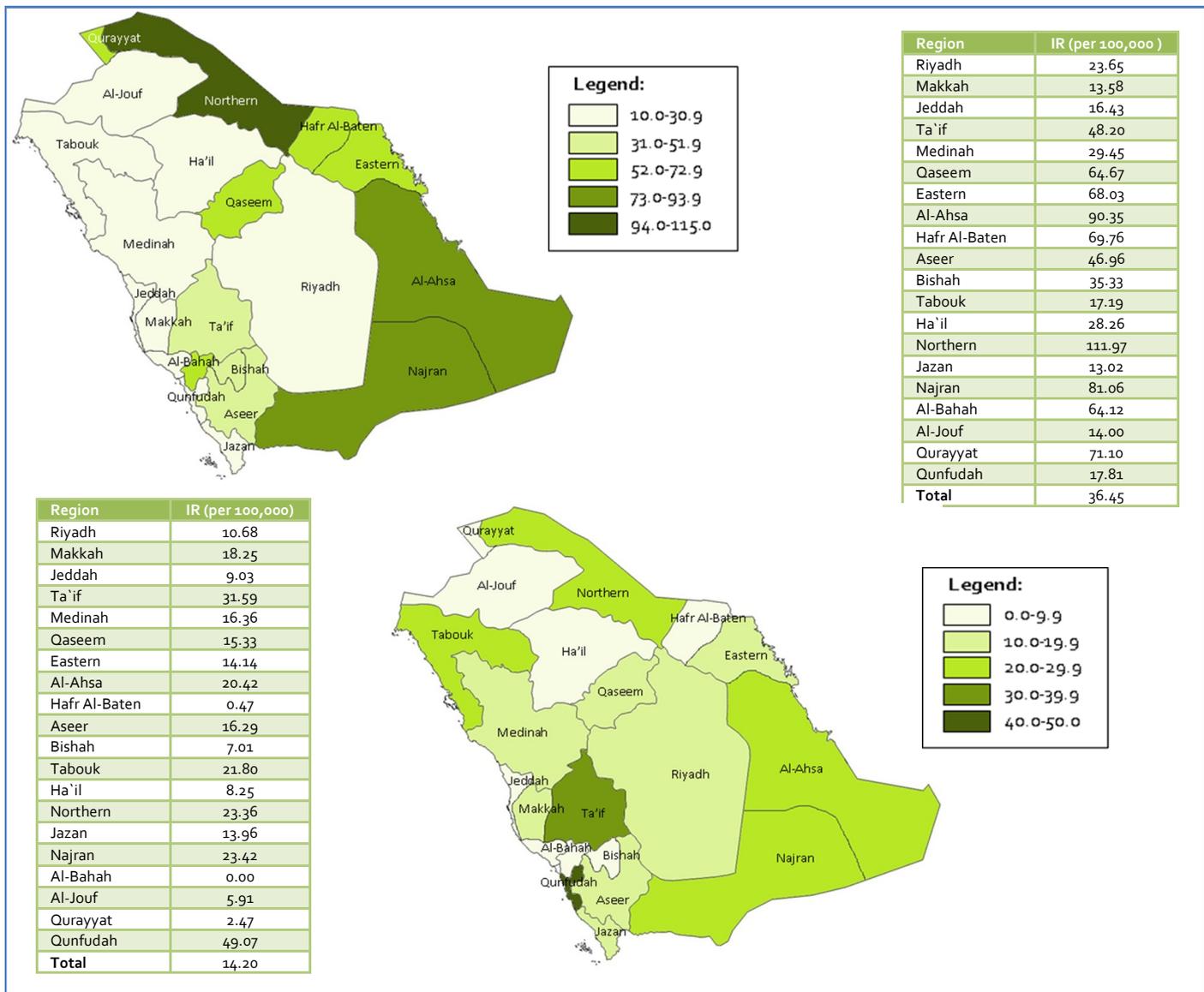


Figure 10.5b: Incidence Rate (IR, per 100,000) of total chickenpox (top) and Hepatitis B (bottom) by region, KSA, 2013

Table 10.1b: Reported cases of vaccine-preventable diseases by region, KSA, 2013

Region	Diphtheria	Whooping Cough	Tetanus neonatorum	Tetanus other forms	Poliomyelitis	Measles	Mumps	Rubella	Chickenpox	Hepatitis B
Riyadh	0	0	0	0	0	32	13	22	1778	803
Makkah	8	0	2	2	0	1	0	0	279	375
Jeddah	0	0	8	10	0	133	2	14	675	371
Ta'if	0	0	0	0	0	18	2	3	592	388
Medinah	0	0	0	3	0	27	0	6	578	321
Qaseem	0	0	0	0	0	4	1	3	865	205
Eastern	0	0	0	2	0	11	10	5	2001	416
Al-Ahsa	0	0	0	0	0	2	1	1	1053	238
Hafr Al-Baten	0	0	0	0	0	0	0	1	298	2
Aseer	0	0	0	0	0	6	3	0	810	281
Bishah	0	0	0	0	0	0	0	0	131	26
Tabouk	0	0	0	0	0	1	0	0	149	189
Ha'il	0	0	0	0	0	1	0	1	185	54
Northern	0	0	0	0	0	1	0	0	393	82
Jazan	0	0	0	0	0	4	0	0	195	209
Najran	0	0	0	0	0	1	5	6	450	130
Al-Bahah	0	0	0	0	0	3	0	0	289	0
Al-Jouf	0	0	0	0	0	1	0	0	45	19
Qurayyat	0	0	0	0	0	0	0	0	115	4
Qunfudah	0	0	0	0	0	6	0	4	53	146
Total	8	0	10	17	0	252	37	66	10934	4259

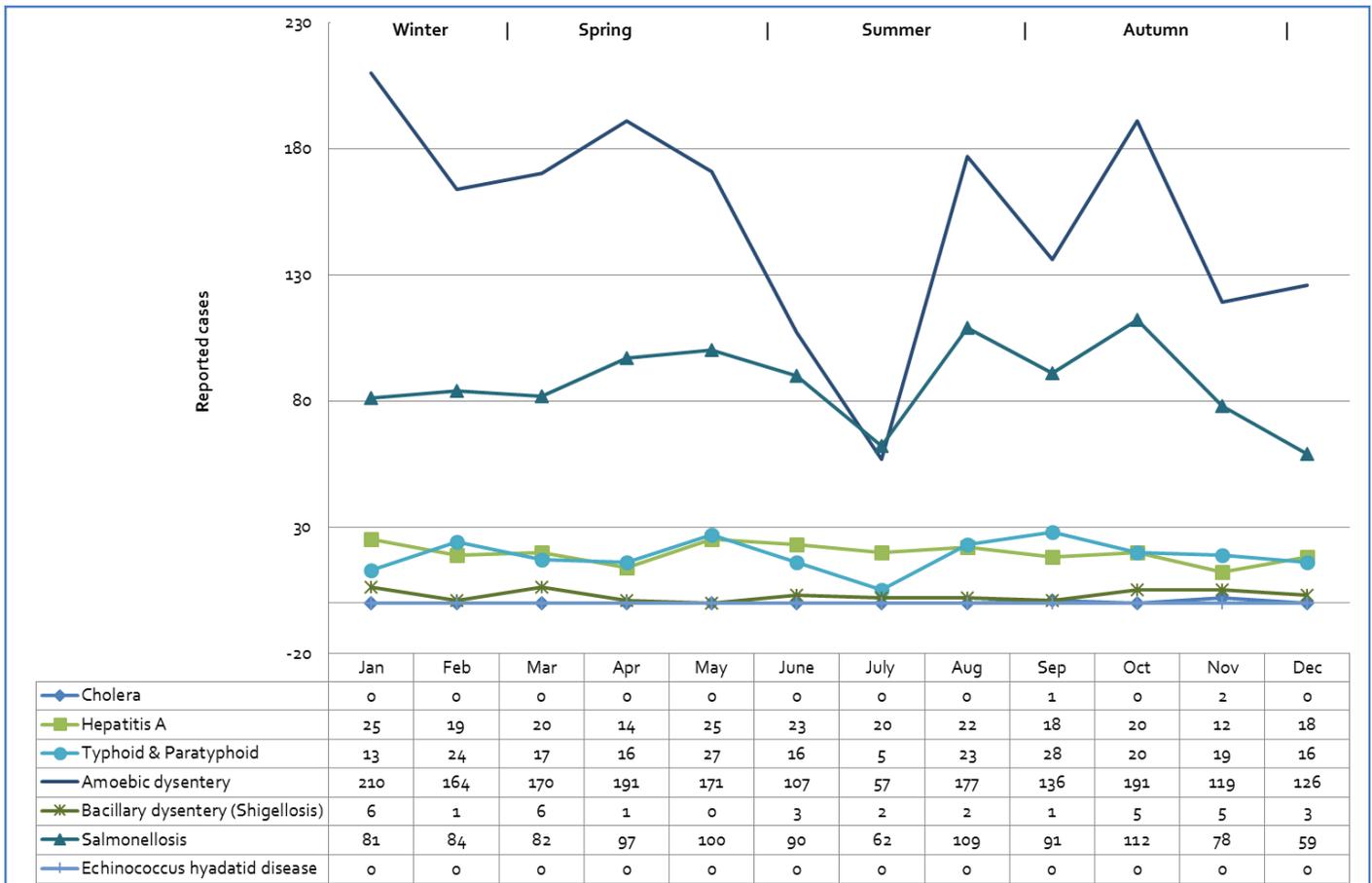


Figure 10.1c: Reported cases of environment-acquired diseases by month and season, KSA, 2013

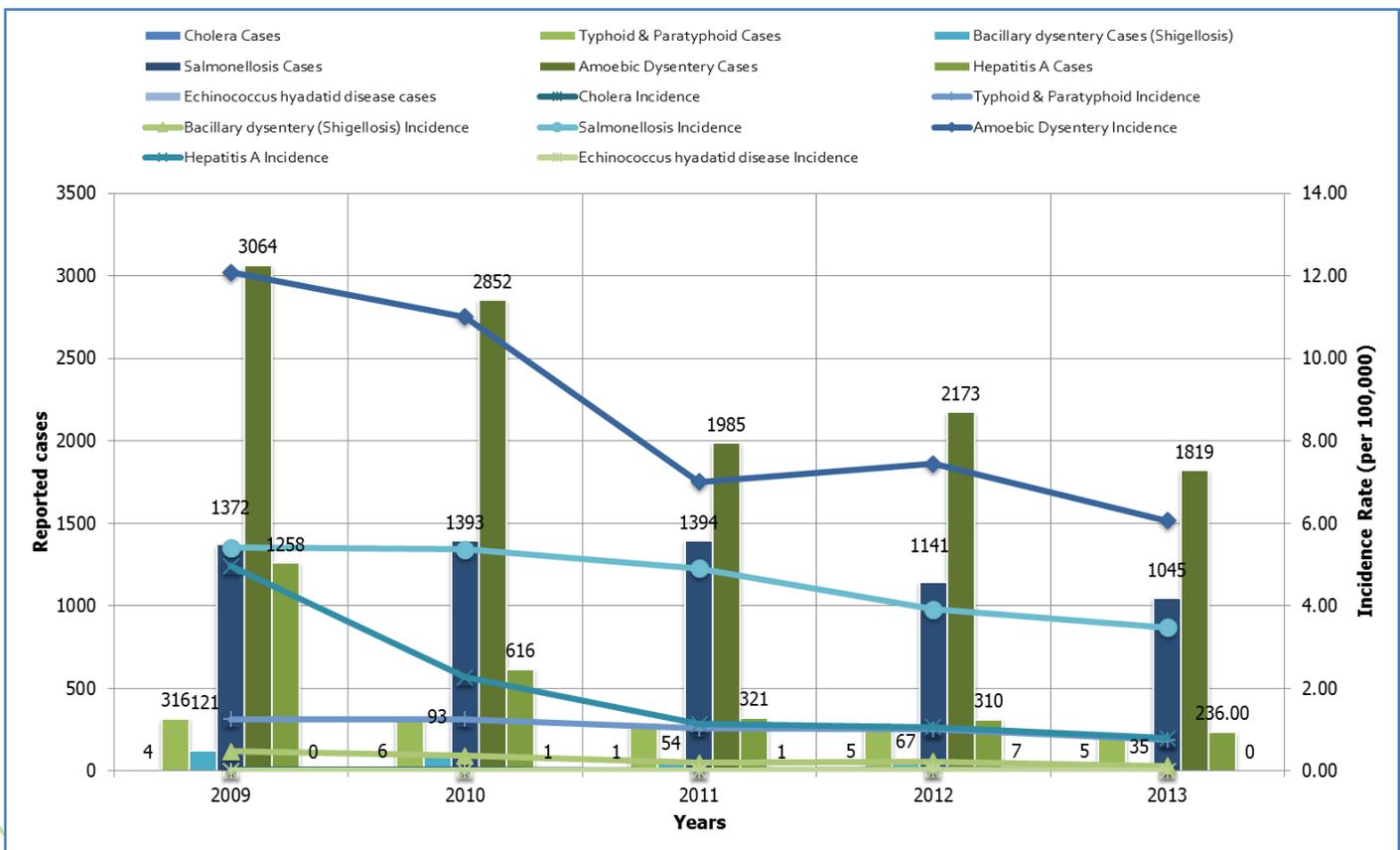


Figure 10.2c: Reported cases and incidence of environment-acquired diseases, KSA, 2009–2013

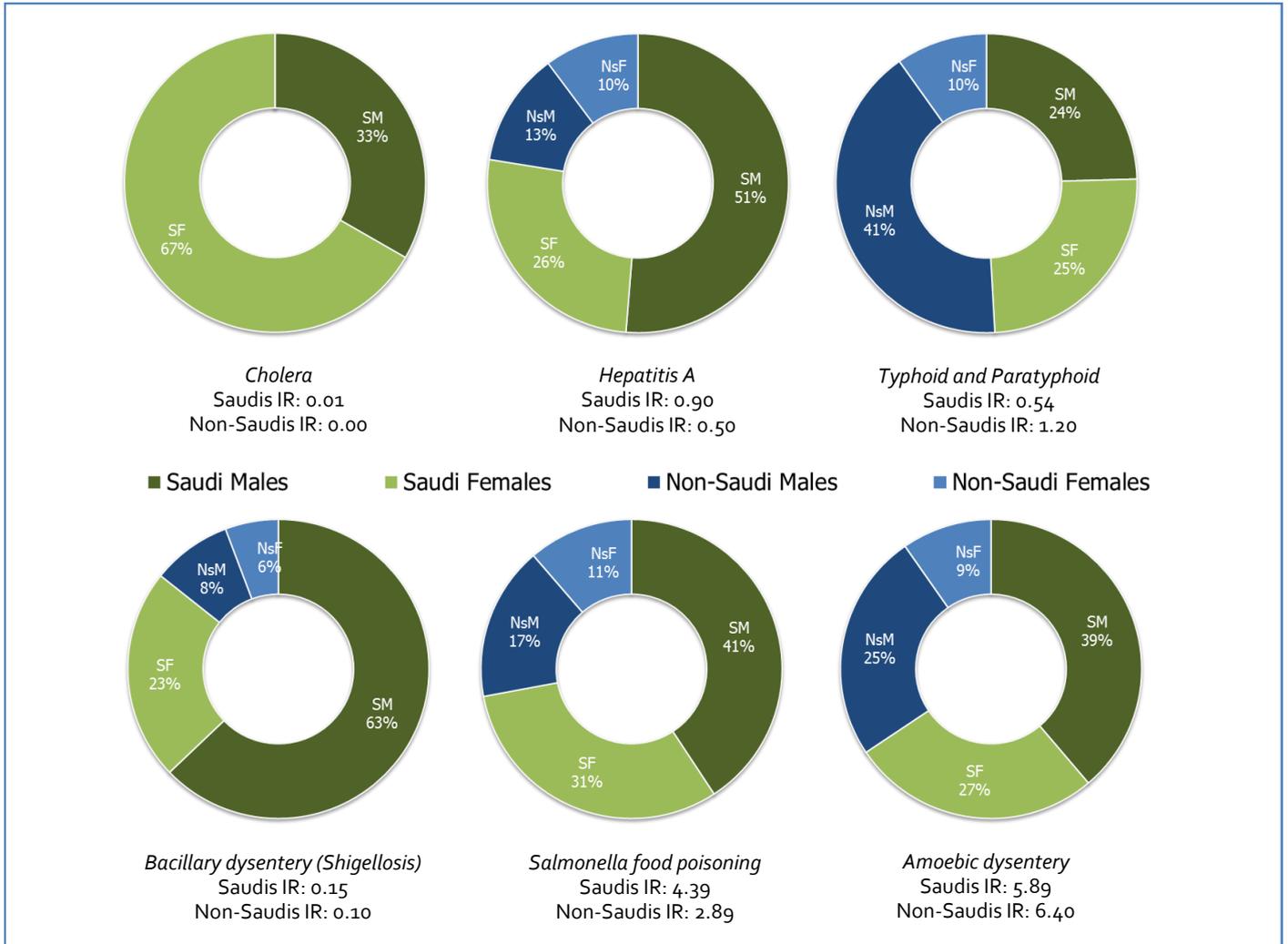


Figure 10.3c: Reported cases and incidence (per 100,000) of environment-acquired diseases by nationality and gender, KSA, 2013

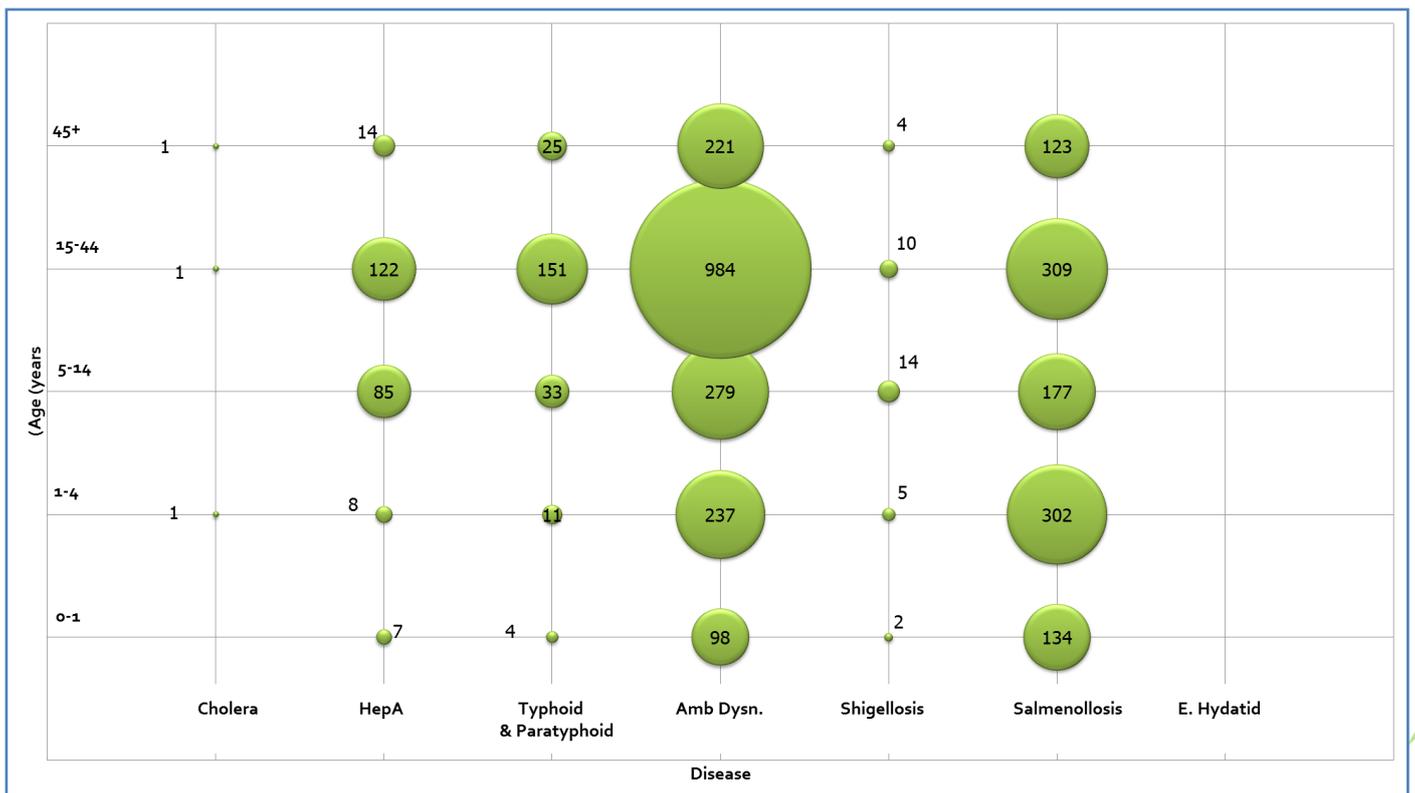


Figure 10.4c: Reported cases of environment-acquired diseases by age group, KSA, 2013

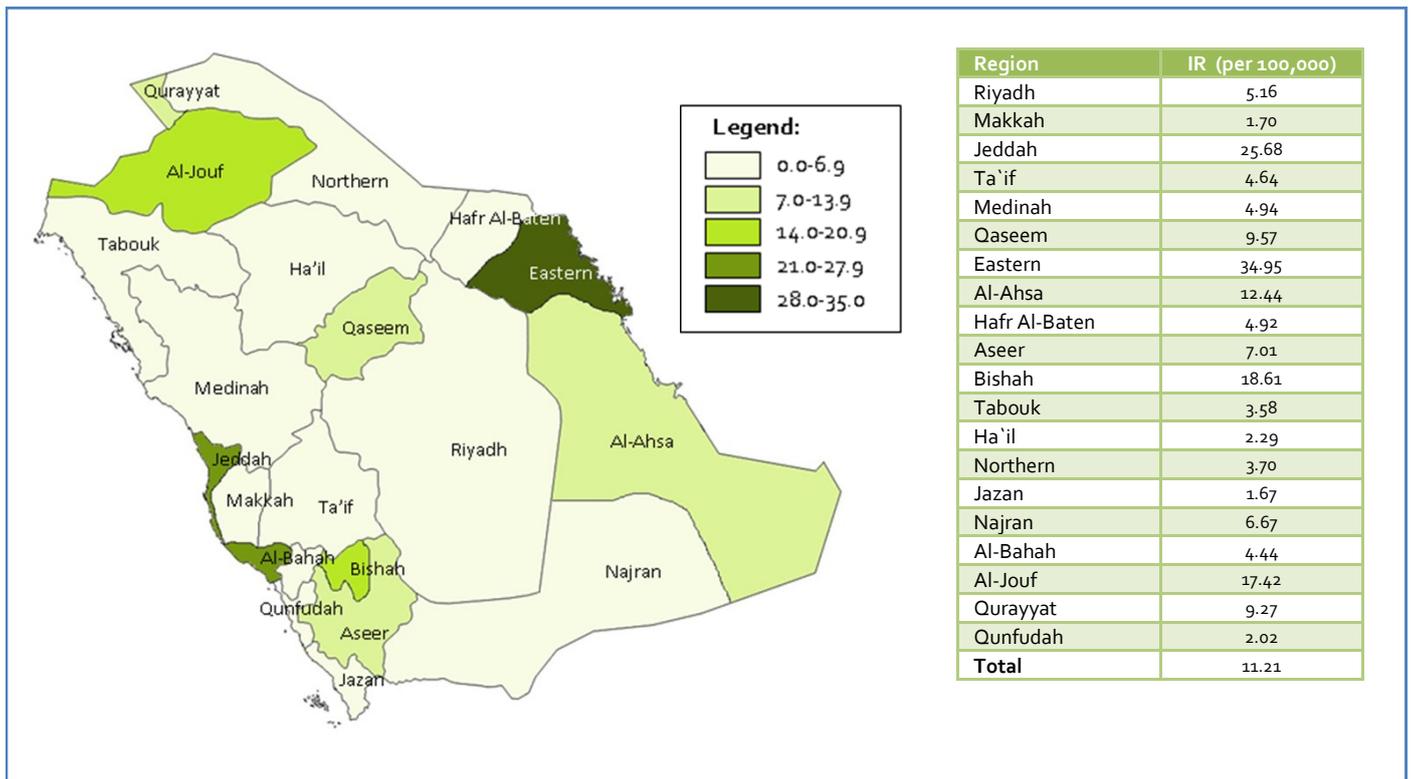


Figure 10.5c: Incidence Rate (IR, per 100,000) of total environment-acquired diseases by region, KSA, 2013

Table 10.1c: Reported cases of environment-acquired diseases by region, KSA, 2013

Region	Environment-acquired diseases						
	Cholera	Hepatitis A	Typhoid and Paratyphoid	Amoebic Dysentery	Bacillary dysentery (Shigellosis)	Salmonella food poisoning	Echinococcus Hydatid Disease
Riyadh	0	72	6	14	10	286	0
Makkah	0	13	6	1	0	15	0
Jeddah	0	11	28	845	4	167	0
Ta'if	0	1	6	50	0	0	0
Medinah	0	7	44	22	1	23	0
Qaseem	0	11	53	56	2	6	0
Eastern	1	38	32	575	5	377	0
Al-Ahsa	2	10	6	70	7	50	0
Hafr Al-Baten	0	0	19	1	1	0	0
Aseer	0	12	3	34	0	72	0
Bishah	0	2	0	61	0	6	0
Tabouk	0	30	1	0	0	0	0
Ha'il	0	1	3	10	0	1	0
Northern	0	1	4	7	0	1	0
Jazan	0	16	5	1	1	2	0
Najran	0	9	3	8	4	13	0
Al-Bahah	0	0	2	0	0	18	0
Al-Jouf	0	2	0	53	0	1	0
Qurayyat	0	0	0	11	0	4	0
Qunfudah	0	0	3	0	0	3	0
Total	3	236	224	1819	35	1045	0

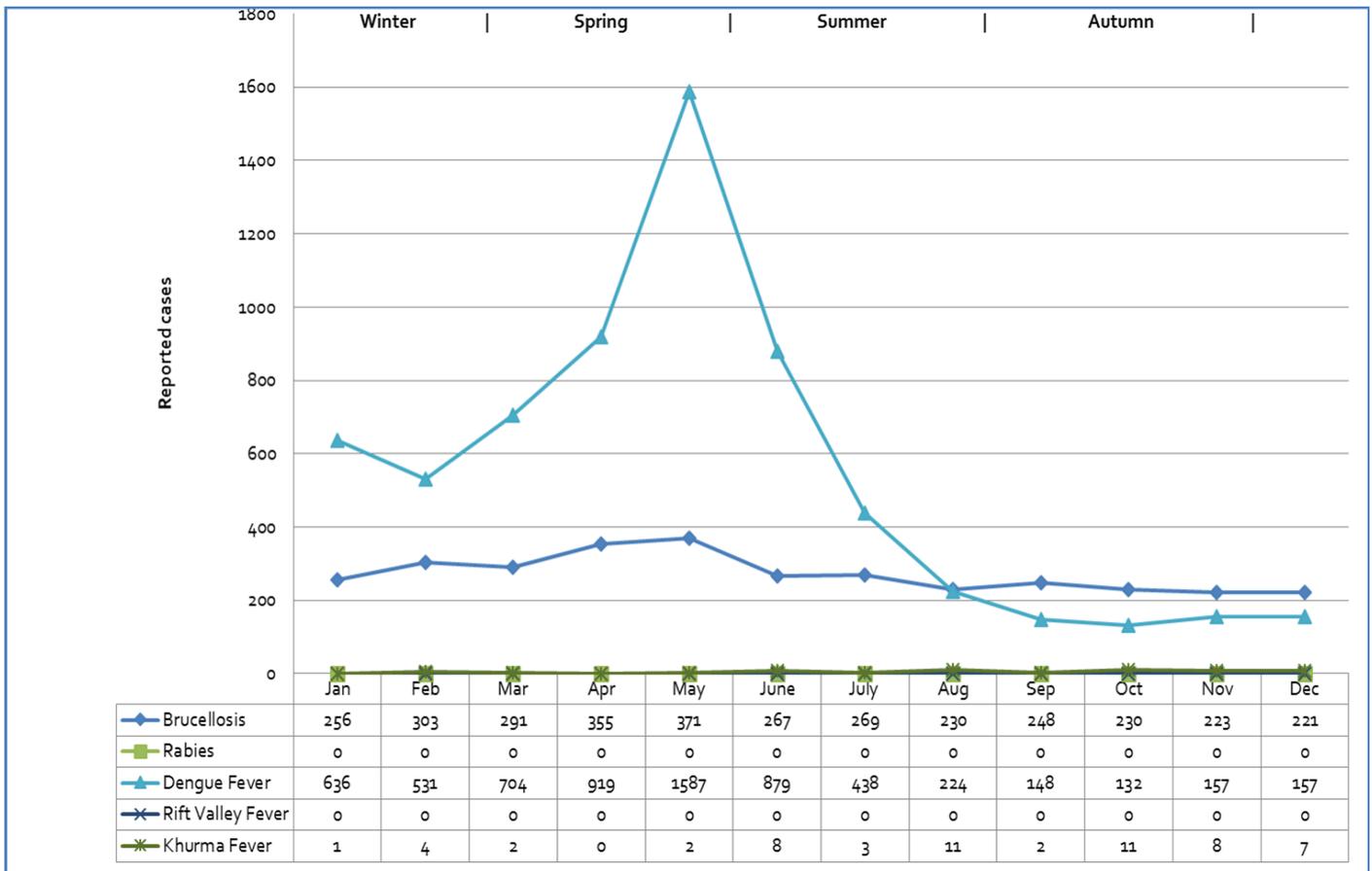


Figure 10.1d: Reported cases of zoonotic diseases by month and season, KSA, 2013

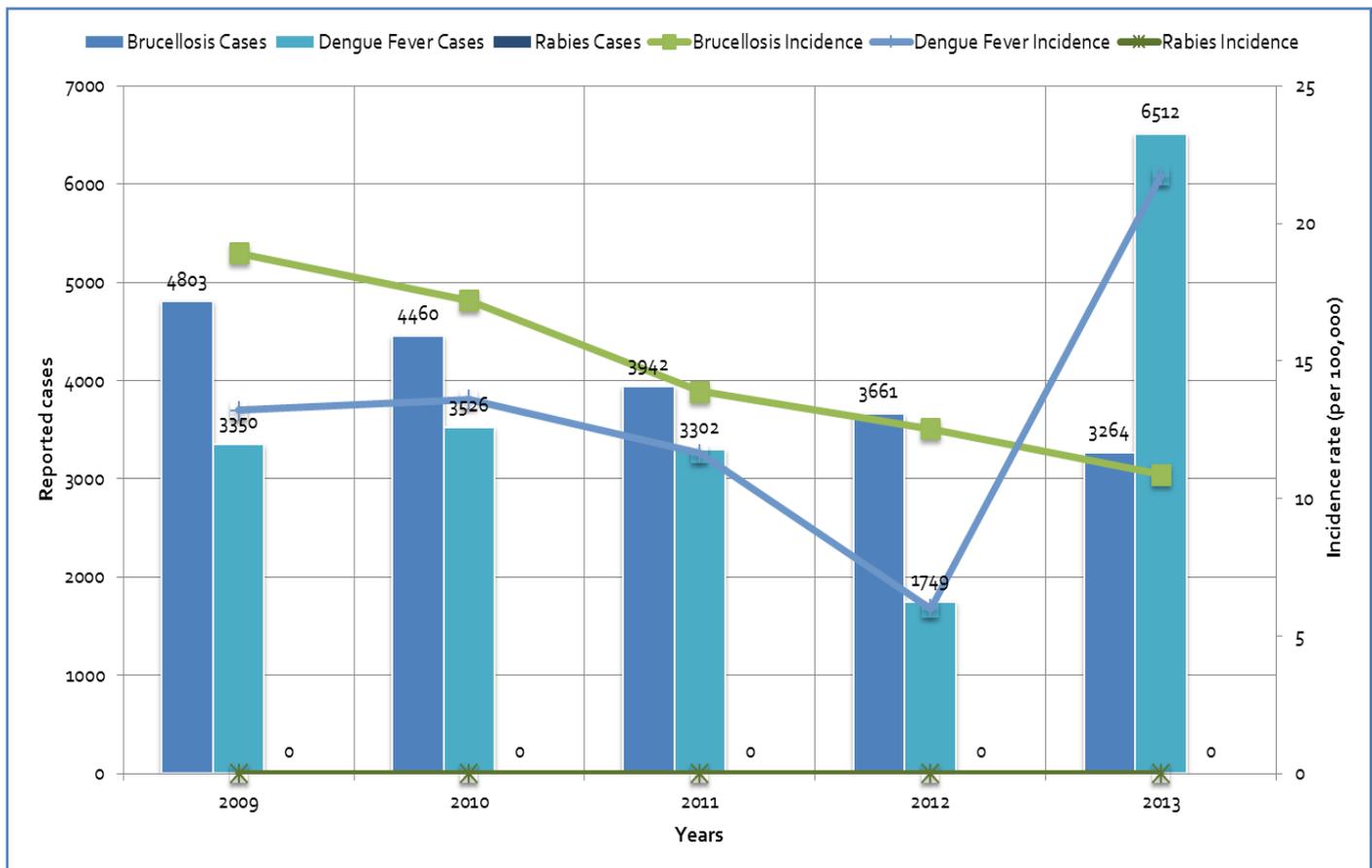


Figure 10.2d: Reported cases and incidence of zoonotic diseases, KSA, 2009—2013

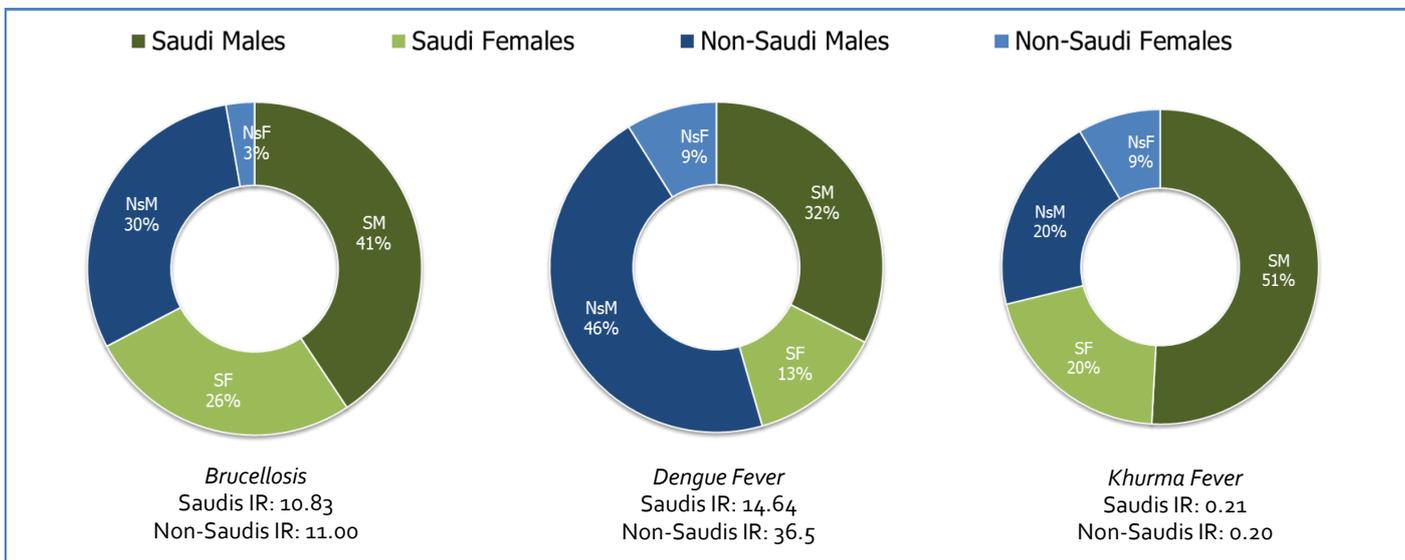


Figure 10.3d: Reported cases and incidence of zoonotic diseases by nationality and gender , KSA, 2013

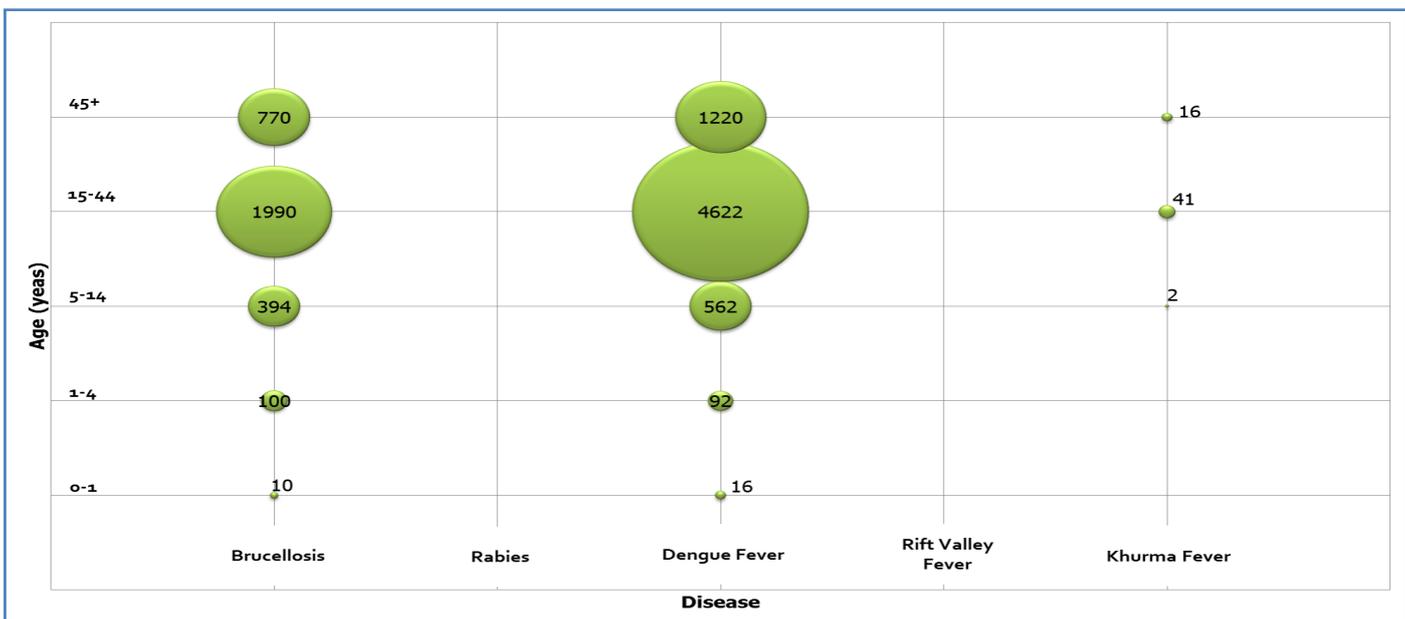


Figure 10.4d: Reported cases of zoonotic diseases by age group, KSA, 2013

Table 10.1d: Reported cases of zoonotic diseases by region, KSA, 2013

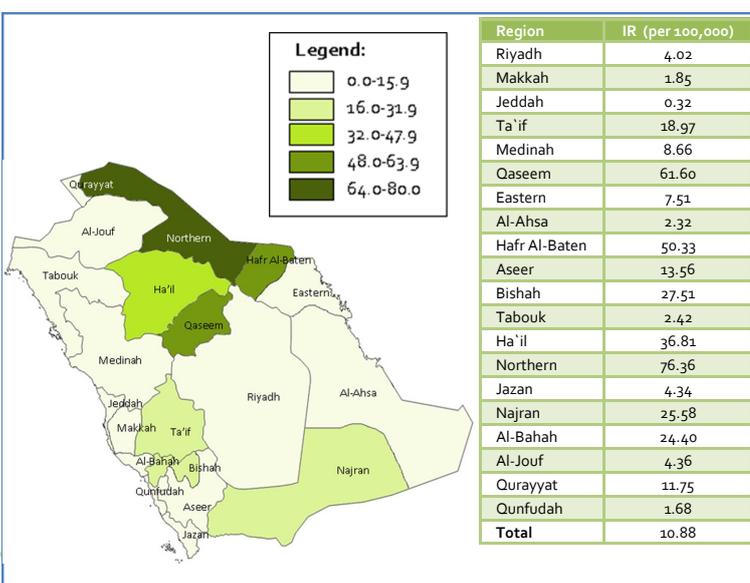


Figure 10.5d: Incidence Rate (IR, per 100,000) of total brucellosis by region, KSA, 2013

Region	Zoonotic diseases				
	Brucellosis	Rabies	Dengue Fever	Rift Valley Fever	Khurma Fever
Riyadh	302	0	2	0	0
Makkah	38	0	1748	0	8
Jeddah	13	0	4411	0	0
Ta'if	233	0	69	0	1
Medinah	170	0	52	0	0
Qaseem	824	0	0	0	0
Eastern	221	0	1	0	0
Al-Ahsa	27	0	0	0	0
Hafr Al-Baten	215	0	0	0	0
Aseer	234	0	0	0	0
Bishah	102	0	0	0	0
Tabouk	21	0	0	0	0
Ha'il	241	0	0	0	0
Northern	268	0	0	0	0
Jazan	65	0	92	0	0
Najran	142	0	137	0	50
Al-Bahah	110	0	0	0	0
Al-Jouf	14	0	0	0	0
Qurayyat	19	0	0	0	0
Qunfudah	5	0	0	0	0
Total	3264	0	6512	0	59

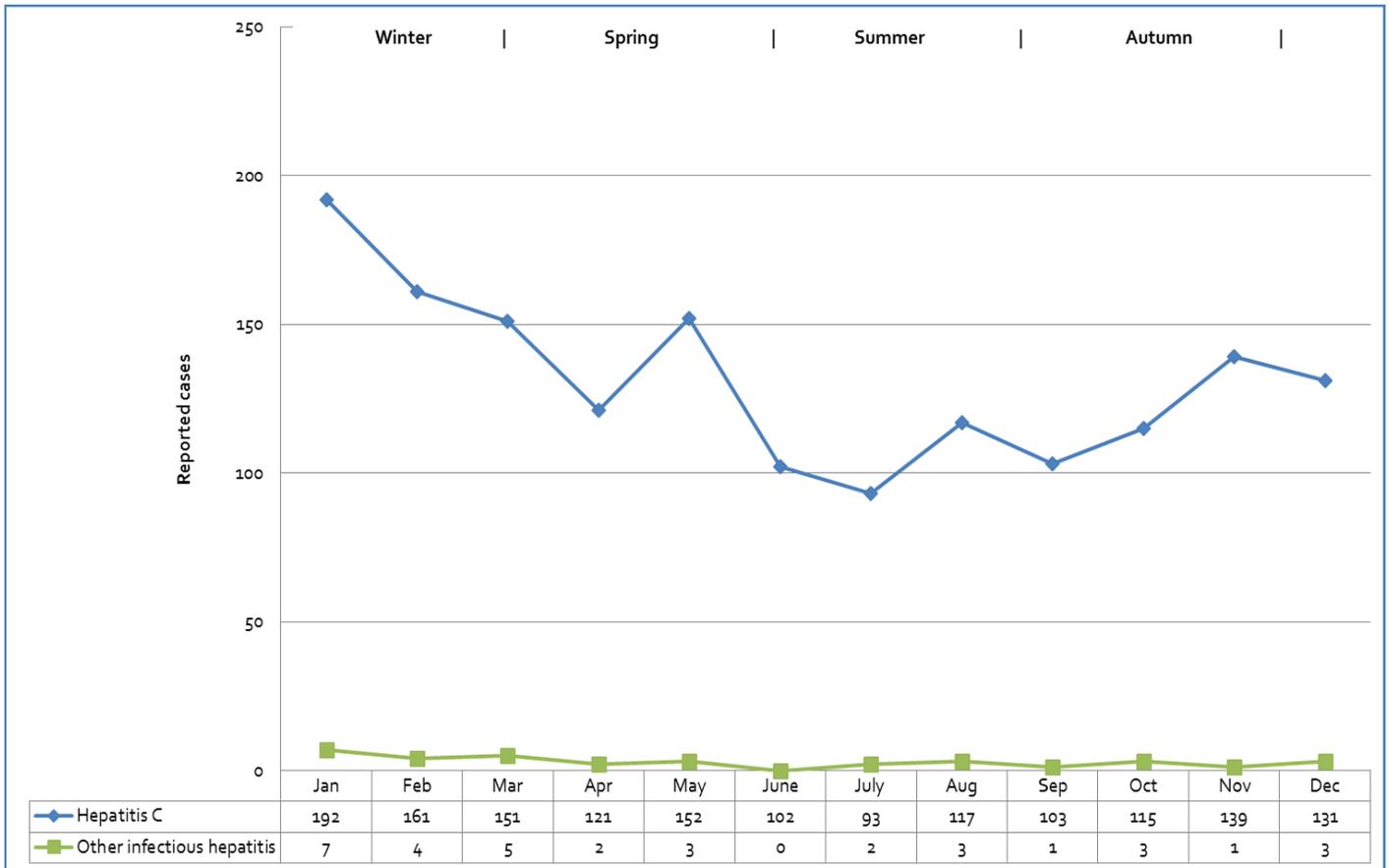


Figure 10.1e: Reported cases of Hepatitis C and other infections hepatitis by month and season, KSA, 2013

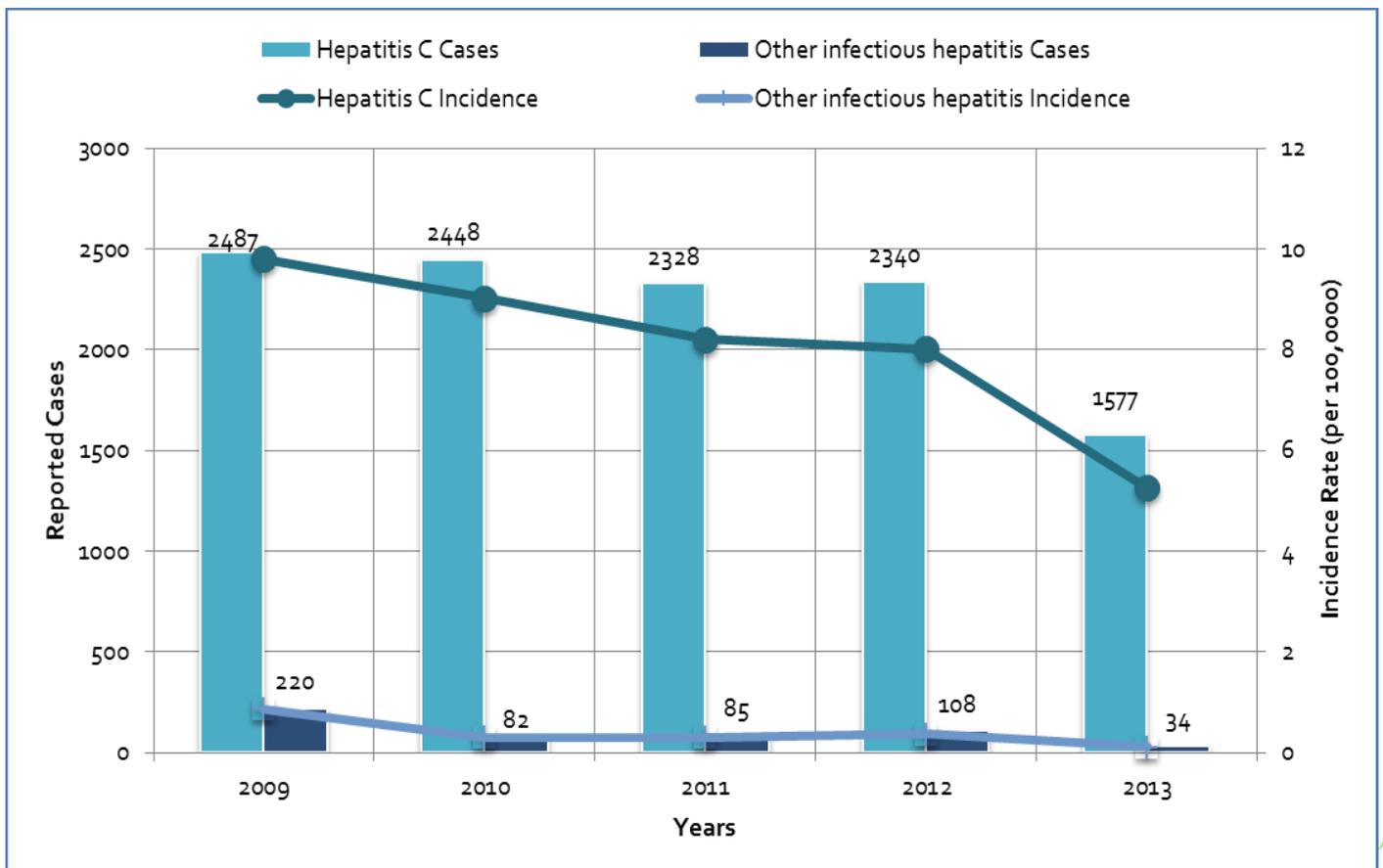


Figure 10.2e: Reported cases and incidence of Hepatitis C and other infectious hepatitis, KSA, 2009—2013

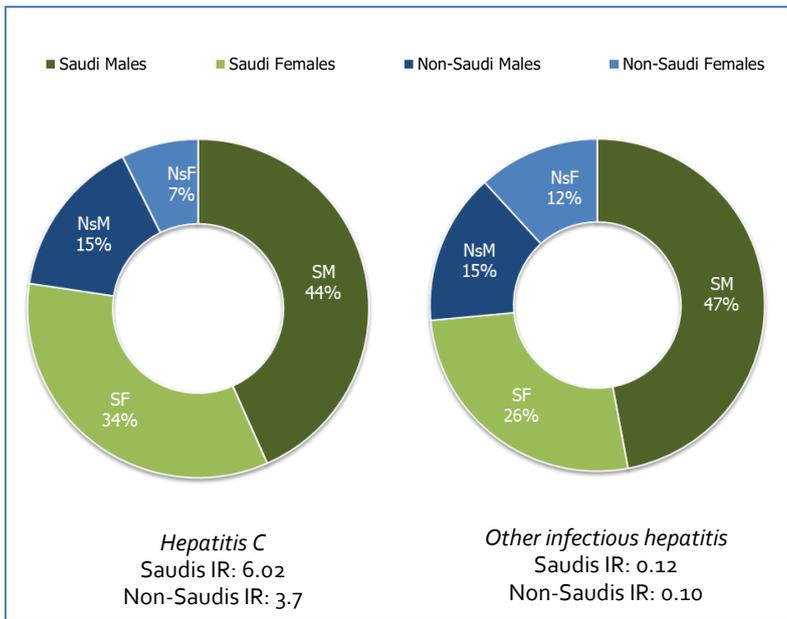


Figure 10.3e: Reported cases and incidence of Hepatitis C and other infectious hepatitis by nationality and gender, KSA, 2013

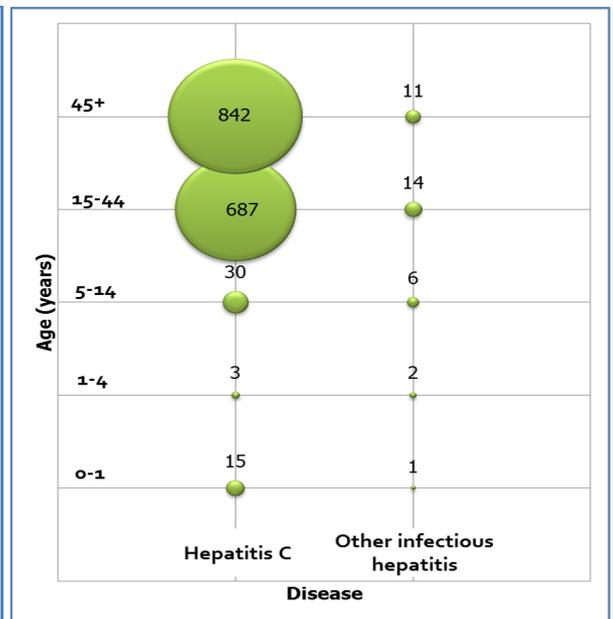


Figure 10.4e: Reported cases of Hepatitis C and other infectious hepatitis by age group, KSA, 2013

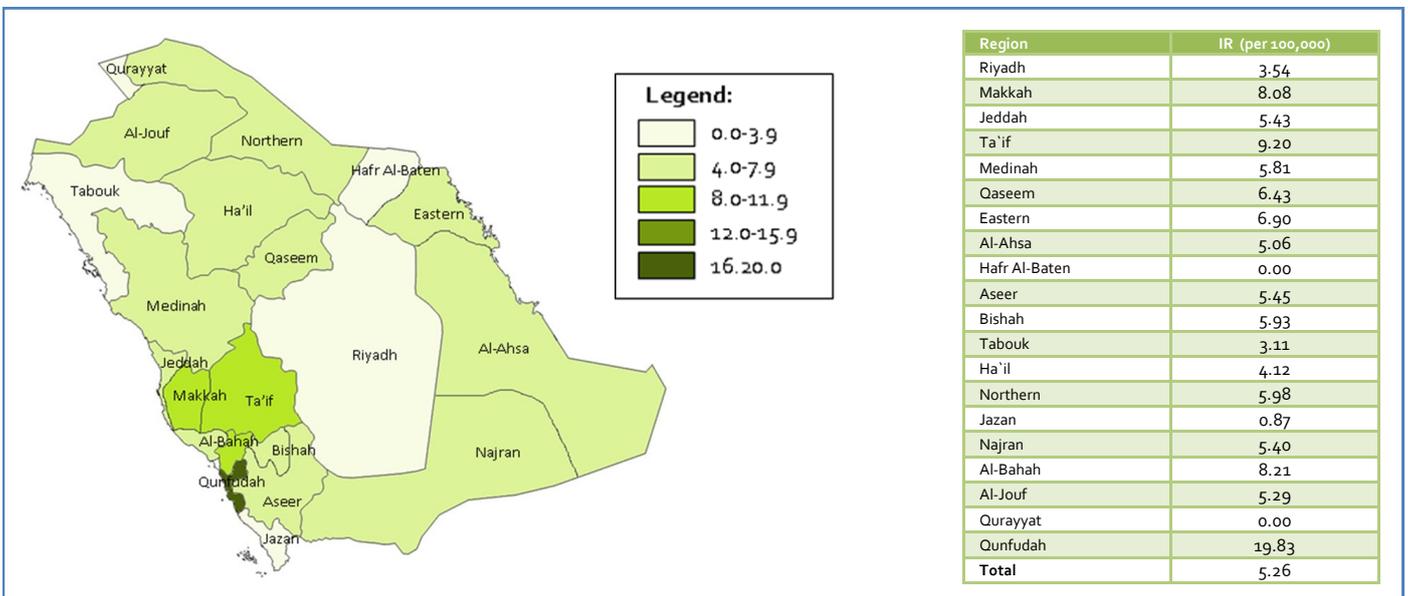


Figure 10.5e: Incidence Rate (IR, per 100,000) of Hepatitis C by region, KSA, 2013

Table 10.1e: Reported cases of Hepatitis C and unspecified Hepatitis by region, KSA, 2013

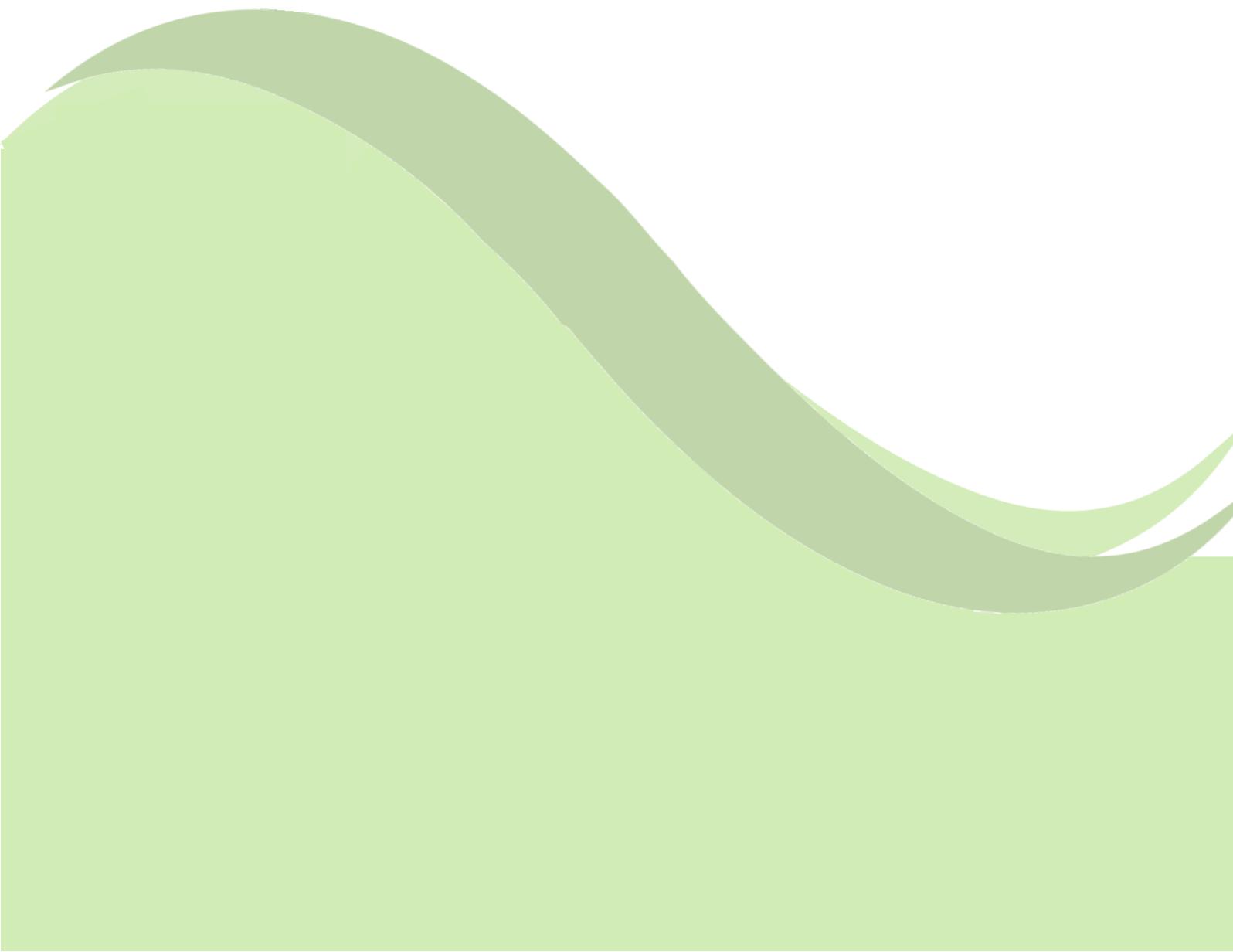
Region	Hepatitis C	Other infectious hepatitis
Riyadh	266	15
Makkah	166	0
Jeddah	223	1
Ta'if	113	0
Medinah	114	0
Qaseem	86	0
Eastern	203	1
Al-Ahsa	59	0
Hafr Al-Baten	0	0
Aseer	94	14
Bishah	22	0
Tabouk	27	0
Ha'il	27	0
Northern	21	0
Jazan	13	1
Najran	30	0
Al-Bahah	37	2
Al-Jouf	17	0
Qurayyat	0	0
Qunfudah	59	0
Total	1577	34

SECTION III.

PUBLIC HEALTH AND
PREVENTIVE MEDICINE



Chapter 11: Chest diseases



11. CHEST DISEASE



TUBERCULOSIS

Tuberculosis (TB) is an infectious bacterial disease caused by *Mycobacterium tuberculosis*, which most commonly affects the lungs. It is transmitted via droplets from the throat and lungs of infected individuals. TB may infect any part of the body, but most commonly occurs in the lungs (referred to as pulmonary TB). Extra-pulmonary TB occurs when it develops outside of the lungs. The symptoms of active TB of the lung are coughing, sometimes with sputum or blood, chest pains, weakness, weight loss, fever and night sweats.

The total number of cases of TB (pulmonary and extra-pulmonary) in year 2013 is 3,323. Pulmonary TB, with an incidence rate of 8.16 per 100,000 population, constitutes 73.6% of all TB cases, while the extra-pulmonary TB, with an incidence rate of 2.92 per 100,000 population, accounted for 26.4% of all TB cases in year 2013.



HOW DOES KSA COMPARE?

In 2013, the incidence rate of Tuberculosis (both pulmonary and extra-pulmonary) is 11.1 per 100,000 population, in comparison with the regional rate of 109 per 100,000 population and the global rate of 125 per 100,000 population.

Source: World Health Statistics Report (2013), World Health Organization

A. Epidemiological aspects of pulmonary and extra-pulmonary TB

Distribution of TB cases according to geographic regions

Figure 11.1a displays the incidence rates of pulmonary TB across the regions of the Kingdom. The highest incidence rate was observed in Jeddah (18.67 cases per 100,000 population).

Figure 11.1b displays the incidence rate of extra-pulmonary TB across the regions of the Kingdom. Jeddah contains the highest incidence rate (5.82 cases per 100,000 population).

TREND OVER TIME...

The incidence rate of total TB (pulmonary and extra-pulmonary) in KSA decreased from 12.3 per 100,000 population in year 2012 to 11.1 per 100,000 population in year 2013.

Between the years 2012 and 2013, the incidence rates of pulmonary and extra-pulmonary TB in KSA have decreased by 7.6% (from 8.83 to 8.16 per 100,000 population) and 16.6%, (from 3.50 to 2.92 per 100,000 population) respectively.

Distribution of TB cases according to different age groups

According to Figure 11.3a, the majority of pulmonary TB cases are among the age group of "15-34 years", followed by the age group of "35-54 years". The least number of cases is in the youngest age group (0-14 years). A similar trend is observed for the extra-pulmonary TB cases (Figure 11.3b); the highest percentage is among the age group of 15-34 years, followed by the age group of 55+ years. Those less than 14 years old represent the lowest percentage of cases.

B. Epidemiological aspects of Leprosy

Leprosy is a chronic infectious disease caused by *Mycobacterium leprae*. The disease mainly affects the skin, peripheral nerves, mucosa of the upper respiratory tract, and also the eyes. In the year 2013, the incidence rate of Leprosy in the Kingdom is 0.01 per 100,000 population.

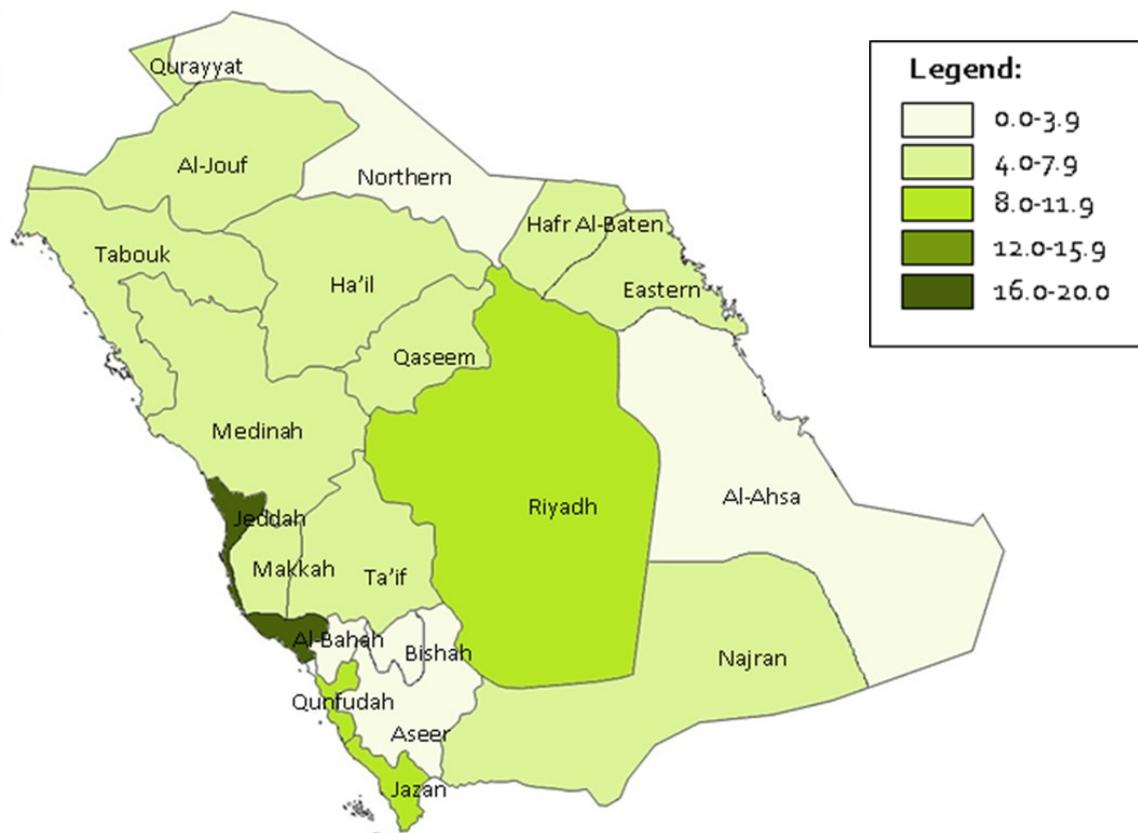
Distribution of the cases according to geographic regions

Only three cases of Leprosy are reported in 2013, all of which occurred in Makkah.

KEY ACHIEVEMENTS ...

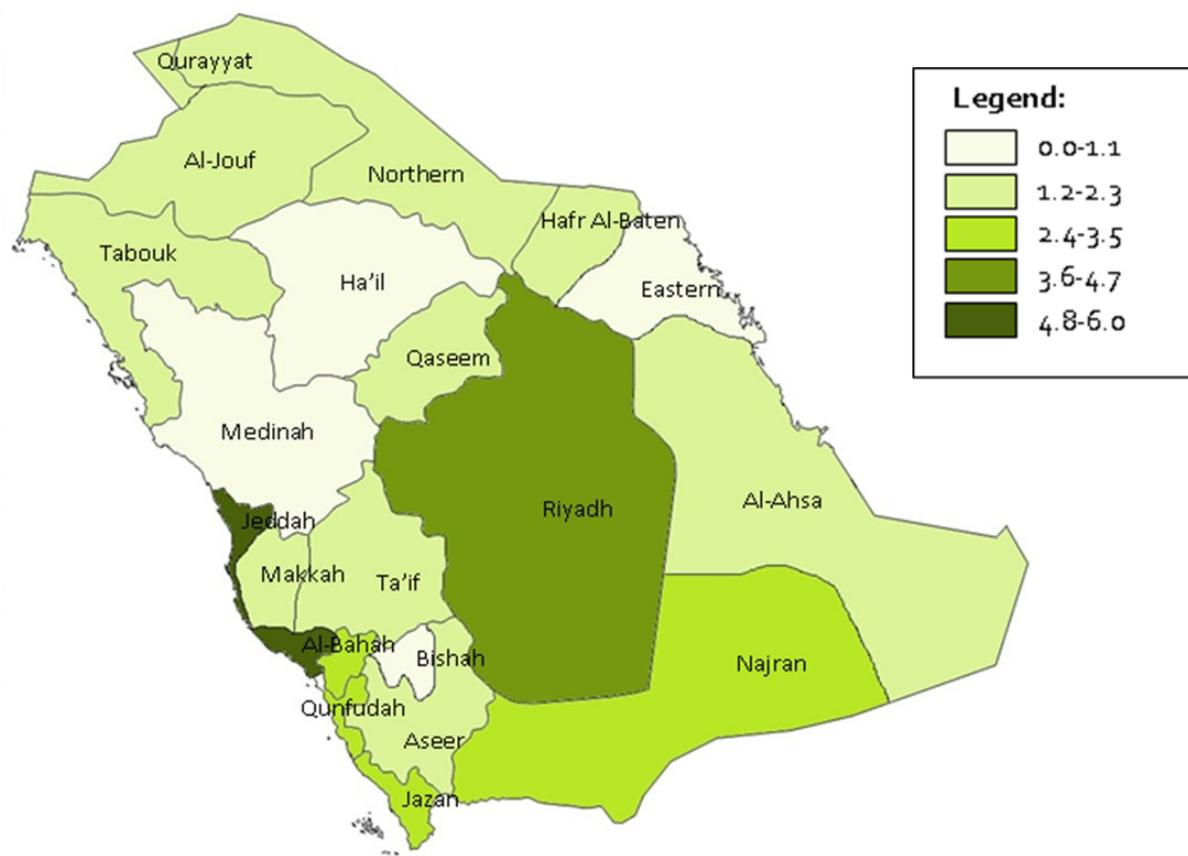
Between 2012 and 2013, the incidence rate of total TB in KSA dropped by 9.8% (from 12.3 to 11.1 per 100,000 population).

Over the years, there has been a pronounced decrease in leprosy cases, as the incidence rate dropped by 99.7% from year 1984, when it was 3.27 per 100,000 population.



Region	Cases	IR (per 100,000)
Riyadh	613	8.15
Makkah	156	7.59
Jeddah	767	18.67
Ta`if	83	6.76
Medinah	121	6.17
Qaseem	77	5.76
Eastern	147	5.00
Al-Ahsa	45	3.86
Hafr Al-Baten	25	5.85
Aseer	52	3.01
Bishah	10	2.70
Tabouk	38	4.38
Ha`il	34	5.19
Northern	13	3.70
Jazan	168	11.22
Najran	26	4.68
Al-Bahah	17	3.77
Al-Jouf	20	6.22
Qurayyat	10	6.18
Qunfudah	25	8.40
Total	2447	8.16

Figure 11.1a: Incidence Rate (IR, per 100,000) of pulmonary tuberculosis by region, KSA, 2013



Region	Cases	IR (per 100,000)
Riyadh	335	4.46
Makkah	28	1.36
Jeddah	239	5.82
Ta`if	27	2.20
Medinah	19	0.97
Qaseem	18	1.35
Eastern	21	0.71
Al-Ahsa	21	1.80
Hafr Al-Baten	8	1.87
Aseer	41	2.38
Bishah	3	0.81
Tabouk	15	1.73
Ha`il	4	0.61
Northern	8	2.28
Jazan	43	2.87
Najran	19	3.42
Al-Bahah	11	2.44
Al-Jouf	6	1.87
Qurayyat	2	1.24
Qunfudah	8	2.69
Total	876	2.92

Figure 11.1b: Incidence Rate (IR, per 100,000) of extra-pulmonary tuberculosis by region, KSA, 2013

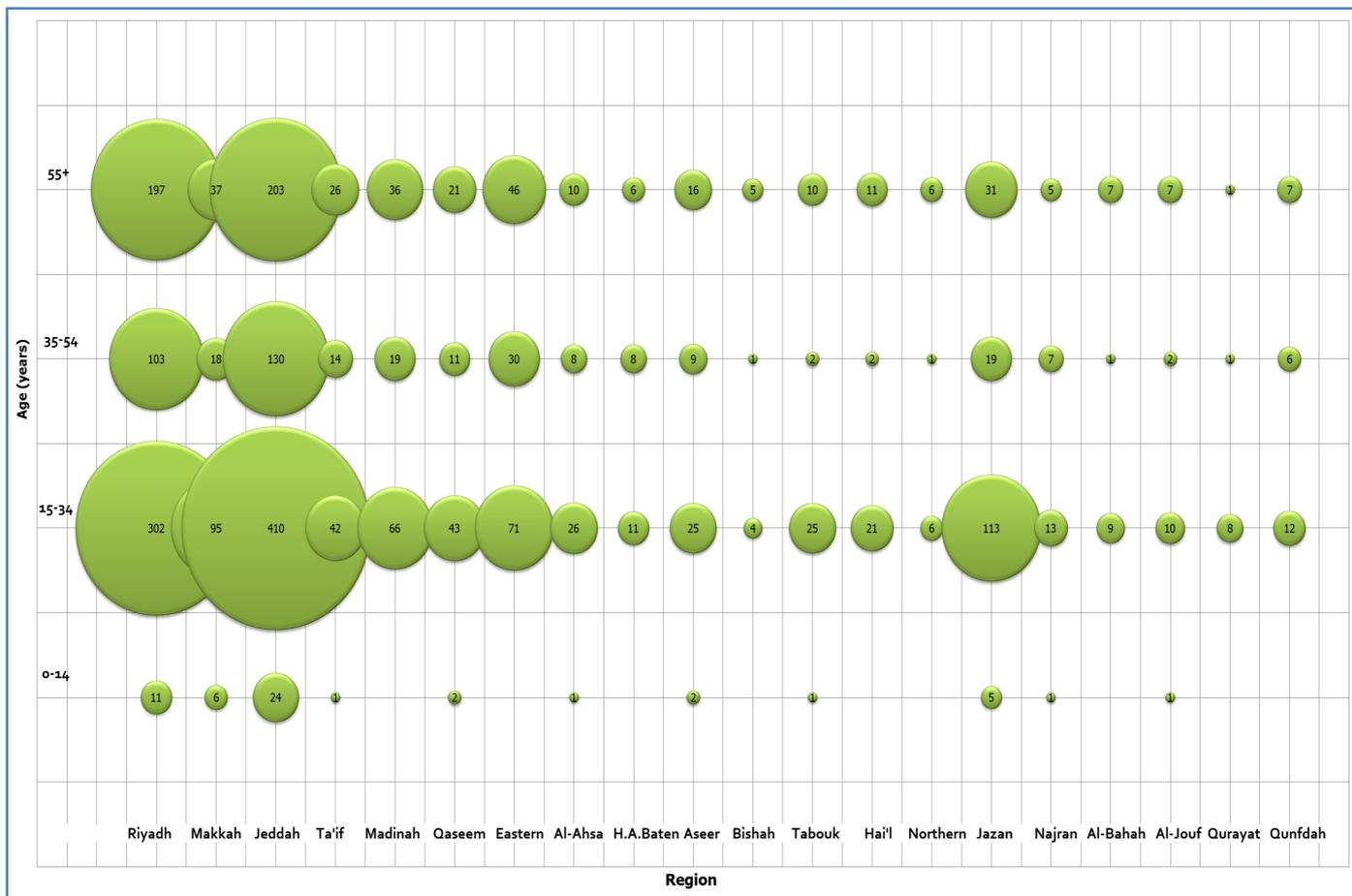


Figure 11.2a: Cases of pulmonary tuberculosis by region and age group, KSA, 2013

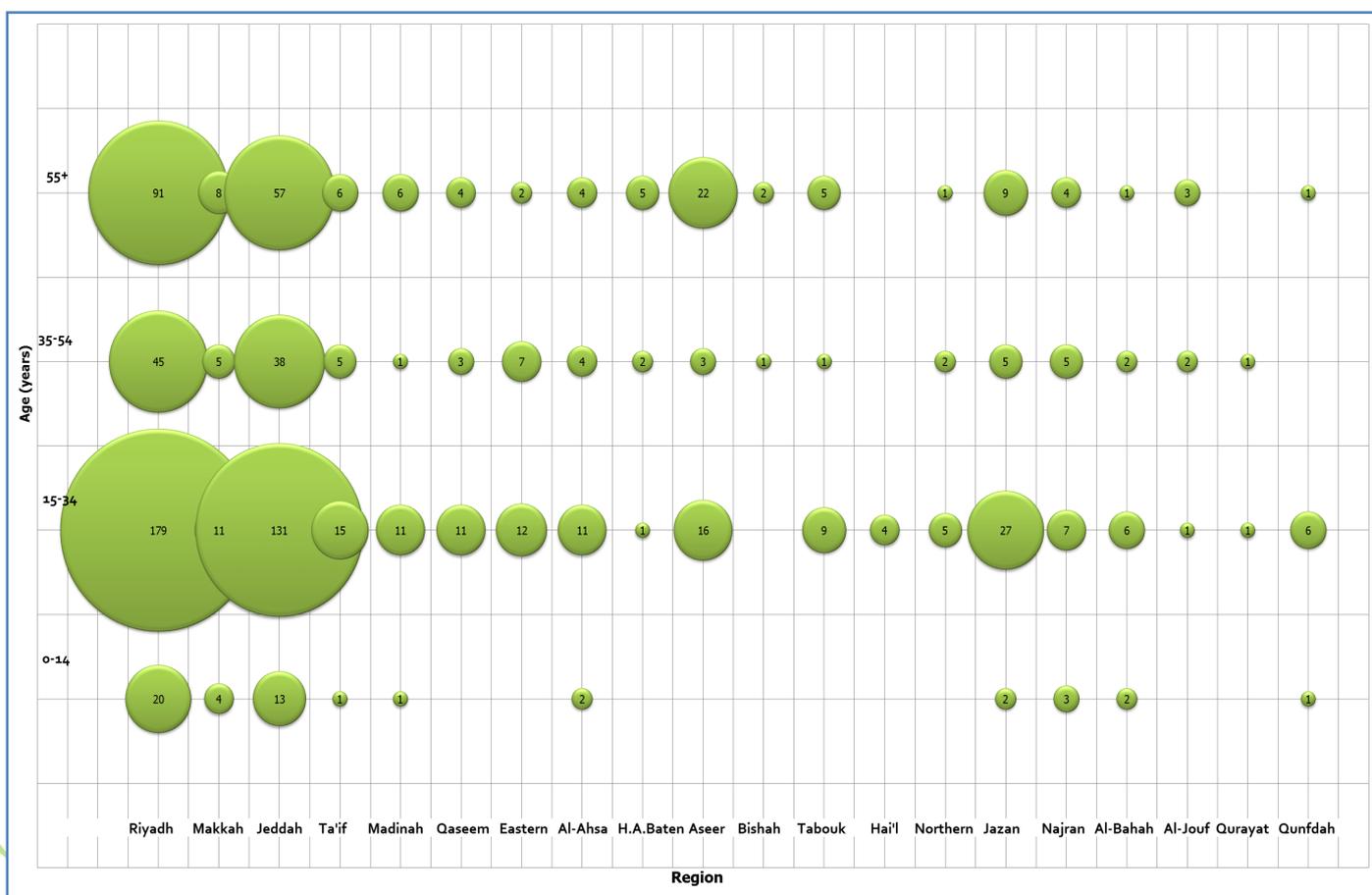


Figure 11.2b: Cases of extra-pulmonary tuberculosis by region and age group, KSA, 2013

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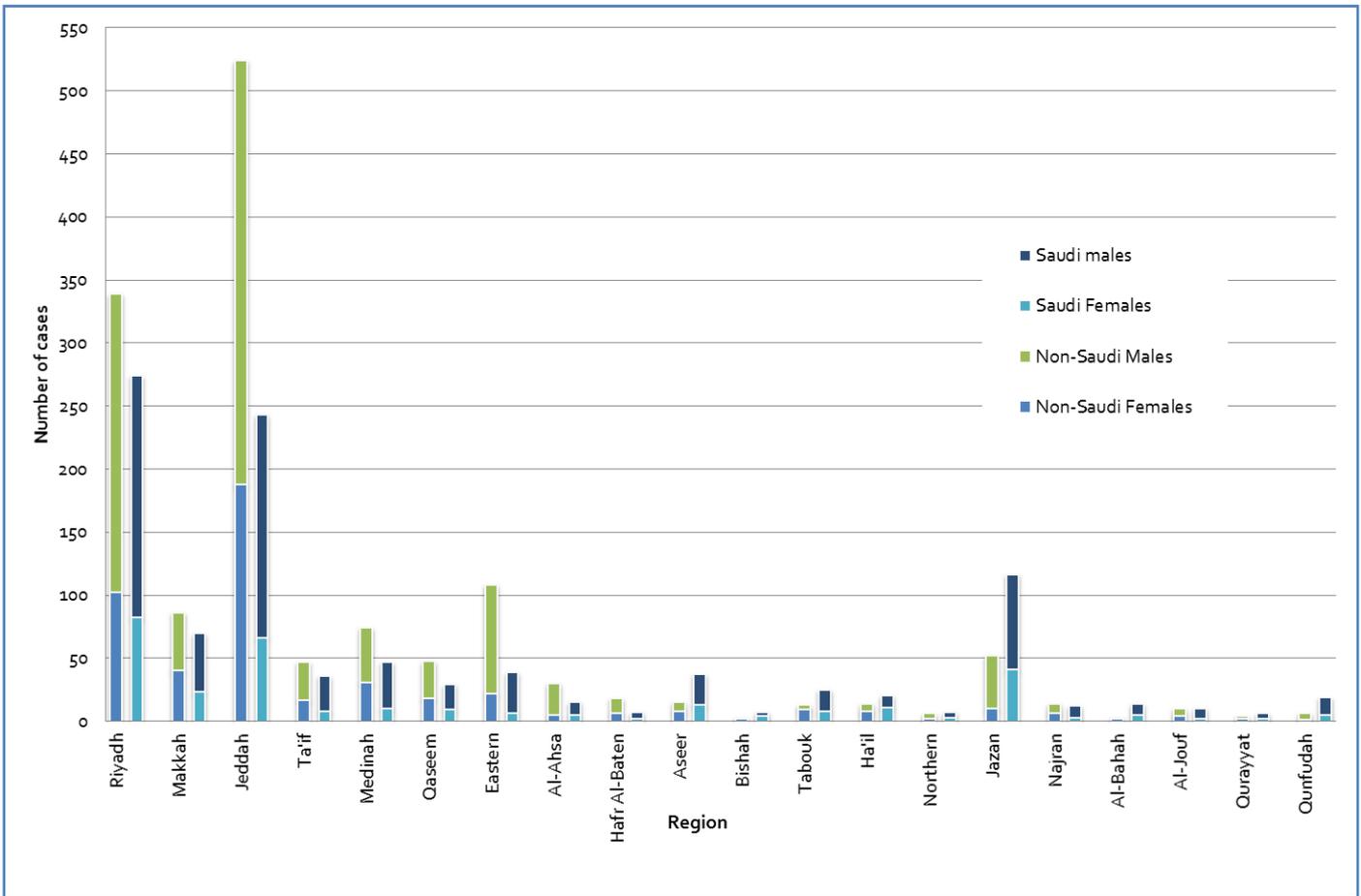


Figure 11.3a: Cases of pulmonary tuberculosis by region, gender and nationality, KSA, 2013

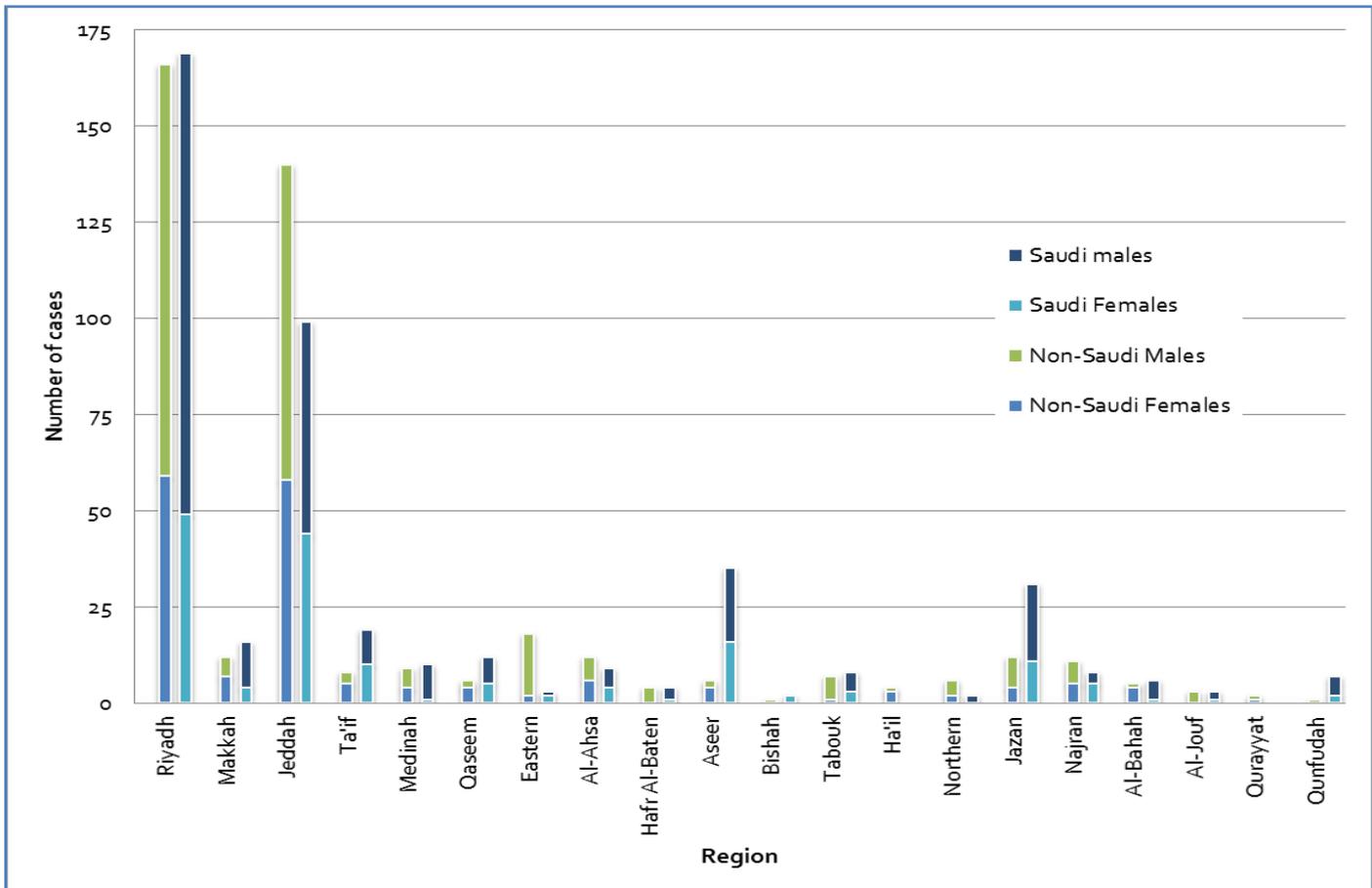


Figure 11.3b: Cases of extra-pulmonary tuberculosis by region, gender and nationality, KSA, 2013

Table 11.1: Leprosy cases by region, 2008-2012*

Region	2008	2009	2010	2011	2012
Riyadh	5	4	0	1	0
Makkah	7	1	0	1	3
Jeddah	1	2	2	2	0
Ta'if	5	3	0	1	0
Medinah	0	1	0	0	0
Qaseem	0	0	0	0	0
Eastern	2	1	0	8	0
Al-Ahsa	2	0	0	1	0
Hafr Al-Baten	0	0	0	0	0
Aseer	0	0	3	2	0
Bishah	0	0	0	0	0
Tabouk	0	0	0	0	0
Ha'il	0	0	0	0	0
Northern	0	0	0	0	0
Jazan	1	1	0	2	0
Najran	0	0	0	0	0
Al-Bahah	0	1	0	0	0
Al-Jouf	0	1	0	1	0
Qurayyat	0	0	0	0	0
Qunfudah	0	0	0	0	0
Total	23	15	5	19	3
Incidence rate (per 100,000 population)	0.09	0.06	0.02	0.07	0.01

* 2013 data are not available

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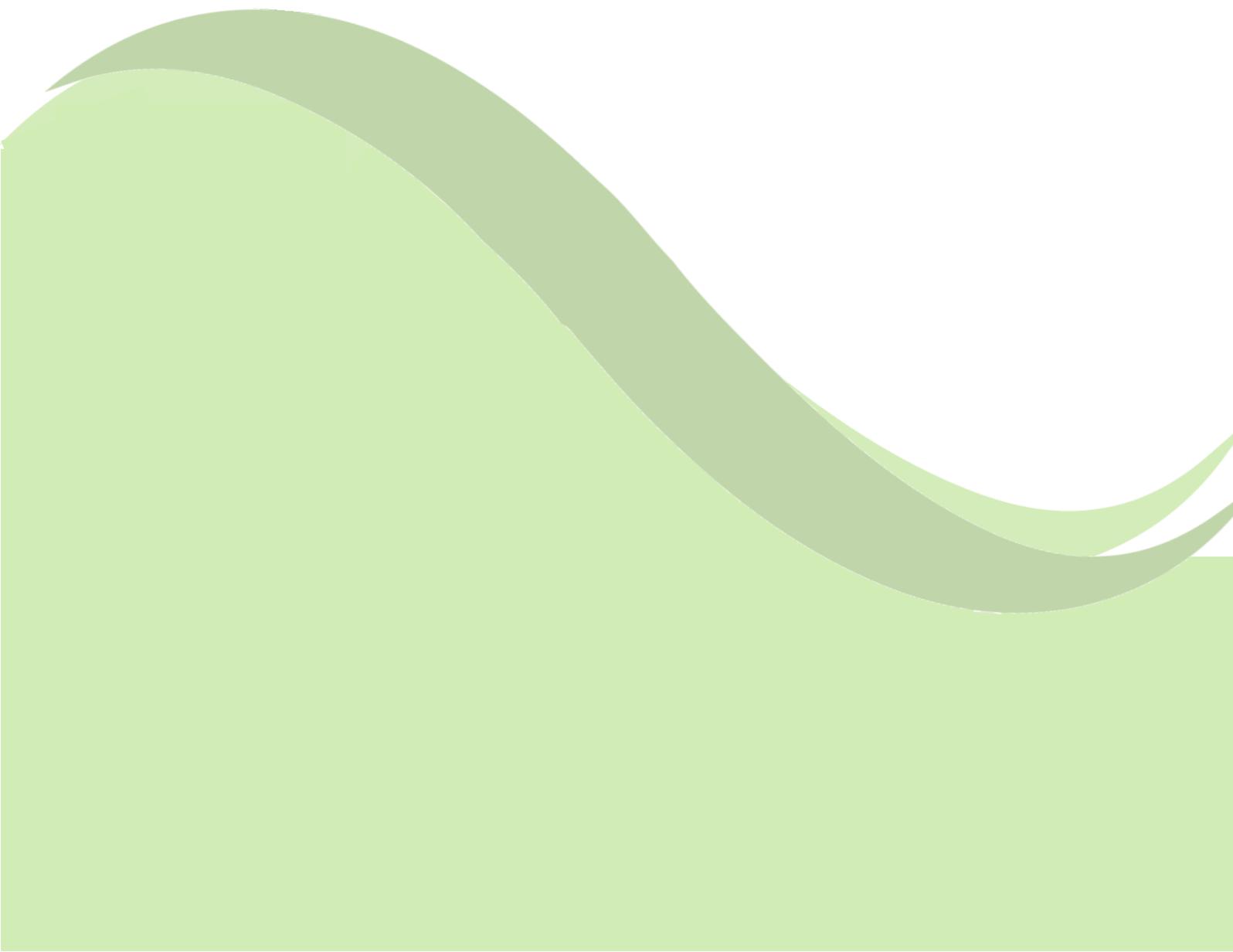
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PUBLIC HEALTH AND
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Chapter 12: Bilharziasis



12. BILHARZIASIS



Bilharziasis, also known as Schistosomiasis is a parasitic disease caused by several species of trematodes, a parasitic worm of the genus *Schistosoma*. Snails serve as the intermediary agent between mammalian hosts. Individuals within developing countries that cannot afford to establish proper water and sanitation facilities are often exposed to contaminated water containing the infected snails. Although it has a low associated mortality rate, Bilharziasis often is a chronic illness that can damage internal organs and, in children, impair growth and cognitive development. The urinary form of Bilharziasis is associated with increased risks for bladder cancer in adults. Bilharziasis is the second most socioeconomically devastating parasitic disease after Malaria.

Bilharziasis affects many people in developing countries, particularly children who may acquire the disease by swimming or playing in infected water. Disease transmission has been documented in 78 countries worldwide, one of which is the Kingdom of Saudi Arabia.

Epidemiological Aspects

In year 2012, a total number of 799,765 individuals from all over the Kingdom were examined for Bilharziasis, out of which 254 cases are reported (0.032% positive cases). From the total cases, 13.80% are urinary Bilharziasis and 86.22% intestinal Bilharziasis. The overall prevalence rate in the Kingdom for year 2012 is 0.9 per 100,000 population.

The distribution of cases according to geographical regions (Figure 12.1) reveals that Ta'if and Medinah are endemic areas, with 118 and 83 cases, respectively. The environmental predisposing factors are the cause of the prevalence present in these areas.

KEY ACHIEVEMENTS ...

According to the WHO, Bilharziasis has been successfully controlled over the past 20 years in several countries, including Brazil, Cambodia, China, Egypt, and Saudi Arabia.

Source: World Health Organization website



The distribution of Bilharzial cases by nationality (Figures 12.1 and 12.4) shows that 18.90% of total cases of Bilharziasis (48 cases) have been diagnosed among Saudis. Moreover, according to gender, the total number cases among males is 150 (59.1% of total cases). This difference in gender distribution can be explained by the fact that the male population is more exposed to the source of infection while swimming and working in agriculture. Figure 12.1 displays the distribution of cases by nationality and gender across the 13 provinces, where it is clear that most cases are among Non-Saudis .

The distribution of cases according to the different age groups (Figure 12.2) reveals a highest percentage of cases (84.3%) among the age group of 15-39 years, followed by the age group 40 years and older (9.8%). Furthermore, Figure 12.2 reveals that there is an ongoing transmission of infection in Makkah and Medinah; cases are discovered among the young and middle-aged individuals.

The geographical distribution of the intermediate host of Bilharziasis (Figure 12.3) shows that urinary Bilharziasis is endemic in Medinah, Jazan, and Aseer, while intestinal Bilharziasis is endemic in Makkah, Medinah, and Al-Bahah. Also displayed in Figure 12.3 is the distribution of examined cases across regions, where it is seen that Medinah contain the highest number of examined cases.

TREND OVER TIME...

In year 2012, the prevalence rate of Bilharziasis in KSA (0.9 per 100,000 population) is higher than that recorded in 2010 (0.5 per 100,000 population). However, when compared to that recorded in 2002 (5.5 per 100,000 population), there has been a 83.6% drop in the prevalence rate.

Between the years 2007 and 2012, the proportion of Bilharzial cases among Saudis has been decreasing, with an observed drop from 55.5% of total cases to 18.9% of total cases.

Between the years 2008 and 2012, the proportion of Bilharzial cases that are intestinal have increased from 75% to 86% of total cases.

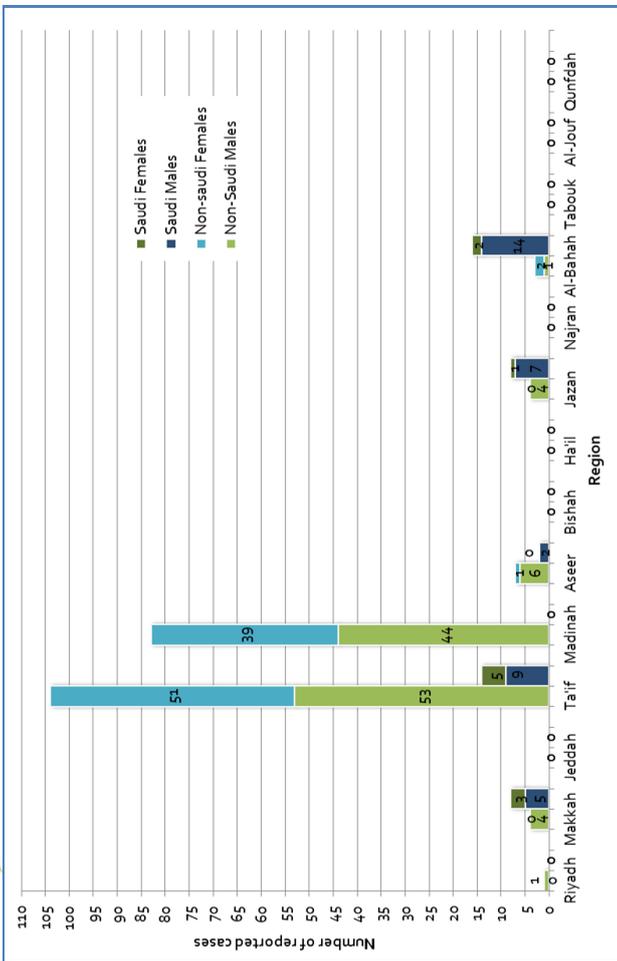


Figure 12.1: Reported Bilharzial cases by region, nationality and gender, KSA, 2012*

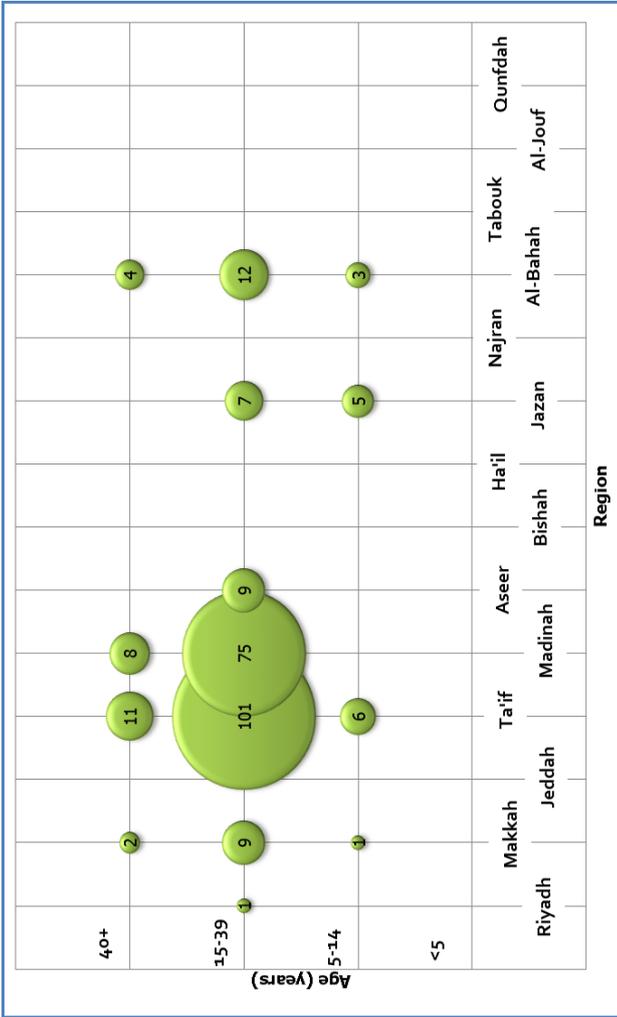


Figure 12.2: Reported Bilharzial cases by region* and age group, KSA, 2012*

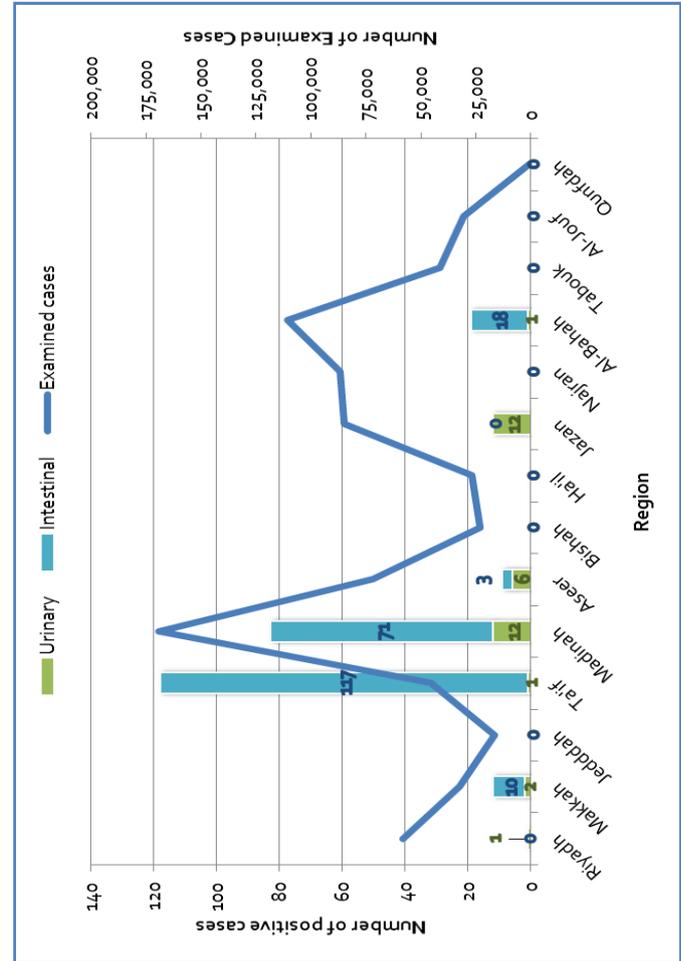


Figure 12.3: Reported Bilharzial cases by region and type of disease, KSA, 2012*

*Data were not reported for 1434H / 2013G

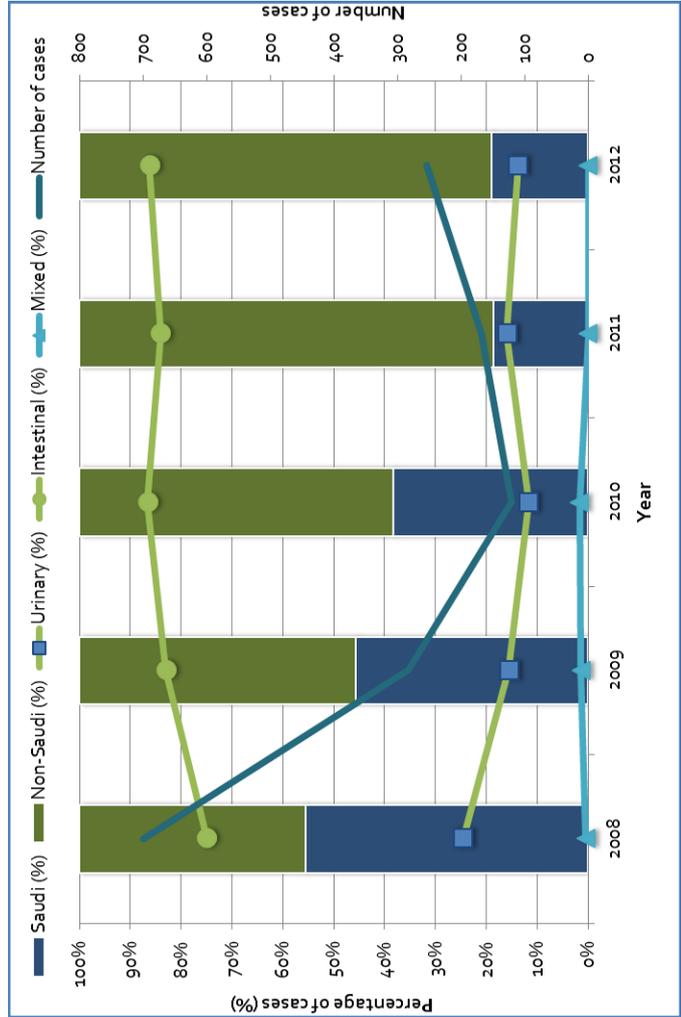


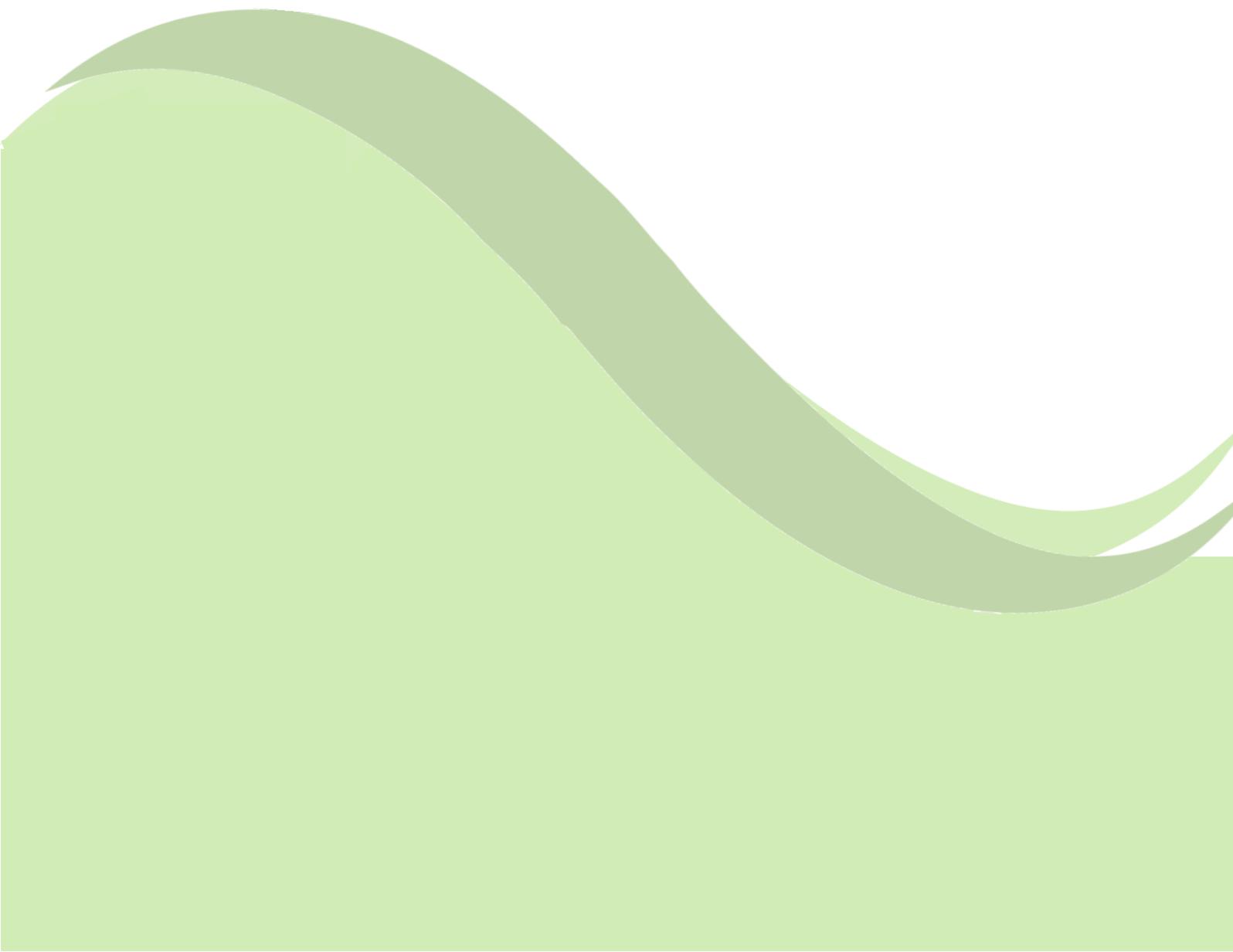
Figure 12.4: Reported Bilharzial cases by type of disease and nationality, KSA, 2008-2012*

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PUBLIC HEALTH AND
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Chapter 13: Leishmaniasis



13. LEISHMANIASIS



Leishmaniasis is caused by a parasitic protozoa of the genus *Leishmania*. Humans are infected via the bite of phlebotomine sandflies, which breed in forest areas, caves, or the burrows of small rodents.

CUTANEOUS LEISHMANIASIS

In year 2013, there are 1,988 reported cases of Cutaneous Leishmaniasis. Cases are spread all over the Kingdom but there is eminent variation regarding its prevalence rate among the different regions. Figure 13.1 provides the incidence rates for Cutaneous Leishmaniasis across the regions of the Kingdom. Madinah markedly has the highest incidence rate (30.11 cases per 100,000 population). No cases are reported in Jeddah, Al-Jouf, Qurrayat and Qunfdah.

The distribution of Cutaneous Leishmaniasis according to nationality (Figure 13.2) shows that 48.3% of cases are among Saudis (960 cases). The majority of cases (81.2%) occurred among the male gender. Figure 13.3 and Figure 13.4 display the detailed distribution of reported cases of Cutaneous Leishmaniasis by gender and by nationality, respectively, for the 20 regions.

According to the different age groups, highest percentage of Cutaneous Leishmaniasis cases (65.3%) are among the age group of 15-44 years, followed by the age group of 5-14 years (15.3%). Figure 13.5 shows the distribution by age groups across the different regions.

Figure 13.6, which represents the seasonal variation of Cutaneous Leishmaniasis cases, demonstrates a peak during the winter season (November-February) of 2013.

HOW DOES KSA COMPARE?

Leishmaniasis is endemic in 18 out of the 23 countries of the Eastern Mediterranean Region, one of which is the Kingdom of Saudi Arabia.

Source: World Health Organization website



VISCERAL LEISHMANIASIS

A total number of 13 cases of Visceral Leishmaniasis are reported in 2013. Incidence rate is 0.04 per 100,000 population. Table 13.2 describes the distribution of reported cases of Visceral Leishmaniasis by region, nationality over the time period of 2009-2013.

In terms of geographical distribution, cases of Visceral Leishmaniasis are present only in Jazan (87.5% of cases) and Aseer (12.5% of cases).

KEY ACHIEVEMENTS ...

Between the years 2009 and 2013, the incidence rate of Cutaneous Leishmaniasis decreased by 29.8%, from 9.4 to 6.6 per 100,000 population in KSA.

TREND OVER TIME...

The Kingdom witnessed a 22.0% decrease in the number of cases of Cutaneous Leishmaniasis, from 2,549 in 2009 to 1,988 in 2013.

Across the five years from 2009 to 2013, there has been an almost equal distribution (50:50) of Cutaneous Leishmaniasis cases among Saudis and non-Saudis in KSA.

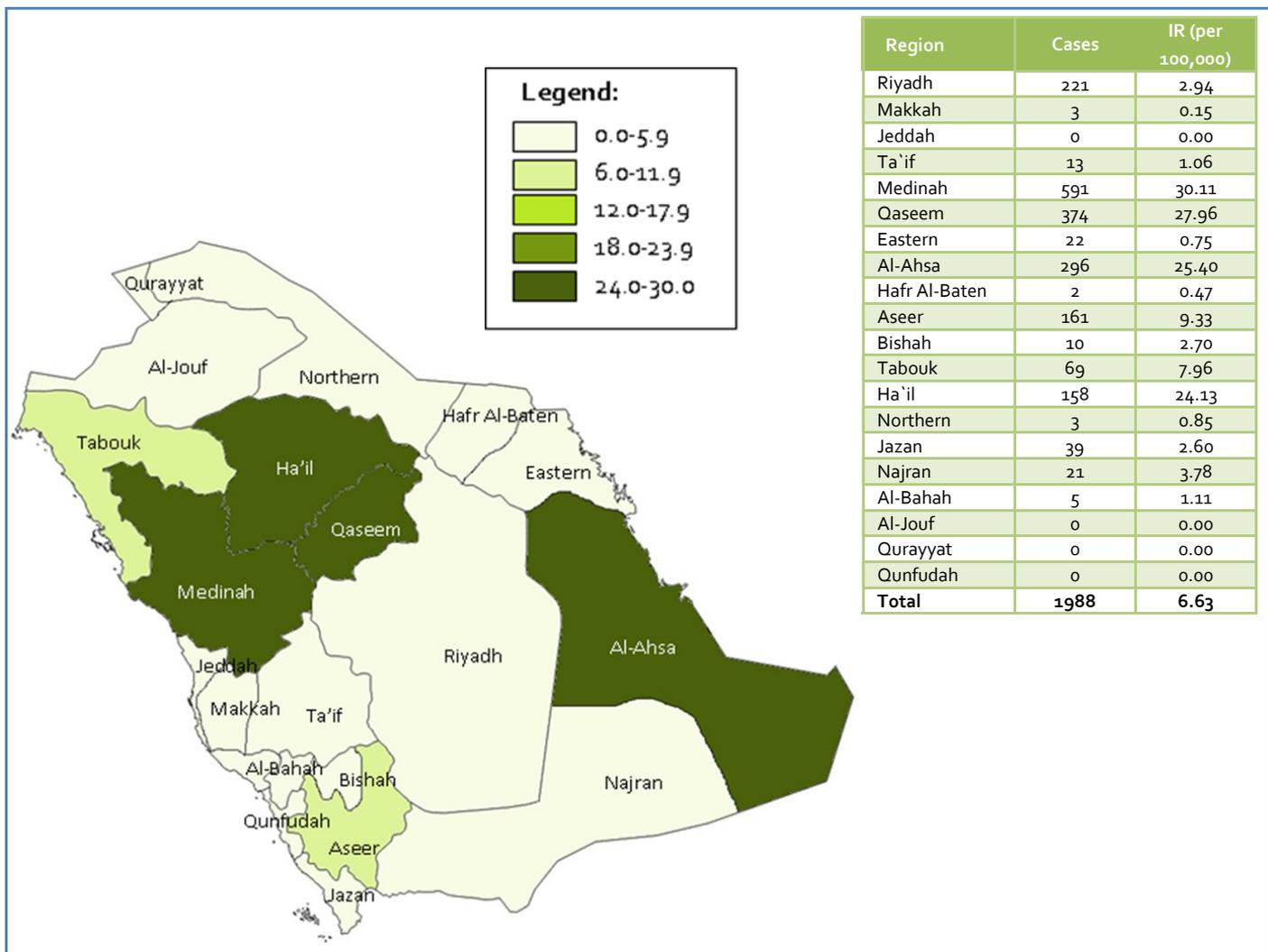


Figure 13.1: Incidence Rate (IR, per 100,000) of Cutaneous Leishmaniasis by region, KSA, 2013

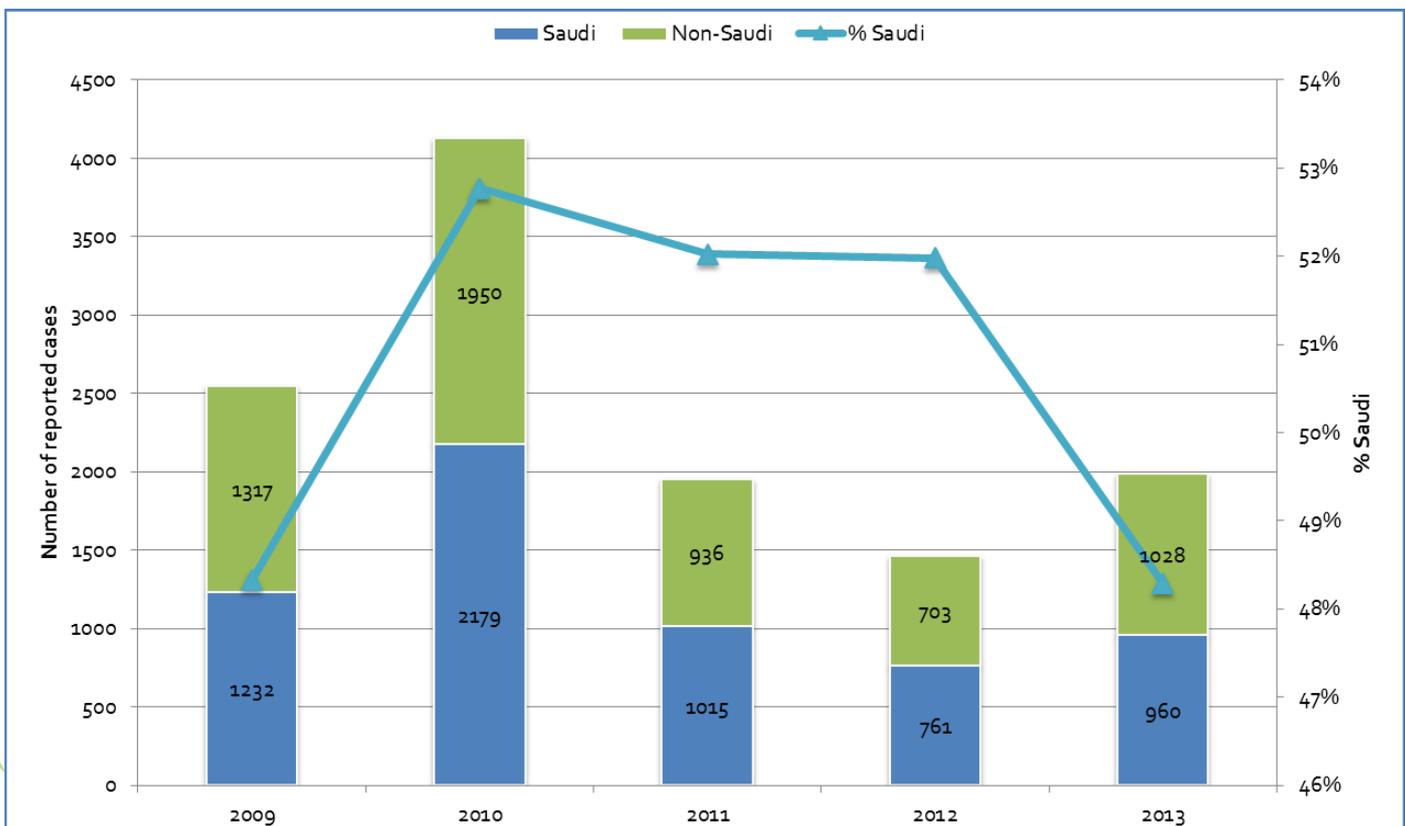


Figure 13.2: Reported cases of Cutaneous Leishmaniasis by nationality, KSA, 2009-2013

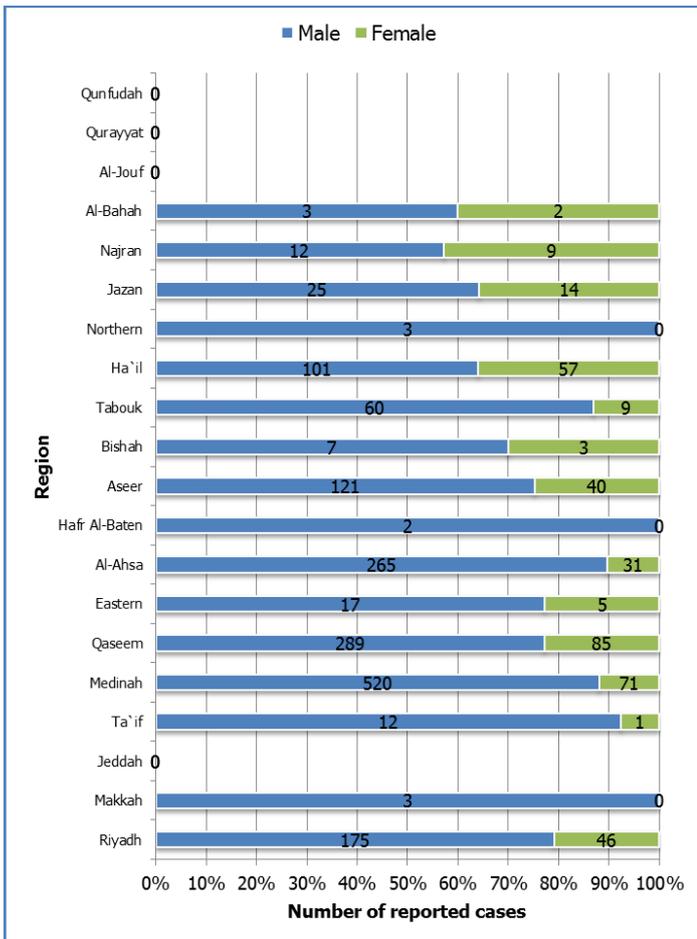


Figure 13.3: Reported cases of Cutaneous Leishmaniasis by region and gender, KSA, 2013

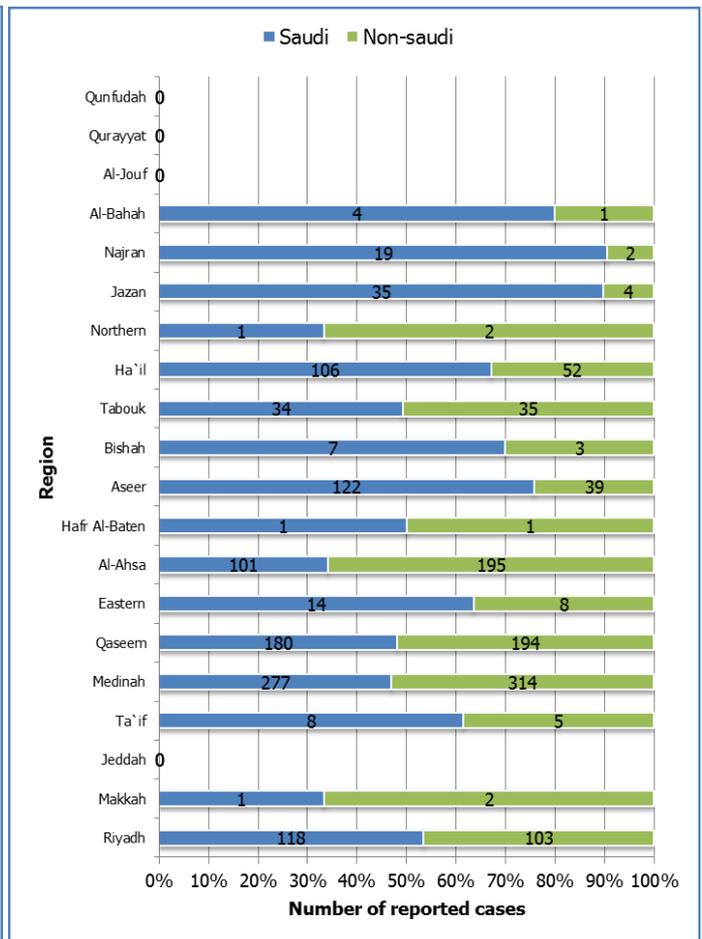


Figure 13.4: Reported cases of Cutaneous Leishmaniasis by region and nationality, KSA, 2013

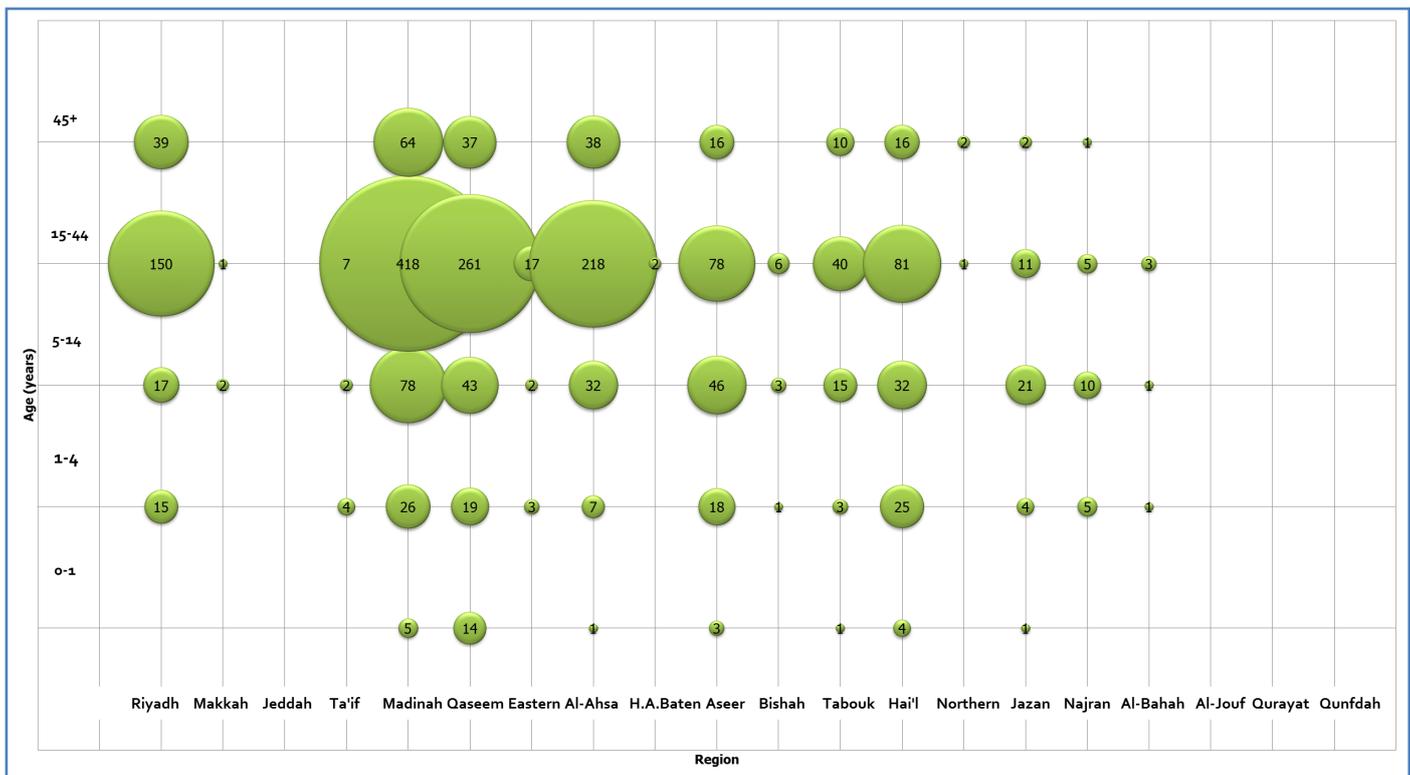


Figure 13.5: Reported cases of Cutaneous Leishmaniasis by region and age group, KSA, 2013

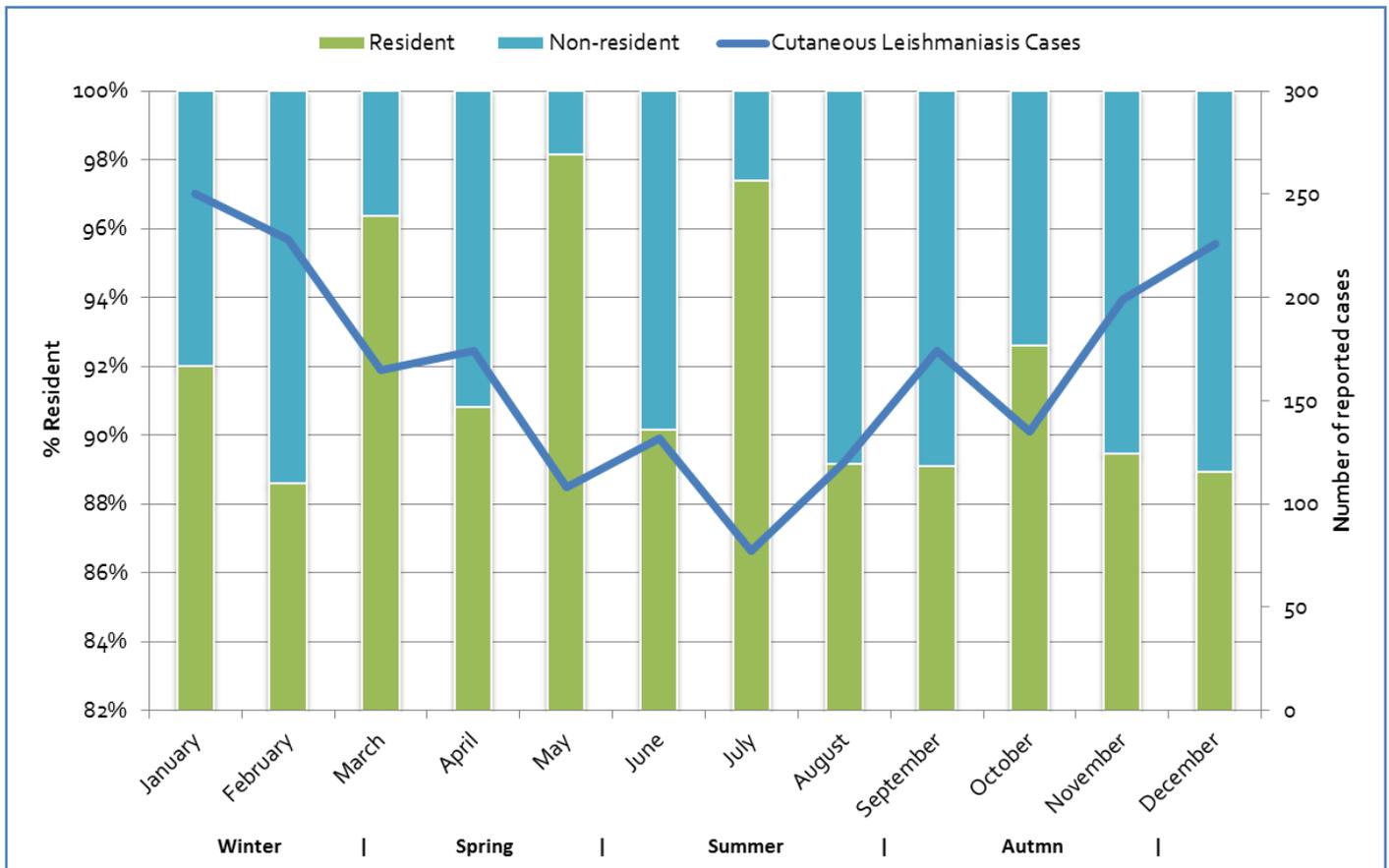


Figure 13.6: Reported cases of Cutaneous Leishmaniasis by month & season, and residence, KSA, 2013

Table 13.1: Reported cases of Cutaneous Leishmaniasis by month, nationality, gender, residence, and age group, KSA, 2013

Month	No. of cases	Nationality		Gender		Residence		Age group (years)					
		Saudi	Non-Saudi	Male	Female	Resident	Non-resident	0-1	1-4	5-10	10-14	15-44	45+
Jan.	250	120	130	213	37	230	20	0	12	20	27	170	21
Feb.	228	123	105	191	37	202	26	5	12	16	17	143	35
Mar.	165	89	76	133	32	159	6	0	19	15	11	106	14
Apr.	174	101	73	138	36	158	16	3	10	15	20	109	17
May	108	59	49	87	21	106	2	1	6	11	11	51	28
June	132	85	47	97	35	119	13	2	12	15	12	80	11
July	77	36	41	63	14	75	2	1	6	2	7	56	5
Aug.	120	49	71	106	14	107	13	0	7	8	5	90	10
Sep.	174	79	95	140	34	155	19	1	9	9	9	118	28
Oct.	135	73	62	110	25	125	10	2	10	5	12	90	16
Nov.	199	100	99	166	33	178	21	2	17	19	12	133	16
Dec.	226	114	112	171	55	201	25	12	11	16	10	153	24
Total	1988	1028	960	1615	373	1815	173	29	131	151	153	1299	225

Table 13.2: Reported cases of Visceral Leishmaniasis by region, KSA, 2009–2013

Region*	1430H / 2009G	1431H / 2010G	1432H / 2010G	1433H / 2012G	1434H / 2013G
Ta'if	0	0	0	0	1
Medinah	1	0	0	0	0
Qaseem	1	0	0	0	0
Aseer	0	2	1	1	3
Bishah	0	0	0	0	1
Jazan	15	6	6	7	8
Total	17	8	7	8	13

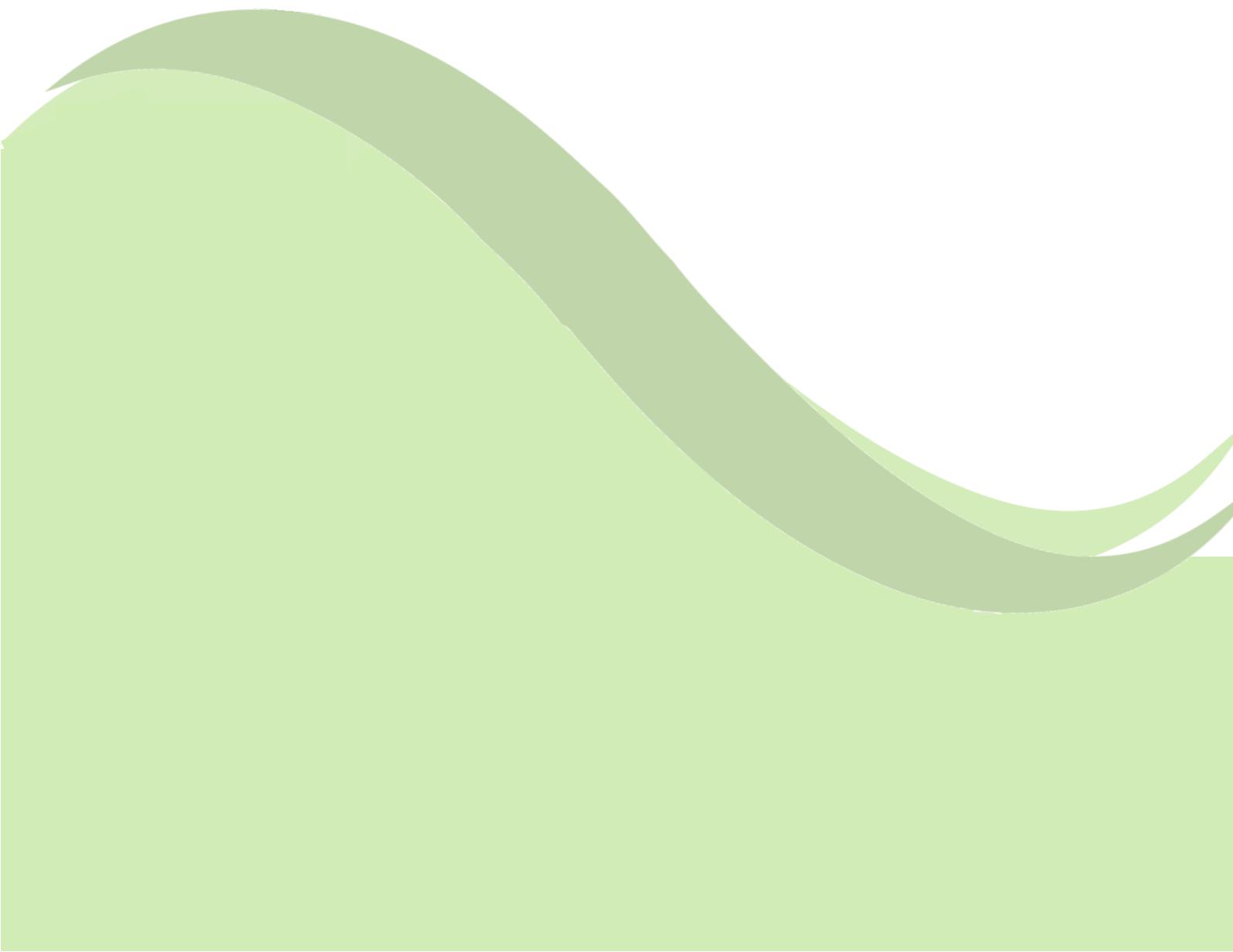
* No cases of Visceral Leishmaniasis were reported from other regions

SECTION III.

PUBLIC HEALTH AND
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Chapter 14: Malaria



14. MALARIA



Malaria is caused by a parasite called Plasmodium, which is transmitted via the bites of infected mosquitoes. Environmental conditions play an important role in the spread of Malaria. They affect mosquito species, life cycle and density. They also affect the life span of the plasmodium inside the mosquito.

The epidemiological aspects of Malaria vary from one region in the Kingdom to another and even within areas of the same region. This variation is related to the difference in the environmental conditions across the vast area of the Kingdom. Epidemiological aspects vary from one year to another, and are affected by the control measures taken against Malaria during that time period.

Anti-Malaria Control Measures

Anti-Malaria control measures in the Kingdom were initiated in 1948. Malaria transmission was successfully controlled in the Northern Borders and Eastern Province, as well as in large areas of the western regions, especially in the big cities.

Malaria remains endemic in Tohama valley and Jazan region, as control programs were only recently implemented in these regions. The delay in intervention was due to the absence of paved roads leading to these regions, poor communication network and shortage in manpower.

The majority of malarial cases (90%) are caused by the parasite *Plasmodium falciparum*; the main vector being the *Anopheles arabiensis*.

Epidemiological Aspects

A total of 2,513 cases are recorded this year. With regards to type of parasite involved, Figure 14.1 shows that 38.7% of cases of malaria are malignant, infected by *Plasmodium falciparum*, while 60.7% of cases are benign, infected by *Plasmodium vivax*. Figure 14.3 further represents the distribution of reported cases of Malaria by type of parasite among the different regions.

TREND OVER TIME...

The total number of reported Malaria cases in the Kingdom increased by 26.2% in 2013 compared to 2012, when there were 3,406 cases.





HOW DOES KSA COMPARE?

According to WHO, seven countries in the EMR still have areas of high malaria transmission and are in the control stage (Afghanistan, Djibouti, Pakistan, Somalia, Sudan, South Sudan, and Yemen); two countries with geographically limited malaria transmission are in the elimination stage (the Islamic Republic of Iran, and Saudi Arabia); and Egypt, Oman and the Syrian Arab Republic are in the prevention of re-introduction stage. The remaining countries are malaria-free.

Source: World Health Organization website

Figure 14.2, which represents the seasonal variation of Malaria cases, shows that there is a marked increase in the number of cases from January to February.

The distribution of cases of malaria according to the different age groups within endemic zones is displayed in Figure 14.4. Out of all cases reported within endemic zones, the vast majority of cases were discovered among the age group of 10 years and above.

Control Strategy

The anti-malaria control measures in the Kingdom are based on the following guidelines:

- a. Spraying of the breeding foci of mosquito to control the larva. This method is widely spread all over the Kingdom, except in the mosquito free areas.
- b. Spraying the houses with insecticides that have residual effect. This is used in the areas with high density of malaria.
- c. Spraying the narrow spaces minute particulates to reach deep areas. This method is used in areas with high cases of malaria.
- d. Use of mechanical control methods.
- e. Widespread use of nets impregnated with insecticides.
- f. Increasing health awareness programs.

Insect Survey

Insect surveys are conducted throughout the year and all over the Kingdom, in order to study the insect density, habits and behavior, and sensitivity to different insecticides.

Table 14.1: Notified Malaria cases by region and classification, KSA, 2013

Region	No. Examined	Positive Cases	Slide Positivity Rate (%)
Riyadh	209,695	177	0.08
Makkah	31,558	85	0.27
Jeddah	3,371	101	3.00
Ta'if	70,224	74	0.11
Medinah	141,957	172	0.12
Qaseem	276,111	735	0.27
Eastern	66,384	105	0.16
Al-Ahsa	1,128	17	1.51
Hafr Al-Baten	101,079	208	0.21
Aseer	36,736	67	0.18
Bishah	15,518	7	0.05
Tabouk	9,248	5	0.05
Ha'il	12,819	7	0.05
Northern	12,155	14	0.12
Jazan	205,202	631	0.31
Najran	35,087	65	0.19
Al-Bahah	41,392	19	0.05
Al-Jouf	29,010	8	0.03
Qurayyat	9,733	1	0.01
Qunfudah	1,376	15	1.09
Total	1,309,783	2,513	0.19

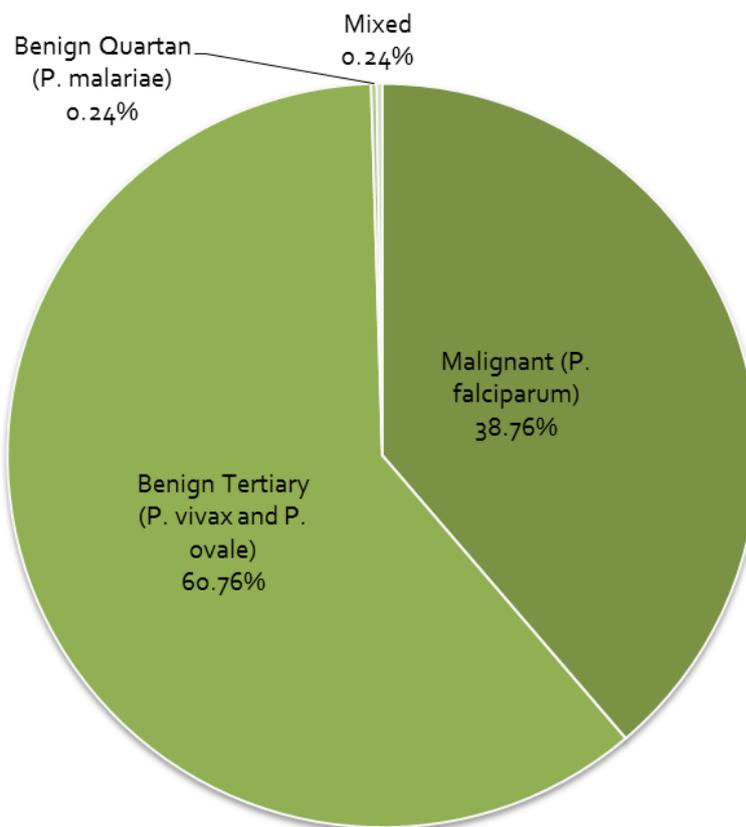


Figure 14.1: Notified Malarial cases by type of parasite, KSA, 2013

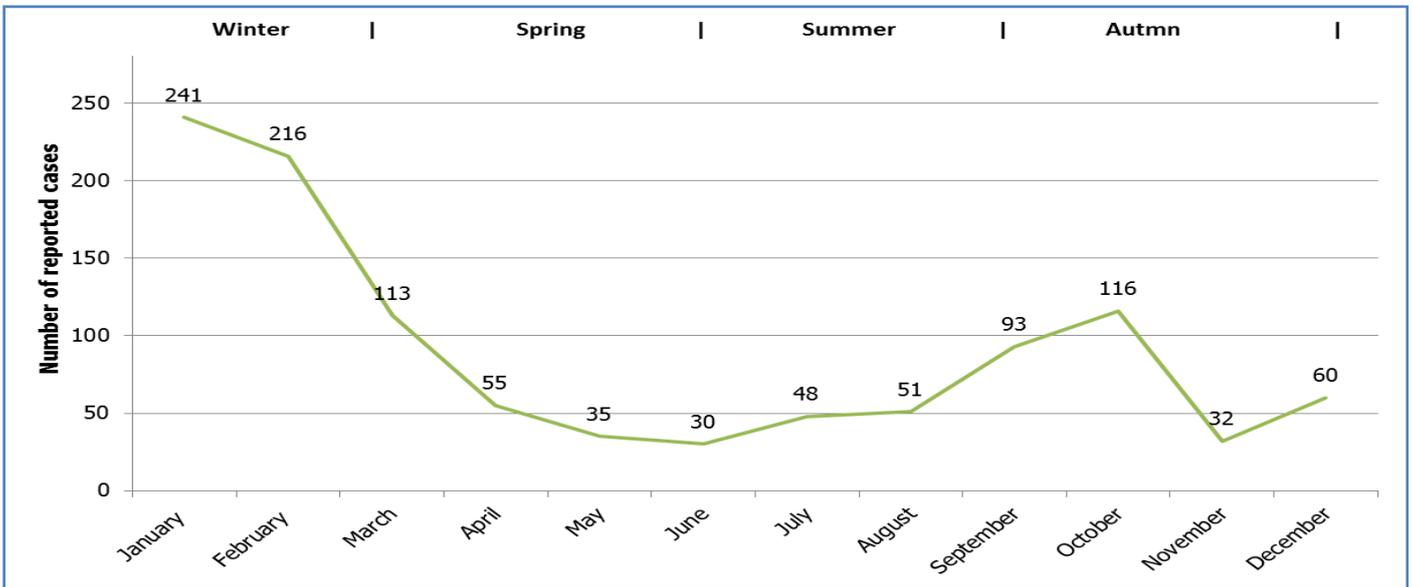


Figure 14.2: Notified malarial cases by month, 2013

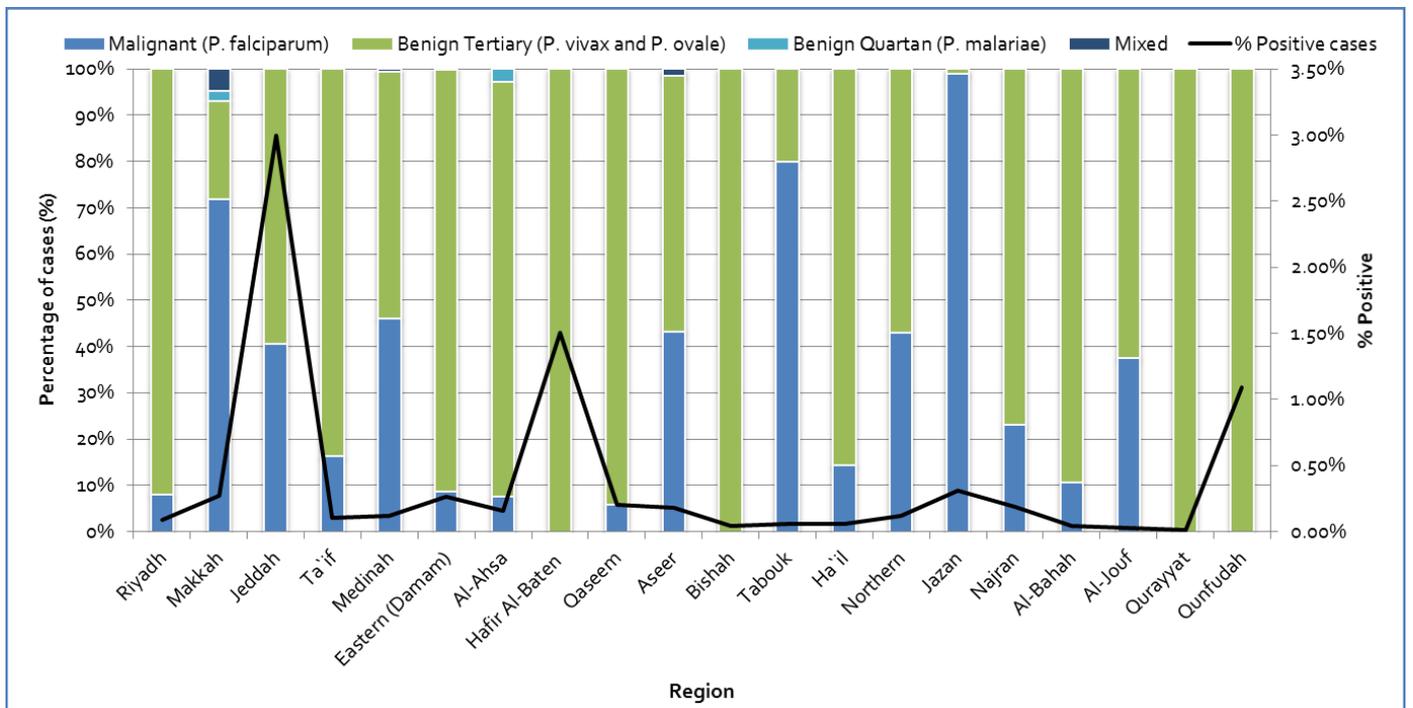


Figure 14.3: Reported Malarial cases by region and type of parasite, KSA, 2013

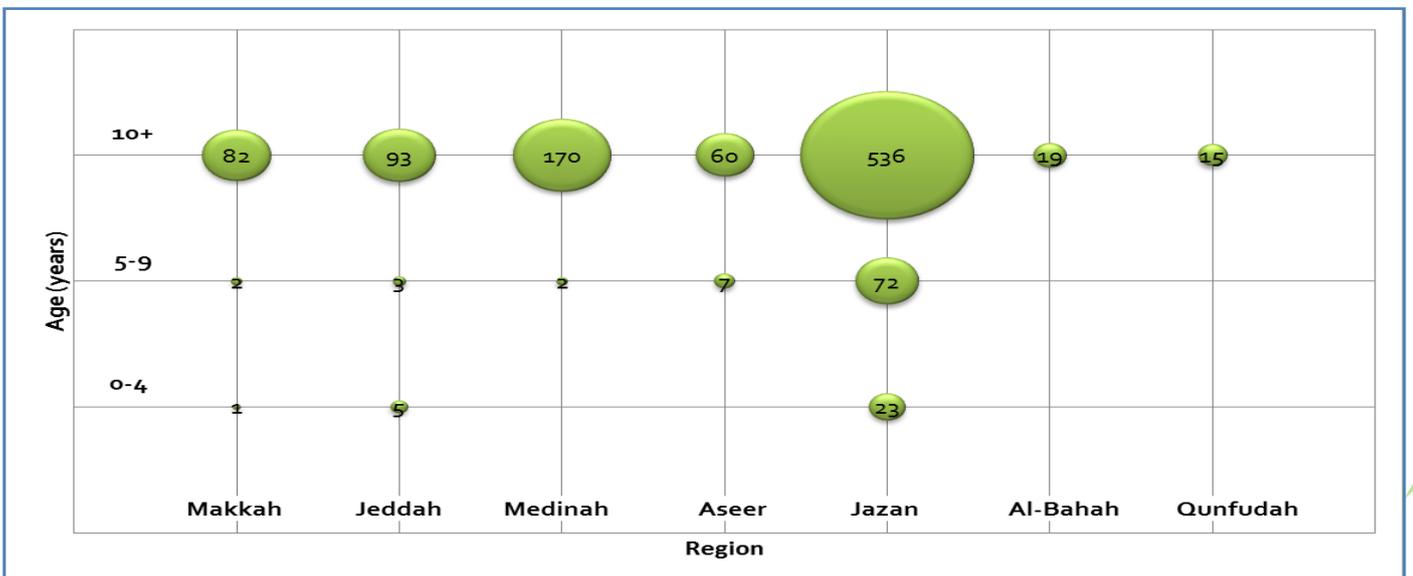


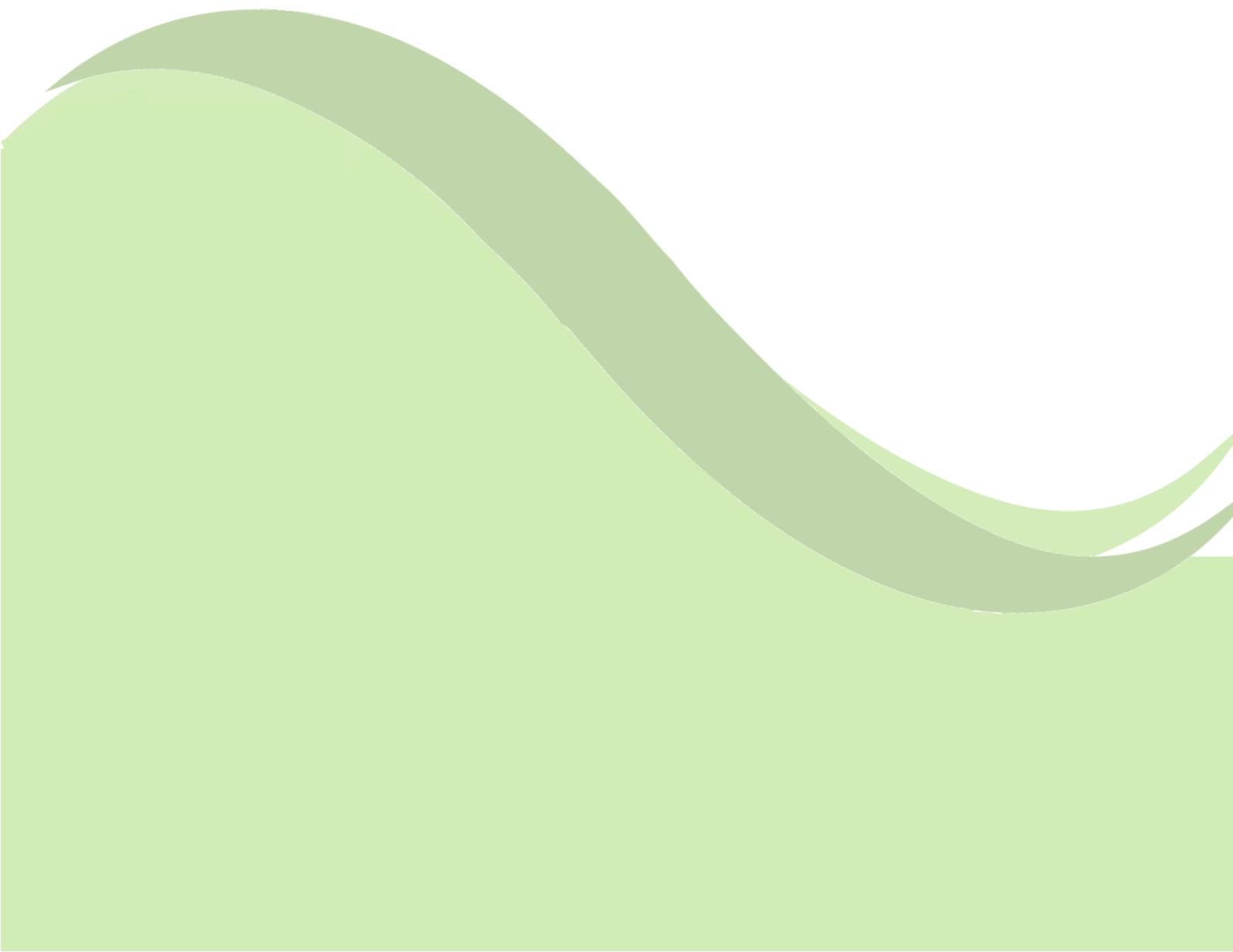
Figure 14.4: Notified malarial cases in endemic zones by age group, KSA, 2013

SECTION III.

PUBLIC HEALTH AND
PREVENTIVE MEDICINE



**Chapter 15: Environmental health and health education
activities**



15.

ENVIRONMENTAL HEALTH AND HEALTH EDUCATION ACTIVITIES

Environmental Health

Public health and environment-related authorities collaborate with each other in supervising public places and food stores. Samples of drinking water obtained from water supply resources are tested, and public places as well as residences of workers are continuously inspected.

As shown in Table 15.1, there were 77,848 visits to water supply sources, where 29,882 water samples were tested bacteriologically and chemically. Additionally, a total of 167,307 visits to public places and 15,252 visits to health utilities were done along with 7,790 visits to residences of company workers. Consequently, 19,407 kg and 11,286 L of food and liquids were destroyed.

Health Education

The Ministry of Health covers the following fields through the different activities and programs of health education:

- Family
- Nutrition
- Youth
- Child Health
- Maternal Health and antenatal care
- Smoking control
- Prevention of communicable diseases

KEY ACHIEVEMENTS ...

The Kingdom has become more active in terms of organizing activities on health awareness within national campaigns; the number of activities increased from 2 in 2009 to 113 in year 2012

Health education materials have been produced for most of the campaigns, immunization and other occasions. The health education message is also broadcasted through different meetings.

TREND OVER TIME...

The data over the past few years shows a gradual increase in the number of audits of health certificates for workers in the health sector by the Ministry of Public Health .

Table 15.1: Environmental health activities by region, MOH, 2013

Region	Visits Number				Samples Number		Execution of Food Stuffs		No. of workers checked for certificates
	Sources of water supply	Public places	Health utilities	Houses of company workers	Water	Food	In Kilogram	In Liter	
Riyadh	2609	20097	2960	394	651	...	...	...	9468
Makkah	5516	13895	183	11	5516	503	...	...	21082
Jeddah	1978	4512	204	273	598	...	...	...	4087
Ta'if	4305	17518	659	67	4486	171	7460	...	15827
Medinah	42329	31762	2725	1612	3424	32964	2444	2139	44944
Qaseem	615	1991	507	21	136	142	...	...	483
Eastern	2988	1886	1309	116	2736	40	370	...	1375
Al-Ahsa	1056	742	315	380	2307	...	...	...	...
Hafr Al-Baten	769	2171	396	140	1314	...	...	...	4306
Aseer	1973	8588	1123	1486	763	...	50	752	3831
Bishah	447	2212	482	187	454	...	7	...	1935
Tabouk	342	706	152	34	230	...	497	152	1289
Ha'il	993	27499	122	5	1259	451	3425	896	6425
Northern	393	2674	62	...	397	...	...	...	500
Jazan	2158	10894	823	342	1430	5	1453	3032	5272
Najran	355	1058	100	79	684	...	...	...	723
Al-Bahah	7339	6013	1572	1487	2314	501	...	...	5654
Al-Jouf	616	9231	1032	1226	116	...	...	...	7238
Qurayyat	978	2952	408	21	561	110	3666	4115	1964
Qunfudah	89	906	118	8	506	1200	35	200	2264
Total	77848	167307	15252	7889	29882	36087	19407	11286	138667

... Not reported

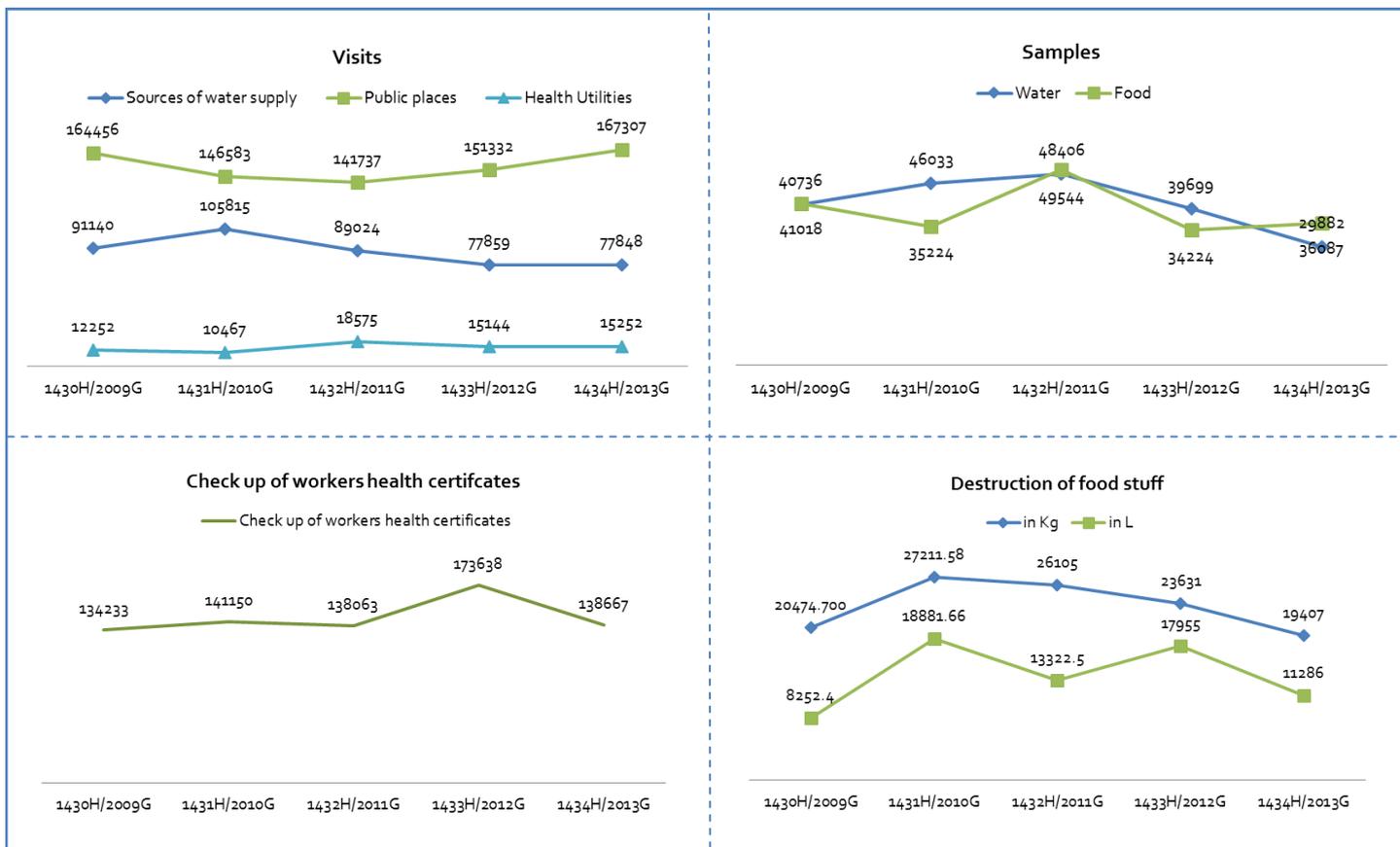


Figure 15.1: Environmental health activities, MOH, 2009-2013

Table 15.2: Health awareness, MOH, 2012*

Activity		Number of
Lectures	Inside Health Centers	49,796
	Outside Health Centers	64,228
	Total	114,024
Meeting	Inside Health Centers	4,650
	Outside Health Centers	2,387
	Total	7,037
Prints	Booklet	103,900
	Announcements	479,954
	Posters	85,968
	Leaflets	801,743
Training Courses		60
Number of Activities in National Campaigns		113
Activities related to international days in regions and governorates		1,362

* 2013 data are not available

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 16: Outpatient visits

Chapter 17: Inpatients (admissions to hospitals)

Chapter 18: Surgical operations

Chapter 19: Deliveries and births

Chapter 20: Ophthalmology

Chapter 21: Psychiatric and social health

Chapter 22: Dental services

Chapter 23: Hemodialysis and organ transplantations

Chapter 24: Laboratory & radiology investigations and blood bank

Chapter 25: Medical rehabilitation

Chapter 26: Medical commissions

Chapter 27: Nutrition

Chapter 28: Other activities

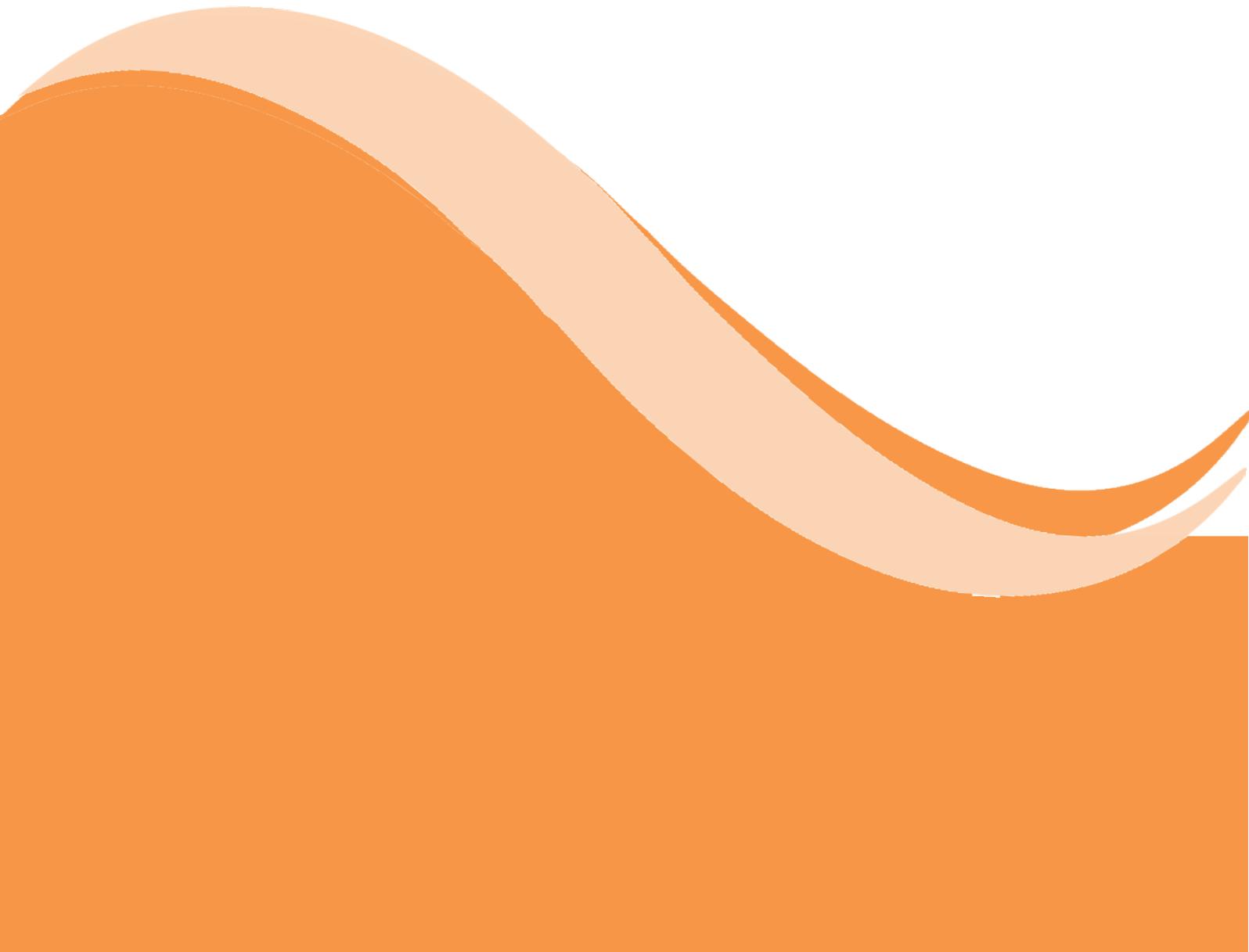
Chapter 29: Deaths registered at MOH hospitals

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 16: Outpatient visits



16. OUTPATIENT VISITS



This chapter provides information regarding the outpatient visits to the MOH facilities (MOH primary health care centers, emergency departments at the MOH hospitals, and outpatient departments at the MOH hospitals), visits to clinics at facilities of the other governmental sector, and visits to clinics at facilities of the private sector.

A. OUTPATIENT VISITS TO THE MOH FACILITIES

1. MOH Primary Health Care Centers

Table 16.1 displays a summary of patient visits to various clinics at the MOH primary health care centers across the Kingdom, by region and nationality. A total of 53.19 million visits are recorded in year 2013. An evident majority of the visits (89.9%) are among Saudi nationals. Figure 16.2 shows that almost two thirds of the visits (62%) take place at General Clinics.

2. Emergency Department (ED) at the MOH Hospitals

Visits to the ED at the MOH hospitals for the year 2013 are summarized in Table 16.2, by region, type of disease/injury, and nationality. The majority of the emergency cases (89%) are disease-related. As seen in Table 16.2 and Figure 16.3, in year 2012, the vast majority of emergency cases (90.4%) across all regions are of Saudi nationality.

As known, the Saudi Arabian Red Crescent Society is a humanitarian society that provides emergency medical service and transfer patients. In year 2013, a total of 221,407 cases were offered transport by the Red Crescent vehicles. Table 16.4 provides a summary of these cases, by region and type of case. Generally, and as seen in Table 16.5, the scope of activity of the Red Crescent Society has been increasing from year 2009 to year 2013.

3. Outpatient Department (OPD) at the MOH Hospitals

Visits to the OPD of the MOH hospitals by selected diseases and region are displayed in Table 16.6. A total of 11.35 million visits are recorded in year 2013.

Figure 16.6 summarizes the visits to clinics at MOH primary health care centers and OPDs at MOH hospitals by region and nationality for the year 2013. Visits to health centers represent the majority of total visits across all regions of the Kingdom. Moreover, across all regions of the Kingdom, the majority of both types of visits are made by Saudi nationals.

Figure 16.7 shows that, on average, there are 2.2 annual visits per individual in the Kingdom for the year 2013.

B. OUTPATIENT VISITS TO FACILITIES OF THE OTHER GOVERNMENTAL SECTORS

Figure 16.8 displays the visits to clinics and OPDs at facilities of the other governmental sector for year 2013, with representation of the proportion of visits made by Saudi nationals.

C. OUTPATIENT VISITS TO FACILITIES OF THE PRIVATE SECTOR

Visits to clinics at private sector dispensaries and hospitals by region for year 2013 are shown in Figure 16.9, with representation of the proportion of visits made by Saudi nationals. The trend for visits to clinics at private dispensaries and hospitals over the time period 2009-2013 is displayed in Figure 16.10.

D. OUTPATIENT VISITS ACROSS ALL HEALTH SECTORS

This section summarizes all outpatient visits to facilities across all health sectors (MOH, other governmental and private). The total number of outpatient visits in the Kingdom is around 135.19 million in year 2013, representing an average of 534,365 daily visits (for 5 working days per week). As seen in Figure 16.11, there has been a slight decrease in the proportions of visits per individual in the Kingdom (from 4.6 in 2012 to 4.5 in 2013). Consistently, visits to facilities of the MOH have represented the majority of total visits for all years recorded, and more specifically 48% of total visits in year 2012 (Figure 16.12).

E. OUTPATIENT VISITS TO SELECTED HEALTH SERVICES

Outpatient visits to diabetic clinics at the MOH hospitals by region of the Kingdom for year 2013 are shown in Figure 16.13, with representation of the proportion of visits made by Saudi nationals and by the gender (% male). Males constituted 53% of the total visits to diabetic clinics. The number of visits by Saudi nationals constituted almost 100% of total visits.

Figure 16.14 displays the visits to antenatal and gynecology clinics at the MOH hospitals between 2009 and 2013. Table 16.7 display the cases of complications related to pregnancy & childbirth and gynecology, as well as abortion cases that took place at the MOH hospitals during the time period of 2009-2013. For year 2013, the cases of infertility constituted the highest proportion of gynecological cases. Between the years 2009 and 2013, the number of abortion cases dropped by 1.7% from 41,764 to 41,051 cases.

Malignant tumors that are recorded in King Faisal Specialist Hospital and Research Center, in Riyadh and Jeddah, are displayed by tumor site and gender, in Figure 16.15. Breast Cancer constitutes 19.1% of total tumor cases recorded for year 2012.

According to Table 16.8, leukemia constitutes the highest percentage of tumor cases recorded among males (8.5%), while breast cancer constitutes the highest percentage of tumor cases recorded among females (33.1%).

Figure 16.16 displays the proportion of cases of tumors among children, who are referred to King Faisal Specialist Hospital, Riyadh and Jeddah, by tumor site and gender for year 2012. Leukemia constitutes the majority (32%) of total tumor cases.

TREND OVER TIME...

Between the years 2009 and 2013, the average annual number of visits to clinics at MOH health centers and outpatient departments at MOH hospitals across the Kingdom per individual dropped from 2.6 to 2.2 annual visits per individual.

Between the years 2009 and 2013, the average annual number of visits to all outpatient facilities across all health sectors of the Kingdom per individual dropped from 5.1 to 4.5 annual visits per individual.

A. OUTPATIENT VISITS TO MOH FACILITIES

1. MOH Primary Health Care Centers

Table 16.1: Visits to clinics at the MOH health centers by region, type of clinic and nationality, 2013

Region	General clinics		Chronic disease clinic		Dental clinic		Antenatal clinic	
	Saudi	Non-Saudi	Saudi	Non-Saudi	Saudi	Non-Saudi	Saudi	Non-Saudi
Riyadh	5,173,669	645,823	735,152	95,859	195,008	2,236	85,161	5,780
Makkah	1,802,834	442,253	413,358	20,325	83,684	2,907	26,383	1,690
Jeddah	1,304,984	87,508	143,687	10,781	117,042	2,655	14,766	921
Ta'if	1,428,355	83,690	225,930	10,140	173,145	2,172	18,689	871
Medinah	2,544,604	1,119,782	296,820	16,521	215,467	5,122	59,828	6,758
Qaseem	1,922,365	159,325	401,308	10,620	223,399	4,123	44,304	759
Eastern	1,554,001	229,142	207,272	18,615	153,174	2,335	40,403	2,198
Al-Ahsa	1,393,676	88,827	255,390	7,314	163,972	852	86,770	3,674
Hafr Al-Baten	590,590	80,804	130,866	8,071	76,125	9,502	13,727	1,726
Aseer	2,265,364	99,410	292,466	8,396	180,249	6,775	44,055	1,141
Bishah	803,023	50,201	123,101	4,055	87,416	597	16,281	263
Tabouk	855,077	69,652	135,629	3,300	83,620	638	31,743	1,010
Ha'il	1,221,397	80,318	120,882	2,113	71,077	181	31,133	608
Northern	675,415	36,845	23,502	1,660	31,570	68	20,184	818
Jazan	2,728,776	197,200	400,204	12,602	136,189	8,589	58,075	4,247
Najran	762,592	104,036	90,316	13,310	82,305	317	20,503	4,269
Al-Bahah	854,355	64,595	211,827	5,136	97,710	746	22,683	289
Al-Jouf	478,675	45,289	58,409	1,539	50,229	496	19,561	442
Qurayyat	181,554	17,942	13,334	651	23,658	259	11,873	532
Qunfudah	695,955	34,922	119,960	2,203	55,994	1,393	11,843	133
Total	29,237,261	3,737,564	4,399,413	253,211	2,301,033	51,963	677,965	38,129

Region	Well-baby clinic		Other clinics		Total	
	Saudi	Non-Saudi	Saudi	Non-Saudi	Number of visits	% Saudi
Riyadh	411,147	29,186	1,044,881	218,950	8,642,852	88.5%
Makkah	171,645	12,862	782,748	128,673	3,889,362	84.3%
Jeddah	163,127	89,793	424,038	41,133	2,400,435	90.3%
Ta'if	100,516	5,030	333,117	32,720	2,414,375	94.4%
Medinah	268,630	35,504	694,328	93,962	5,357,326	76.2%
Qaseem	188,028	9,034	468,693	58,315	3,490,273	93.1%
Eastern	197,593	31,663	446,068	67,041	2,949,505	88.1%
Al-Ahsa	178,494	9,150	716,386	49,340	2,953,845	94.6%
Hafr Al-Baten	56,247	4,604	186,636	22,867	1,181,765	89.2%
Aseer	201,079	6,702	513,709	31,940	3,651,286	95.8%
Bishah	73,151	1,649	154,750	14,510	1,328,997	94.6%
Tabouk	170,704	3,926	203,312	15,086	1,573,697	94.1%
Ha'il	86,444	1,749	211,659	23,265	1,850,826	94.2%
Northern	74,870	3,101	221,837	17,096	1,106,966	94.6%
Jazan	201,965	18,599	895,941	82,411	4,744,798	93.2%
Najran	133,362	24,772	298,238	45,724	1,579,744	87.8%
Al-Bahah	49,198	499	371,810	19,743	1,698,591	94.6%
Al-Jouf	61,722	3,629	140,611	22,005	882,607	91.7%
Qurayyat	22,722	1,117	52,292	4,310	330,244	92.5%
Qunfudah	33,763	976	187,378	17,358	1,161,878	95.1%
Total	2,844,407	293,545	8,348,432	1,006,449	53,189,372	89.9%

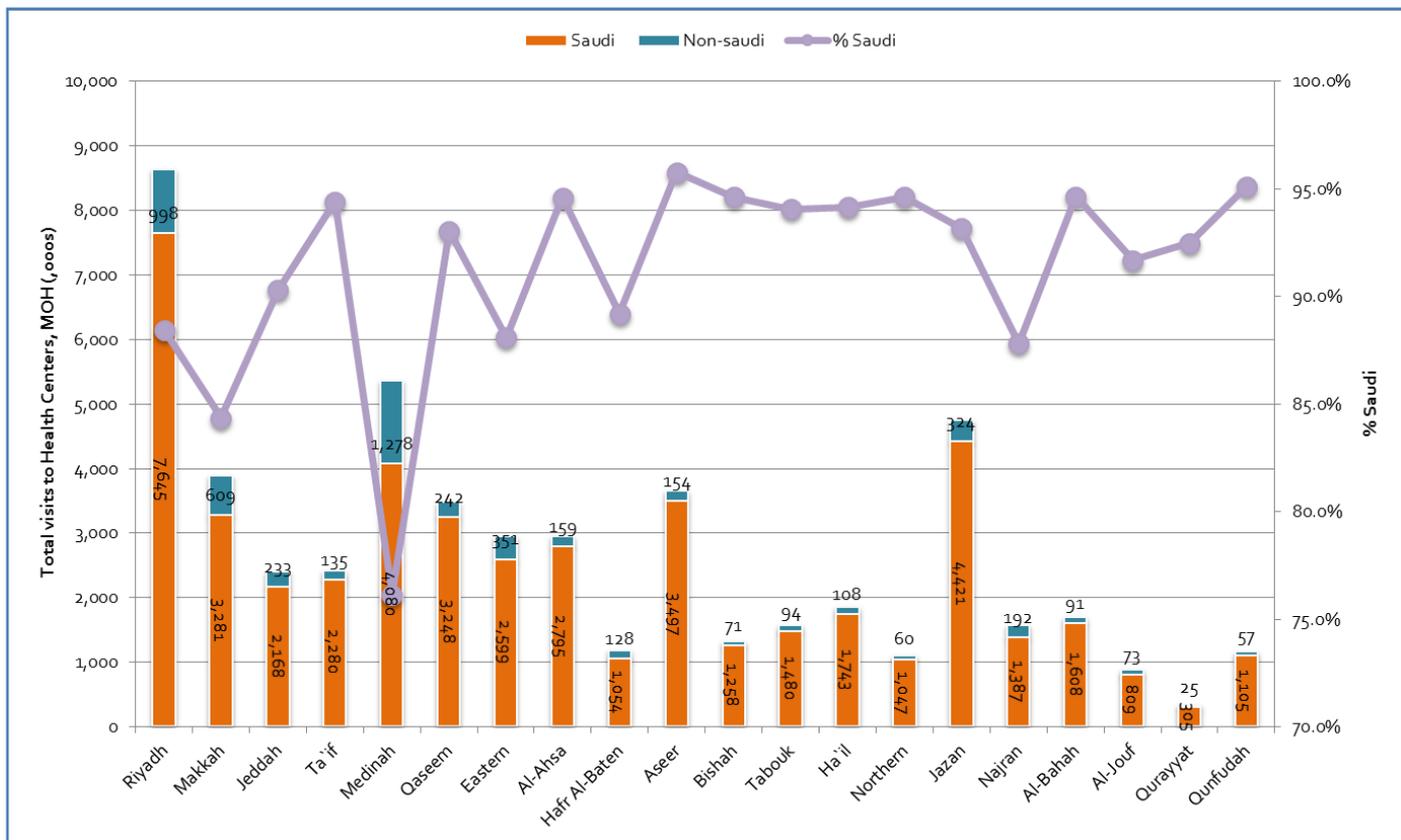


Figure 16.1: Total visits to clinics at MOH health centers by region and nationality, 2013

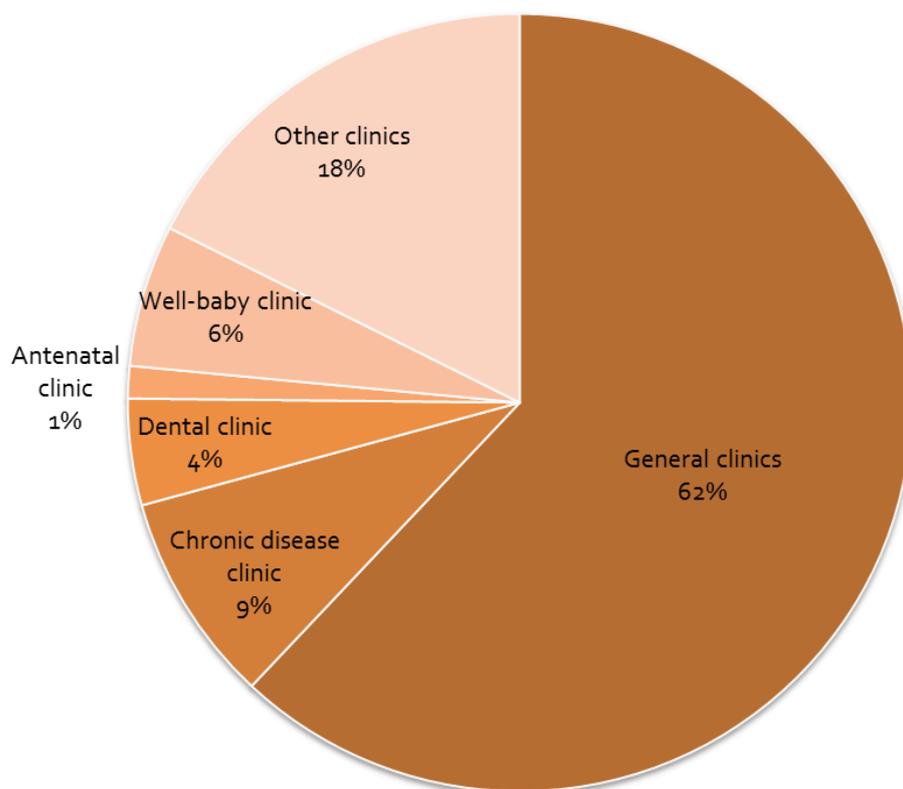


Figure 16.2: Visits to clinics at the MOH health centers by specialty, 2013

2. Emergency Department (ED) at the MOH Hospitals

Table 16.2: Emergency cases at the MOH hospitals by region, type of disease/injury, and nationality, 2013

Region	Cases												Total		
	Diseases		Injuries		OBS/GYN		Neonatal Diseases		Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	% Saudi
	Saudi	Non-Saudi	Saudi	Non-Saudi	Saudi	Non-Saudi	Saudi	Non-Saudi							
Riyadh	216,4330	262,427	223,568	4,6727	51,443	4,662	11,188	13,46	2,450,529	315,162	2,765,691	2,450,529	315,162	2,765,691	88.6
Makkah	85,4601	20,2992	63,314	20,121	33,522	6,164	32,04	7,83	95,46,41	23,0060	118,4701	95,46,41	23,0060	118,4701	80.6
Jeddah	91,7003	89,758	60,388	13,857	14,568	2,777	37,06	3,53	99,56,65	10,67,45	110,24,10	99,56,65	10,67,45	110,24,10	90.3
Ta'if	92,8063	58,413	116,022	13,639	10,314	11,47	6,69	1,77	10,55,068	7,3376	112,84,44	10,55,068	7,3376	112,84,44	93.5
Medinah	189,0714	2,96,246	139,005	4,84,04	9,07,96	4,310	6,748	1,23	21,27,263	3,49,083	24,76,346	21,27,263	3,49,083	24,76,346	85.9
Qaseem	133,2975	1,21,615	124,979	2,38,21	3,70,56	3,417	11,255	1,82	15,06,265	1,49,035	16,55,300	15,06,265	1,49,035	16,55,300	91.0
Eastern	88,0172	8,77,80	51,237	10,251	1,70,39	1,303	1,798	70	95,02,46	9,94,04	104,96,50	95,02,46	9,94,04	104,96,50	90.5
Al-Ahsa	90,5229	3,29,37	6,28,12	5,633	2,38,28	1,250	1,371,8	2,29	10,05,587	4,00,49	10,45,636	10,05,587	4,00,49	10,45,636	96.2
Hafr Al-Baten	51,2774	2,47,96	90,47	1,613	6,53	64	6,64	2	52,31,38	2,64,75	54,96,13	52,31,38	2,64,75	54,96,13	95.2
Aseer	14,10133	8,56,34	12,74,73	11,201	24,111	1,274	7,419	3,67	15,59,136	9,84,76	16,67,612	15,59,136	9,84,76	16,67,612	94.1
Bishah	43,2867	28,456	33,193	5,191	5,125	338	2,44	1,7	47,14,29	34,002	50,54,31	47,14,29	34,002	50,54,31	93.3
Tabouk	64,2677	59,574	11,7919	1,972	9,823	1,354	6,600	6,73	7,77,019	8,13,73	85,83,92	7,77,019	8,13,73	85,83,92	90.5
Ha'il	67,1047	5,79,62	38,090	6,337	1,93,60	9,97	3,183	1,63	73,1,680	6,54,59	79,71,39	73,1,680	6,54,59	79,71,39	91.8
Northern	3,78,708	31,430	41,147	11,038	1,786	1,24	2,958	3,42	42,4,599	4,29,34	46,75,33	42,4,599	4,29,34	46,75,33	90.8
Jazan	14,86,900	11,74,56	11,34,21	12,450	21,240	2,569	9,768	8,69	16,31,329	1,33,344	17,64,673	16,31,329	1,33,344	17,64,673	92.4
Najran	5,84,504	9,09,59	4,59,60	10,844	11,738	1,571	1,825	1,02	64,4,027	10,34,76	74,75,03	64,4,027	10,34,76	74,75,03	86.2
Al-Bahah	59,1275	2,47,69	51,792	5,075	11,024	5,37	1,921	4,2	65,60,12	30,423	68,64,35	65,60,12	30,423	68,64,35	95.6
Al-Jouf	3,86,428	50,660	4,55,39	13,741	1,53,64	9,11	1,775	3,6	44,91,06	6,53,48	51,44,54	44,91,06	6,53,48	51,44,54	87.3
Qurayyat	2,37,749	18,691	2,97,50	2,543	5,199	1,76	1,734	2,6	27,44,32	21,436	29,58,68	27,44,32	21,436	29,58,68	92.8
Qunfudah	1,66,580	3,393	4,08,25	1,284	0	0	1,813	4,2	20,92,18	4,719	21,39,37	20,92,18	4,719	21,39,37	97.8
Total	1,737,4729	17,459,48	15,354,81	283,542	403,989	34,945	92,190	59,44	194,063,89	20,703,79	214,767,68	194,063,89	20,703,79	214,767,68	90.4

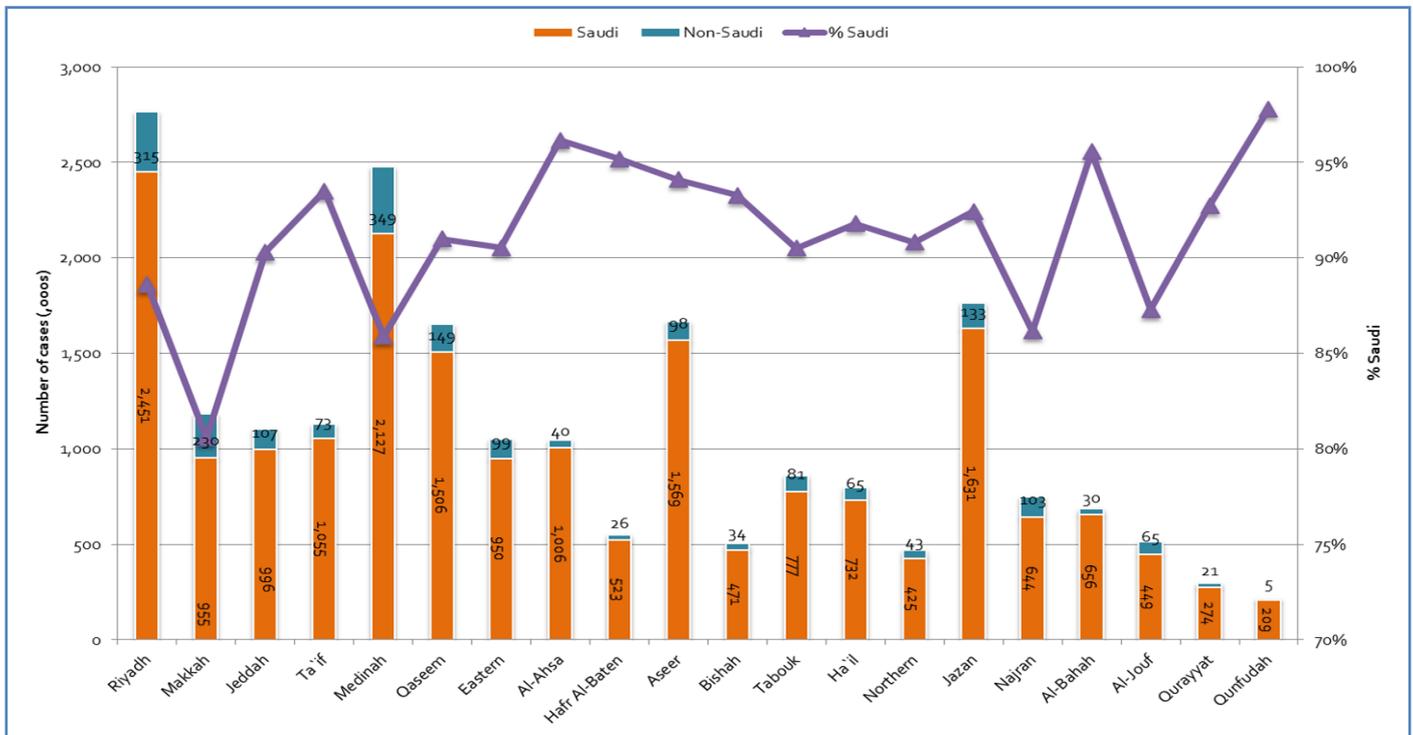


Figure 16.3: Total emergency cases at the MOH Hospitals by region and nationality, 2013

Table 16.3: Emergency cases at the MOH hospitals by type of disease/injury, nationality and gender, 2013

Disease or injury	Cases	Nationality		Gender	
		Saudi	Non-Saudi	Male	Female
Diseases	Infectious & parasitic diseases	191479	28537	114294	77185
	Diabetes Mellitus	759982	78203	418631	341351
	Blood diseases	273897	24101	149576	124321
	Nervous system	218272	23553	119626	98646
	Eye diseases	660747	48505	364448	296299
	ENT	2031836	144664	1114306	917530
	Hypertensive diseases	791938	81215	430898	361040
	Ischemic heart diseases	149090	26613	86404	62686
	Rheumatic heart and others	219556	27999	124862	94694
	Respiratory system diseases	5400007	361755	2945821	2454186
	Diseases of the GIT	2793678	218109	1472967	1320711
	Appendicitis	65142	7871	38198	26944
	Diseases of the genitourinary system	619699	81410	325255	294444
	Food poisoning	48329	5339	34753	13576
	Other diseases	4897025	588074	2619687	2277338
	Total	19120677	17374729	1745948	10359726	8760951
OBS/GYN	438934	403989	34945	0	438934
Diseases of neonates	98134	92190	5944	52552	45582
Injuries	Car & road accidents	185635	43494	146390	39245
	Drug & cleaning agents poisoning	18405	2665	9312	9093
	Fall & accidentally injuries	562082	79118	380777	181305
	Burns	66023	9897	37200	28823
	Firearm, drowning & rape	9544	2996	7136	2408
	Scorpion or snake bite	32650	6071	22409	10241
	Dog or other animal bite	12379	3721	9395	2984
	Foreign bodies	103294	15345	64466	38828
	Others	829011	120235	482170	346841
	Total	1819023	1535481	283542	1159255	659768
Total	21,476,768	19406389	2070379	11571533	9905235

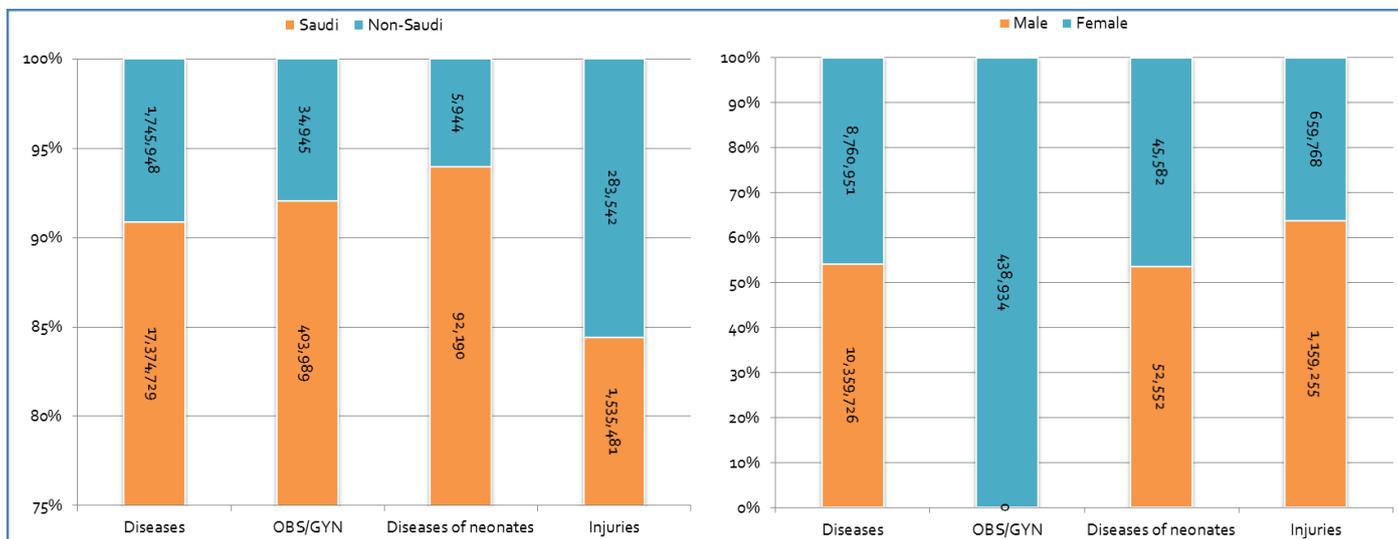


Figure 16.4: Total emergency cases at the MOH hospitals by type of disease/injury and nationality (left) and gender (right), 2013

Table 16.4: Patients & casualties offered first-aid carried by the Saudi Red Crescent Society Ambulance by region & type of case, 2013

Region	Road Accidents	Alterca-tion	Falls	Burns	Drowning	Other ac-cidents	Diseases	Total
Riyadh	22812	883	2285	271	29	403	3533	30216
Makkah**	22053	3871	4754	586	57	1535	42125	74981
Medinah	5521	857	1701	64	2	412	14749	23306
Qaseem	4361	428	890	76	6	75	7215	13051
Eastern	10516	867	1469	268	20	126	15835	29101
Aseer	5901	522	849	115	10	108	8158	15663
Tabouk	3062	193	338	41	10	40	5201	8885
Ha`il	1700	189	241	39	4	12	3112	5297
Northern	947	121	164	22	5	26	1529	2814
Jazan	2773	168	462	69	3	29	3695	7199
Najran	1130	128	180	9	3	13	1512	2975
Al -Bahah	1839	128	257	22	4	16	2305	4571
Al-Jouf	1116	55	121	16	0	32	2008	3348
Total	83731	8410	13711	1598	153	2827	110977	221407

Table 16.5: Cases offered first aid and carried by ambulances of the Saudi Red Crescent Society by region, 2009 – 2013

Region	2009	2010	2011	2012	2013
Riyadh	39,977	43,648	44,518	49,097	30,216
Makkah**	53,353	60,575	63,358	68,643	74,981
Medinah	20,246	22,088	22,515	22,499	23,306
Qaseem	9,624	10,453	11,097	12,204	13,051
Eastern	21,467	23,263	25,309	26,676	29,101
Aseer	11,458	13,078	14,457	15,372	15,663
Tabouk	5,979	6,966	7,848	8,348	8,885
Ha`il	3,452	4,205	4,615	4,754	5,297
Northern	2,197	2,234	2,454	2,529	2,814
Jazan	5,980	6,804	7,392	7,204	7,199
Najran	2,244	2,340	2,777	3,125	2,975
Al -Bahah	3,079	3,420	3,826	4,217	4,571
Al-Jouf	2,624	2,955	3,099	2,887	3,348
Total	181680	202029	213265	227555	221407

** includes Jeddah

3. Outpatient Department (OPD) at MOH Hospitals

Table 16.6: MOH hospital visits by selected diseases and region, 2013

Region	Infectious & parasitic diseases	Diabetes Mellitus	Blood diseases	Nervous system Diseases	Eye diseases	ENT diseases	Hypertension	Coronary heart diseases	Rheumatic & other heart diseases
Riyadh	9117	78713	16615	79615	289370	122317	75247	13776	20247
Makkah	3555	40071	38179	22751	64603	46927	15156	3750	10780
Jeddah	8135	9652	4095	12391	125648	50277	11747	16439	20835
Ta'if	7323	27950	7451	17503	48509	31694	27730	7396	16477
Medinah	7866	19768	14047	26032	83887	64369	21845	23100	25778
Qaseem	2463	67625	4713	18209	67825	50973	29580	21044	2072
Eastern	6044	43082	16867	36575	174010	63194	27730	8322	9636
Al-Ahsa	811	18256	4524	7161	49902	37272	21508	11960	4820
Hafr Al-Baten	134	7694	1141	9325	14470	13314	5016	4710	366
Aseer	4859	25784	7403	31643	61281	54490	27507	11797	2920
Bishah	2635	7419	2175	6464	24774	17604	8094	4092	450
Tabouk	3115	13848	3239	28310	31674	34294	13508	4315	2879
Ha'il	1392	18593	1801	21906	20280	20189	9265	1293	2430
Northern	928	4771	1066	8598	18748	15934	15175	3836	1084
Jazan	2514	22070	15400	12310	56360	53188	20098	7905	6466
Najran	3460	13371	4206	12394	28264	19035	7656	6156	7855
Al-Bahah	1313	35126	3632	21137	36173	24326	10013	2934	5105
Al-Jouf	1077	6350	1928	12296	23796	16473	6778	6194	3564
Qurayyat	824	3293	773	3022	6991	8043	5366	1214	859
Qunfudah	734	2570	2938	2885	7069	6721	2170	1128	246
Total	68299	466006	152193	390527	1233634	750634	361189	161361	144869

Region	Chest diseases	Diseases of digestive System	Skin and subcutaneous tissue diseases	Musculo-skeletal diseases	Obstetrics and Gynecology	Oral and dental diseases	Diseases of genito-urinary system	Other diseases	Total
Riyadh	76831	82218	115370	170984	237521	138479	70037	350592	1947049
Makkah	15198	25208	47931	32150	45537	43865	25508	228456	709625
Jeddah	13339	51753	31791	50786	62284	73883	39252	175961	758268
Ta'if	39246	44066	30604	55468	76679	3316	22916	191069	655397
Medinah	38073	44067	52115	94541	80926	44029	34717	189209	864369
Qaseem	46524	42013	64876	95863	115417	96904	45080	210969	982150
Eastern	28527	46864	70675	115043	97061	60130	39391	282740	1125891
Al-Ahsa	8112	9014	22060	53181	48381	23266	12615	120042	452885
Hafr Al-Baten	3968	5150	7847	25266	18372	23692	8958	33939	183362
Aseer	20916	40580	47002	89961	88944	27135	39216	144477	725915
Bishah	14392	13771	12531	19948	34377	6293	8406	38126	221551
Tabouk	19223	16636	25038	43403	40008	28268	15385	71556	394699
Ha'il	12756	15590	14463	23717	43800	13326	13253	66431	300485
Northern	9893	18697	13590	21107	14522	3976	9344	19843	181112
Jazan	37528	28857	52523	79193	69468	49758	35945	178723	728306
Najran	9544	8297	15648	18503	42907	11444	14429	81178	304347
Al-Bahah	14319	13178	24395	36477	68772	10918	17941	79424	405183
Al-Jouf	7507	9841	11692	18296	33866	12157	11618	33652	217085
Qurayyat	7983	6907	13794	11704	20517	156	7557	16711	115714
Qunfudah	4568	2041	5753	10776	9703	1922	5757	12568	79549
Total	428447	524748	679698	1066367	1249062	672917	477325	2525666	11352942

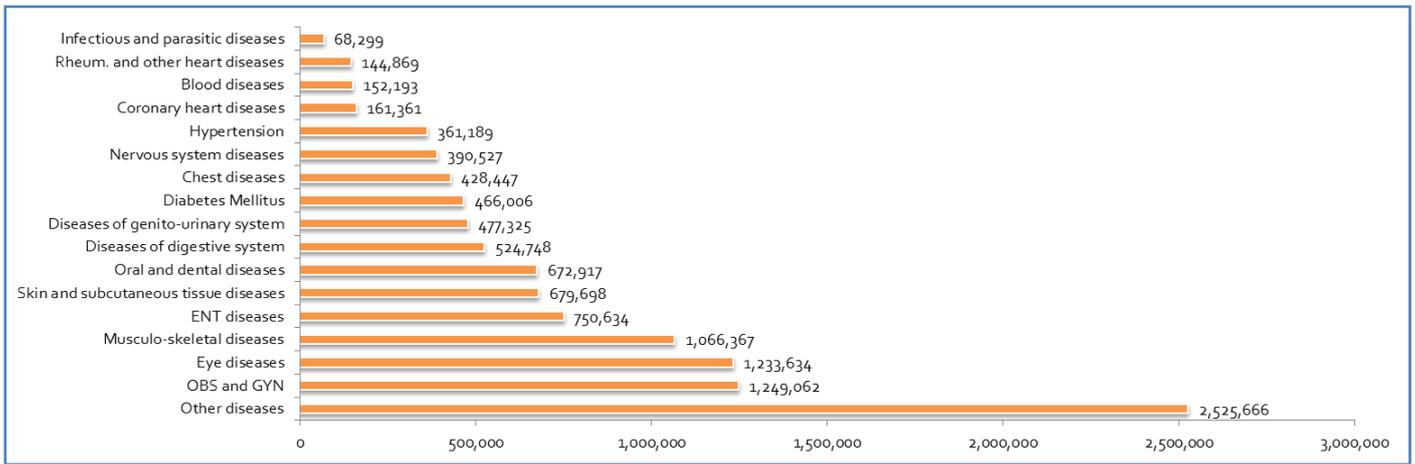


Figure 16.5: MOH hospital visits by selected diseases, 2013

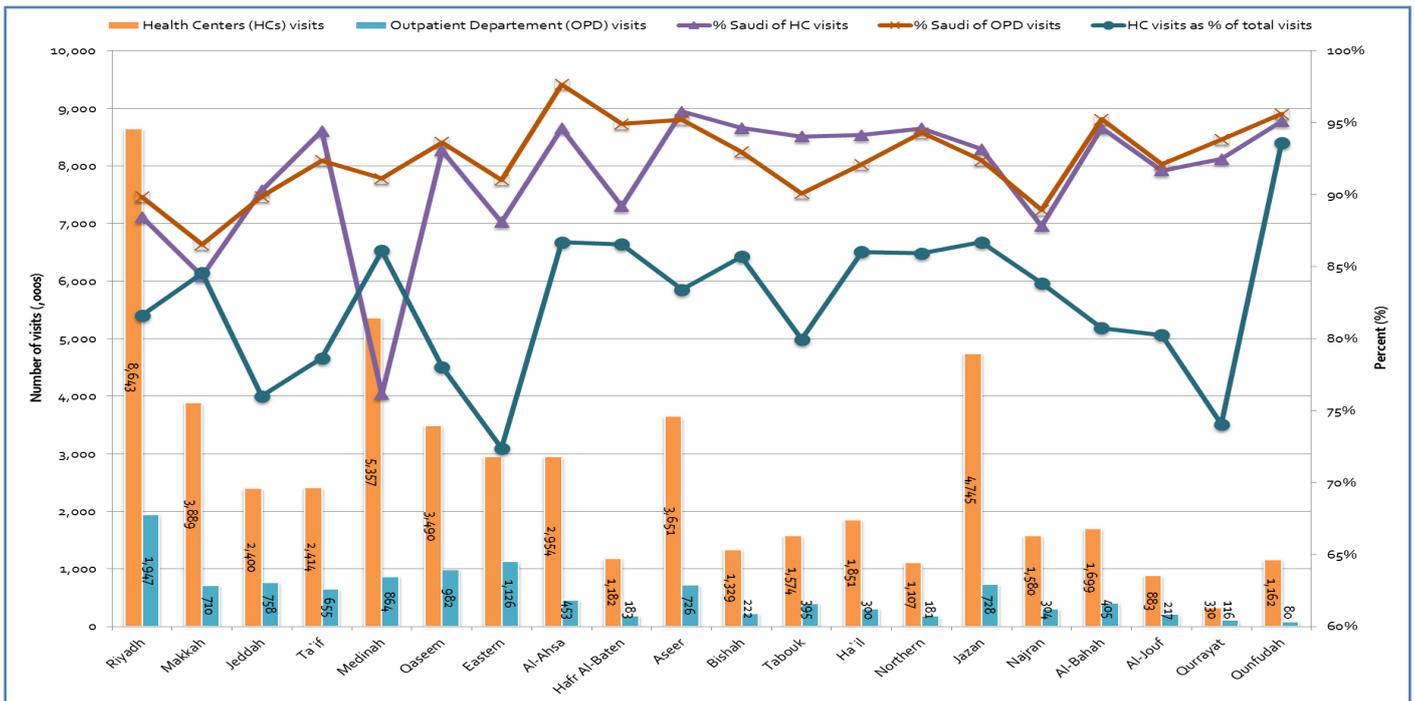


Figure 16.6: Visits to clinics at the MOH health centers and hospitals' outpatients department by region & nationality, 2013

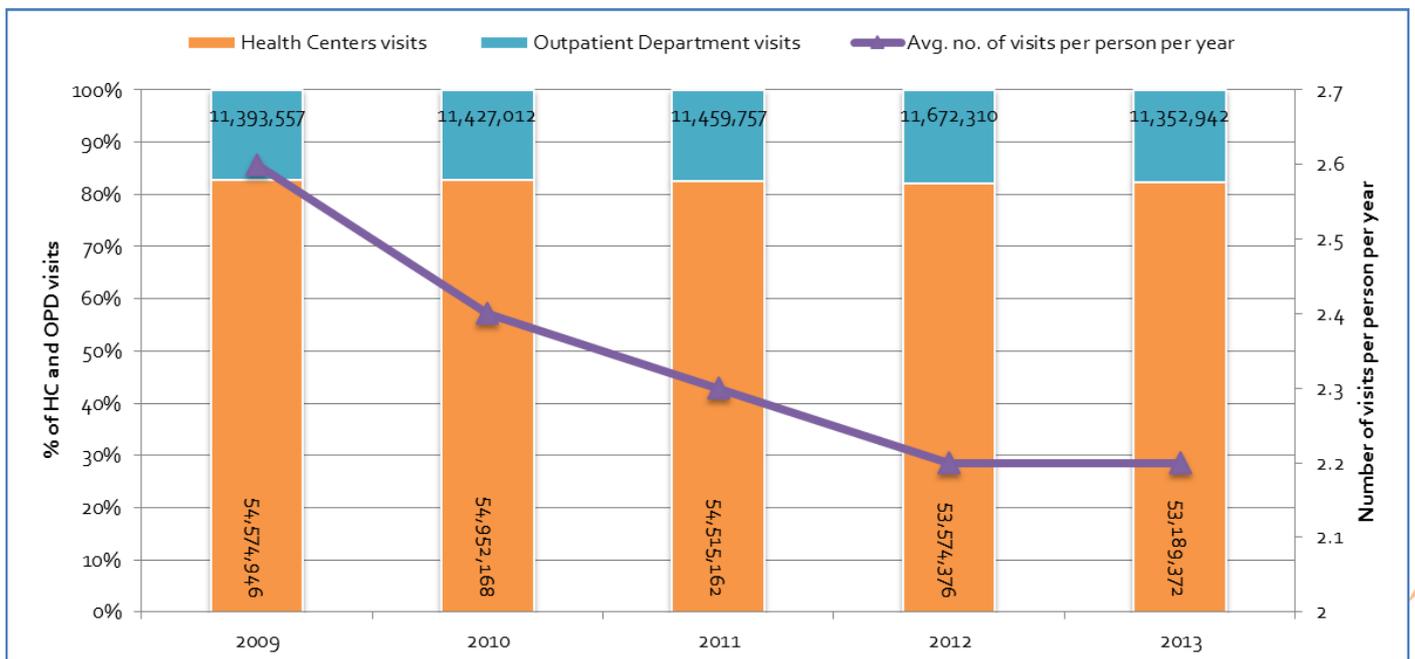


Figure 16.7: Visits to clinics at the MOH health centers and hospitals' outpatients department, 2009-2013

B. OUTPATIENT VISITS TO CLINICS OF THE OTHER GOVERNMENTAL SECTOR FACILITIES

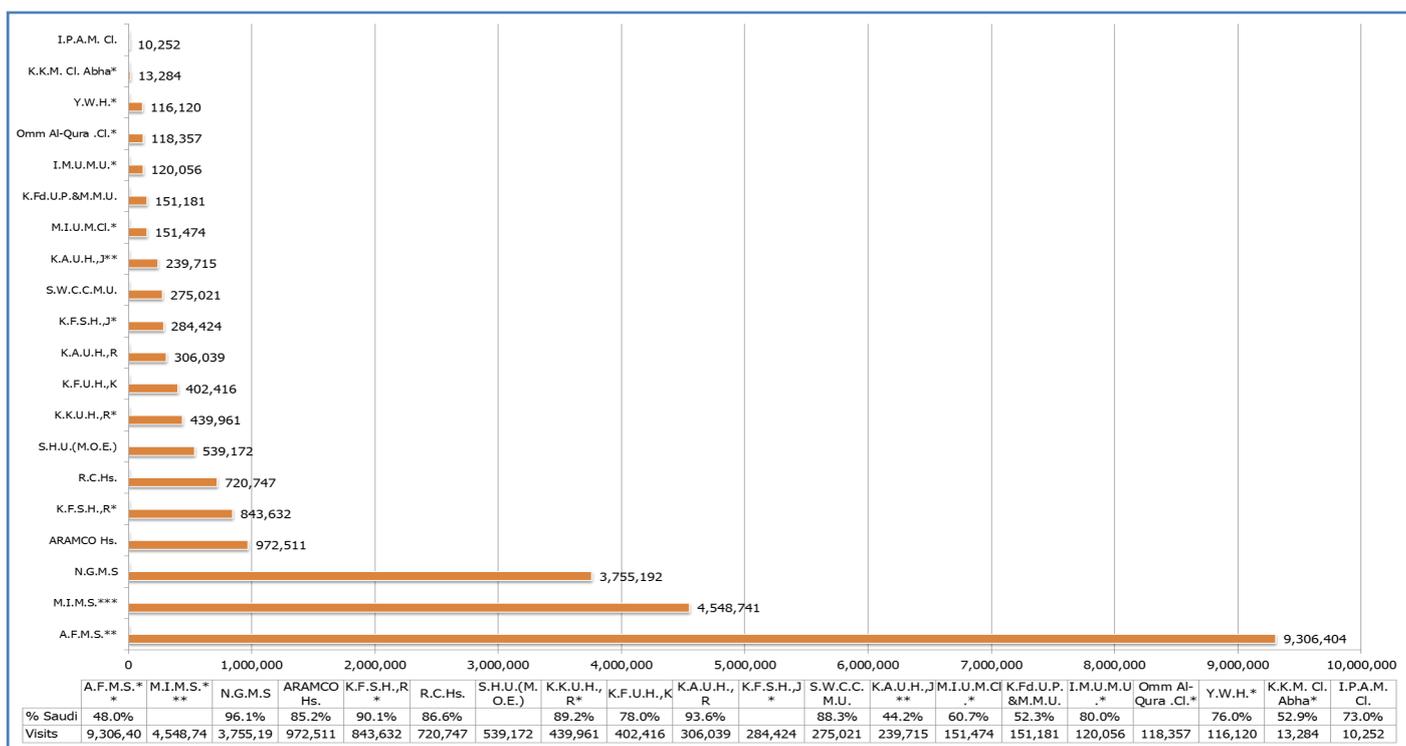


Figure 16.8: Visits to clinics and outpatient departments at facilities of other governmental sector (showing % Saudis), 2013*

KAUHR: King Abdulaziz University Hospital, Riyadh; **KKUHR:** King Khaled University Hospital, Riyadh; **KAUHJ:** King Abdulaziz University Hospital, Jeddah; **KFUHK:** King Fahed University Hospital, Khobar; **AFMS:** Armed Forces Hospitals; **NGMS:** National Guards Medical Services; **MIMS:** Ministry of Interior Medical Services; **KFSHR:** King Faisal Specialist Hospital & Research Center, Riyadh; **KFSHJ:** King Faisal Specialist Hospital & Research Center, Jeddah; **RCHS:** Royal Commission Hospitals; **ARAMCO:** ARAMCO Hospitals; **SHU (MOE):** School Health Units, Ministry of Education; **YWH:** Youth Welfare; **SWCC:** Saline Water Conversion Corporation; **KFdUP&MMU:** King Fahd University of Petroleum & Minerals; **MUIMC:** Medinah Islamic University; **IMUMU:** Imam Muhammad bin Saud Islamic University; **KKMCL:** King Khaled University; Omm Alqurra University, and **IPAMC:** Institute of Public Administration, Riyadh.

*: Represent data from year 2012 due to the absence of data for the year 2013
 **: Represent data from year 2011 due to the absence of data for the year 2012 and 2013
 ***: Represent data from year 2010 due to the absence of data for the year 2011, 2012 and 2013
 (blank cell): % Saudi not reported

C. OUTPATIENT VISITS TO CLINICS OF THE PRIVATE SECTOR FACILITIES

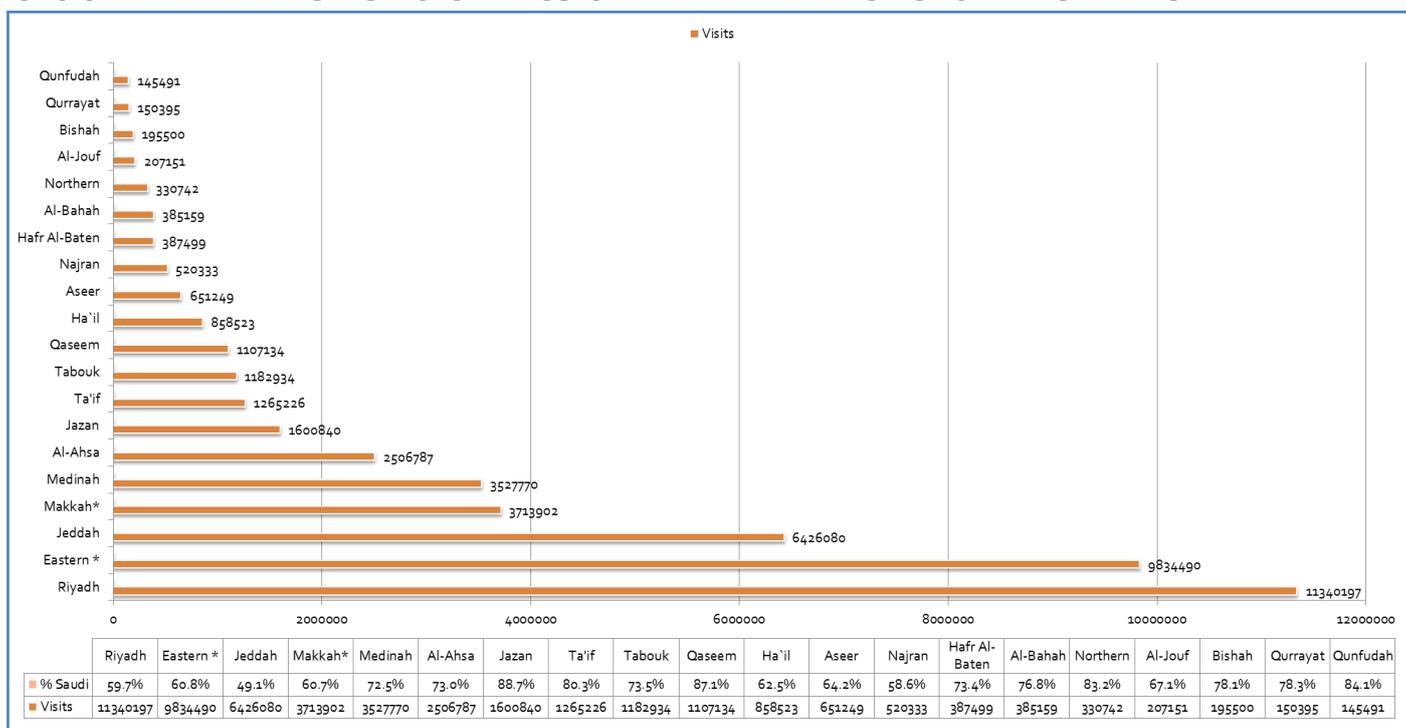


Figure 16.9: Visits to clinics at private sector dispensaries and hospitals by region (showing % Saudis), 2013

*: Represent data from year 2012 due to the absence of data for the year 2013
 Riyadh data represent year 2009 due to the absence of data for the subsequent years
 Aseer data represent year 2010 due to the absence of data for the subsequent years

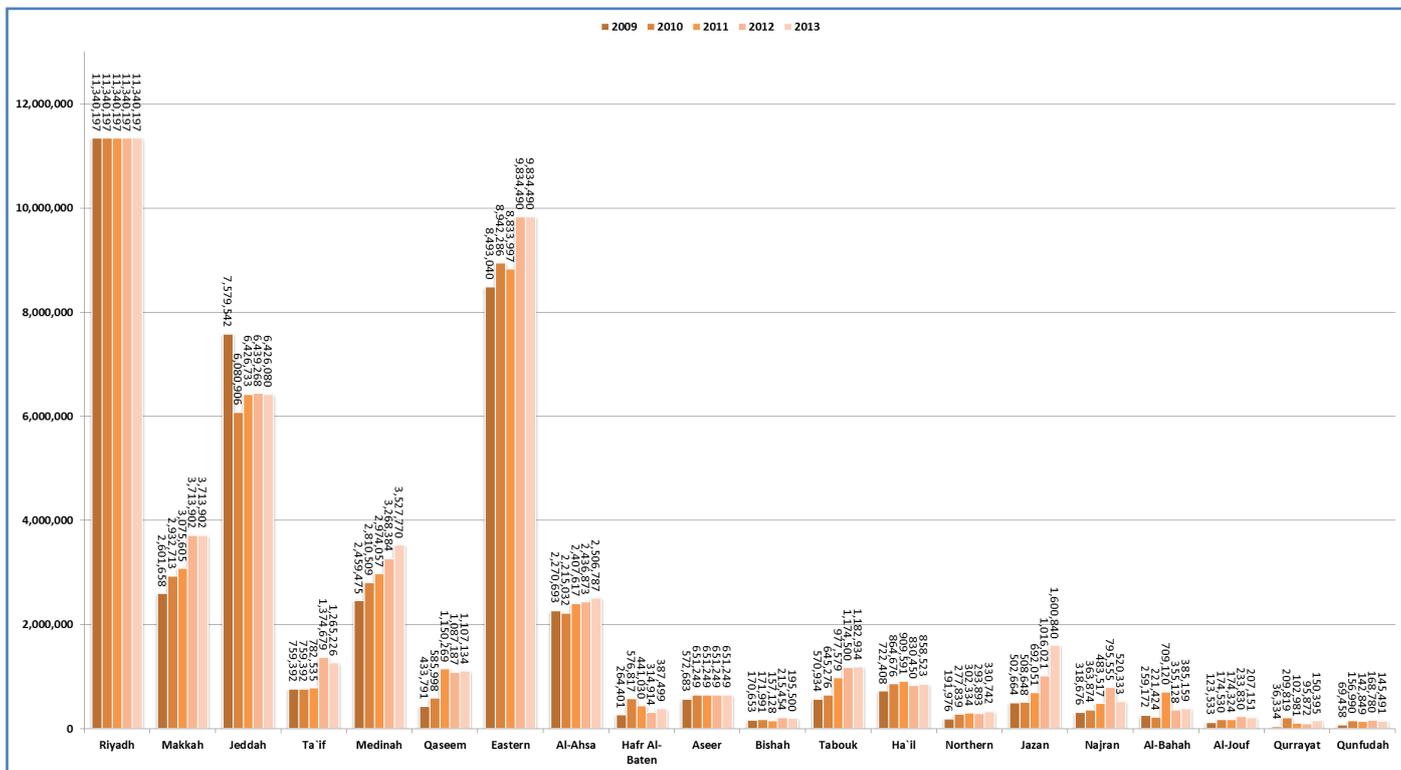


Figure 16.10: Visits to clinics at private sector dispensaries and hospitals by region, 2009-2013*

*Note: Riyadh data represents that of 2009 due to the absence of data for subsequent years
 Aseer data represent that of 2010 due to the absence of data for subsequent years
 Makkah data represent that of 2012 due to the absence of data for subsequent years

D. OUTPATIENT VISITS TO FACILITIES ACROSS ALL HEALTH SECTORS

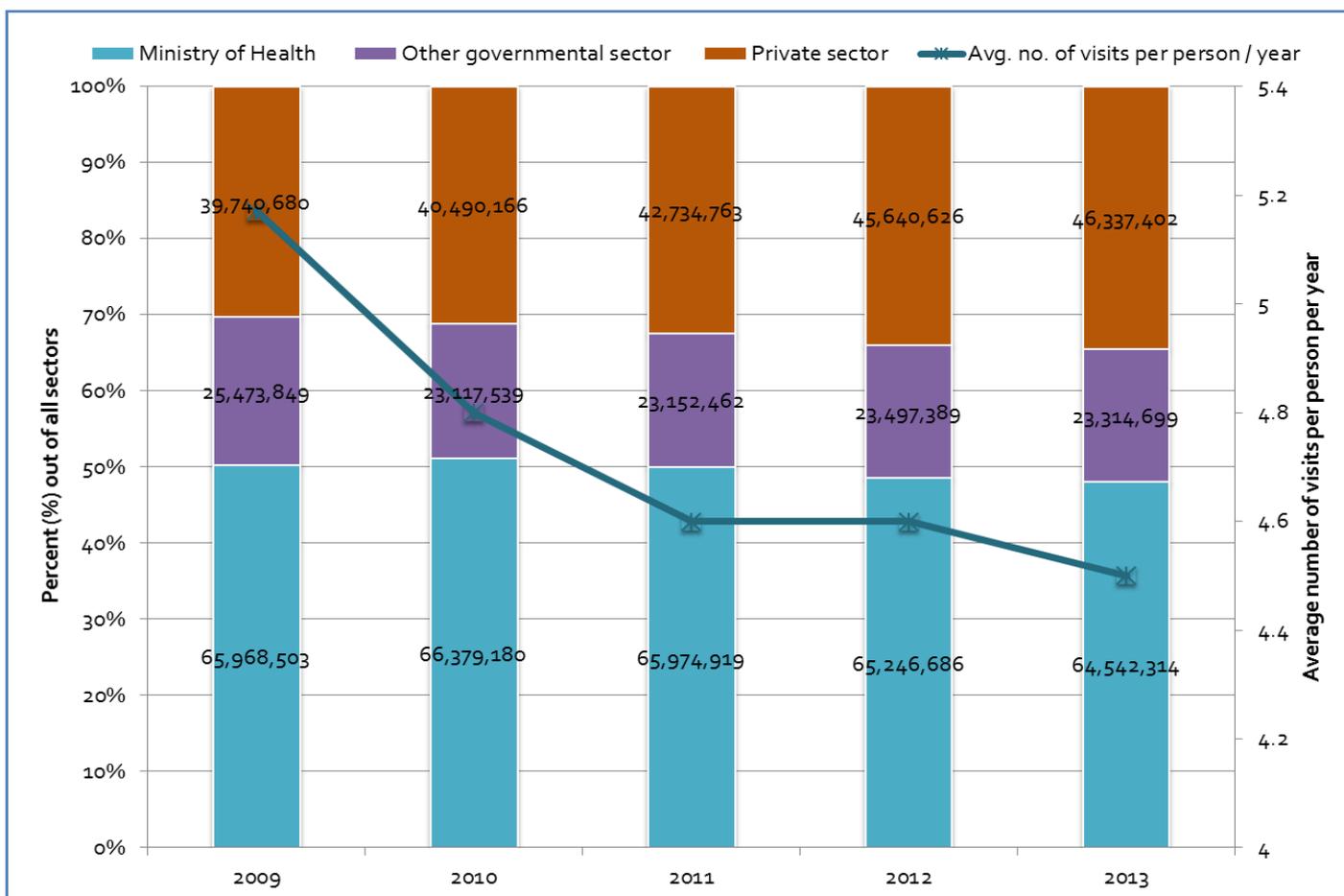


Figure 16.11: Outpatient visits to facilities across all health sectors (showing average number of visits per person), 2009-2013

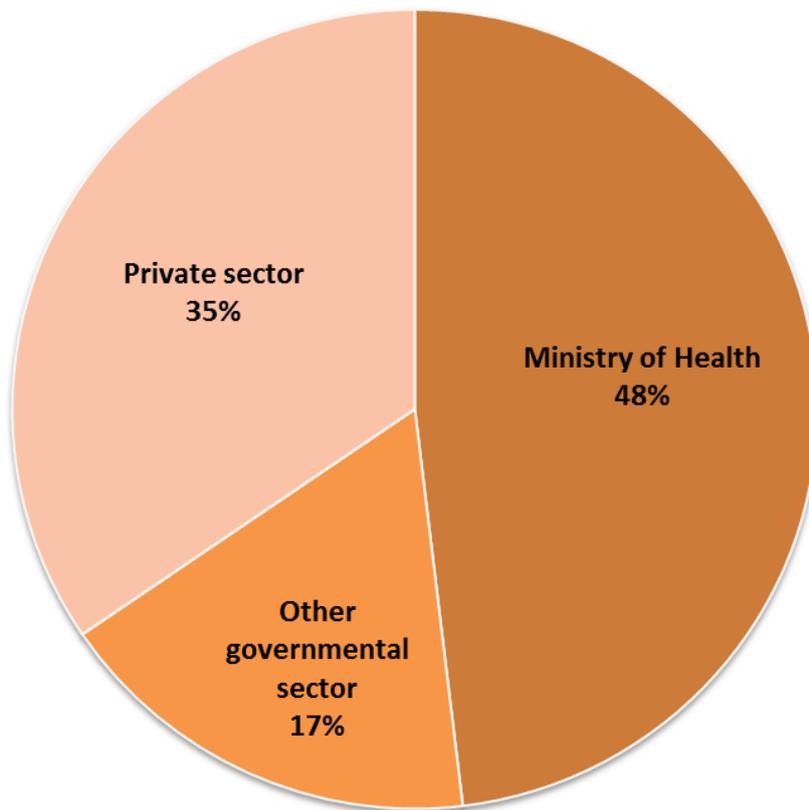


Figure 16.12: Proportions of outpatient visits in various health sectors, 2013

E. OUTPATIENT VISITS TO SELECTED HEALTH SERVICES

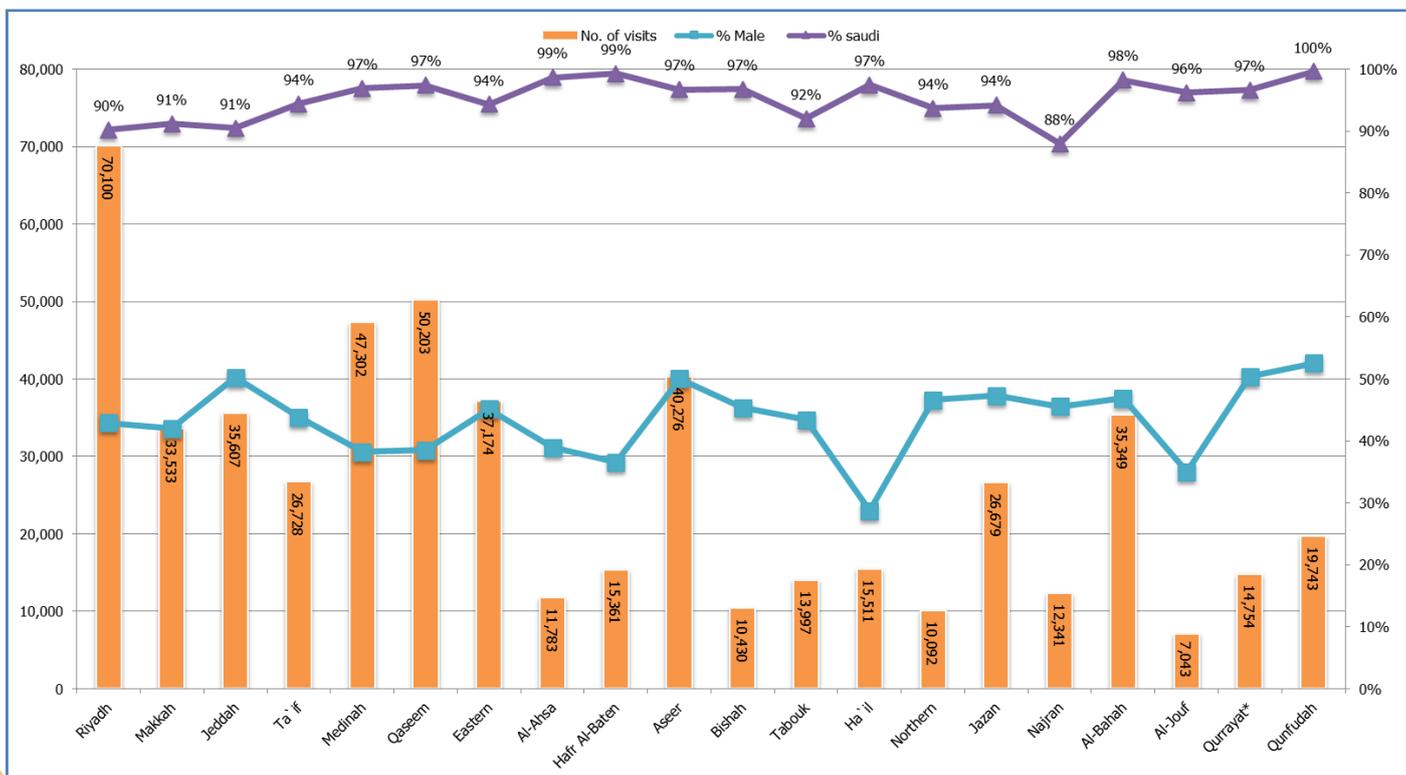


Figure 16.13: Visits to diabetic clinics at MOH hospitals by region (showing % Males and % Saudis), 2013

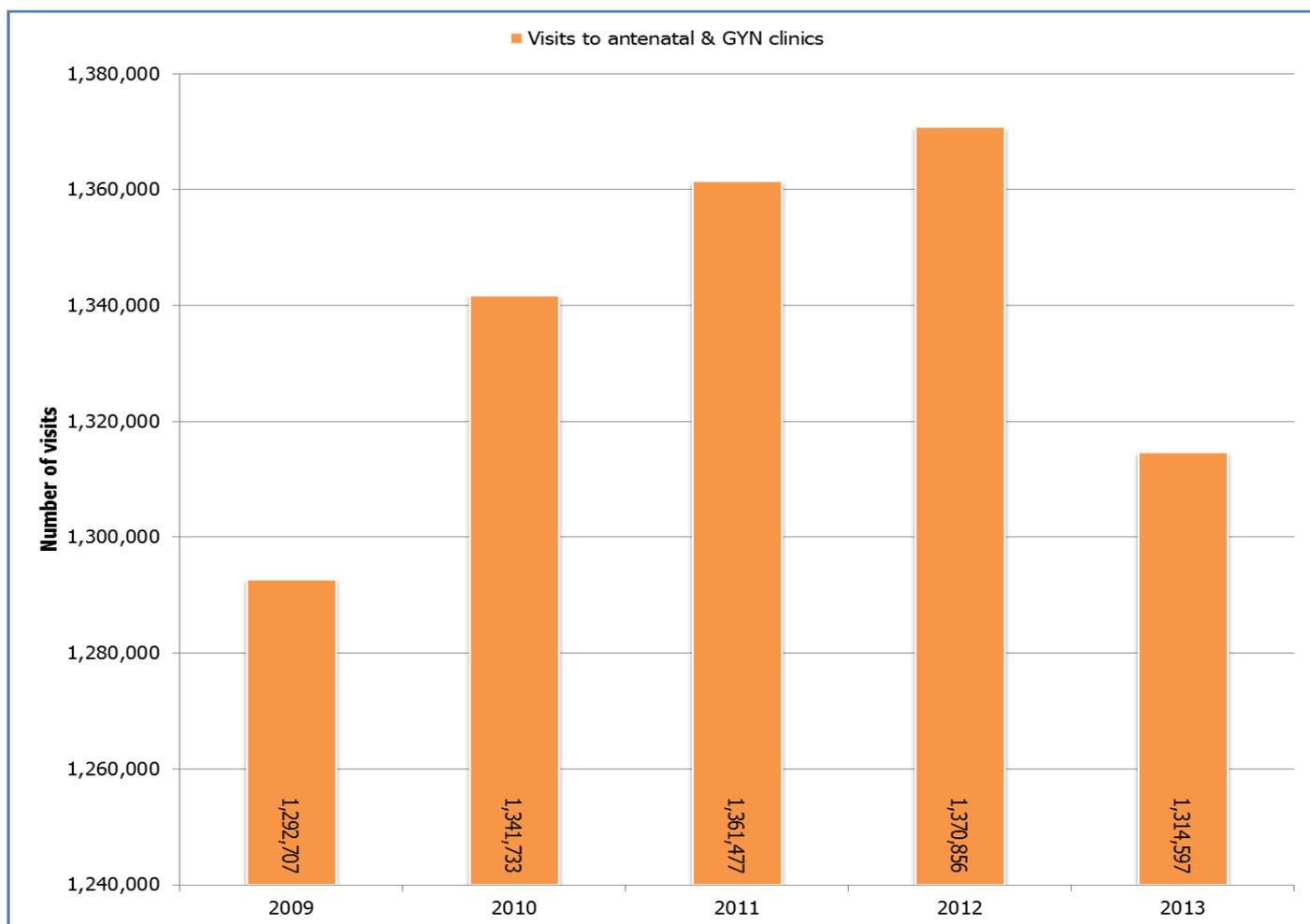


Figure 16.14: Visits to antenatal and GYN clinics at the MOH Hospitals, 2009-2013

Table 16.7: Cases of complications related to pregnancy & childbirth, and gynecology, as well as cases of abortion at the MOH Hospitals, 2009-2013

Data		2009	2010	2011	2012	2013
Complications related to pregnancy & childbirth	Eclampsia	2,406	1,981	2,023	2,008	1,580
	Antepartum hemorrhage	4,809	5,165	4,230	4,631	5,343
	Postpartum hemorrhage	2,125	2,543	2,029	2,190	2,037
	Rupture uterus	970	982	752	553	606
	Other complications	61,220	84,984	73,988	87,367	84,017
Complications related to gynecology	Cases of uterine bleeding	16,111	18,277	17,792	20,305	20,535
	Cases of infertility	34,795	38,265	38,542	34,189	34,473
	Prolapse of uterus	1,145	1,239	1,416	1,576	1,550
	Urinary fistulae	60	136	183	68	29
	Anal fistulae	137	140	57	105	49
	Inflammatory cases	32,495	32,168	31,033	30,031	30,136
	Tumors of uterus	1,062	1,053	1,265	1,614	1,351
	Tumors of ovary	2,111	1,703	2,042	2,693	2,074
	Other tumors	3,512	2,194	2,287	1,666	1,754
Abortion cases	41,764	41,628	42,022	43,036	41,051	

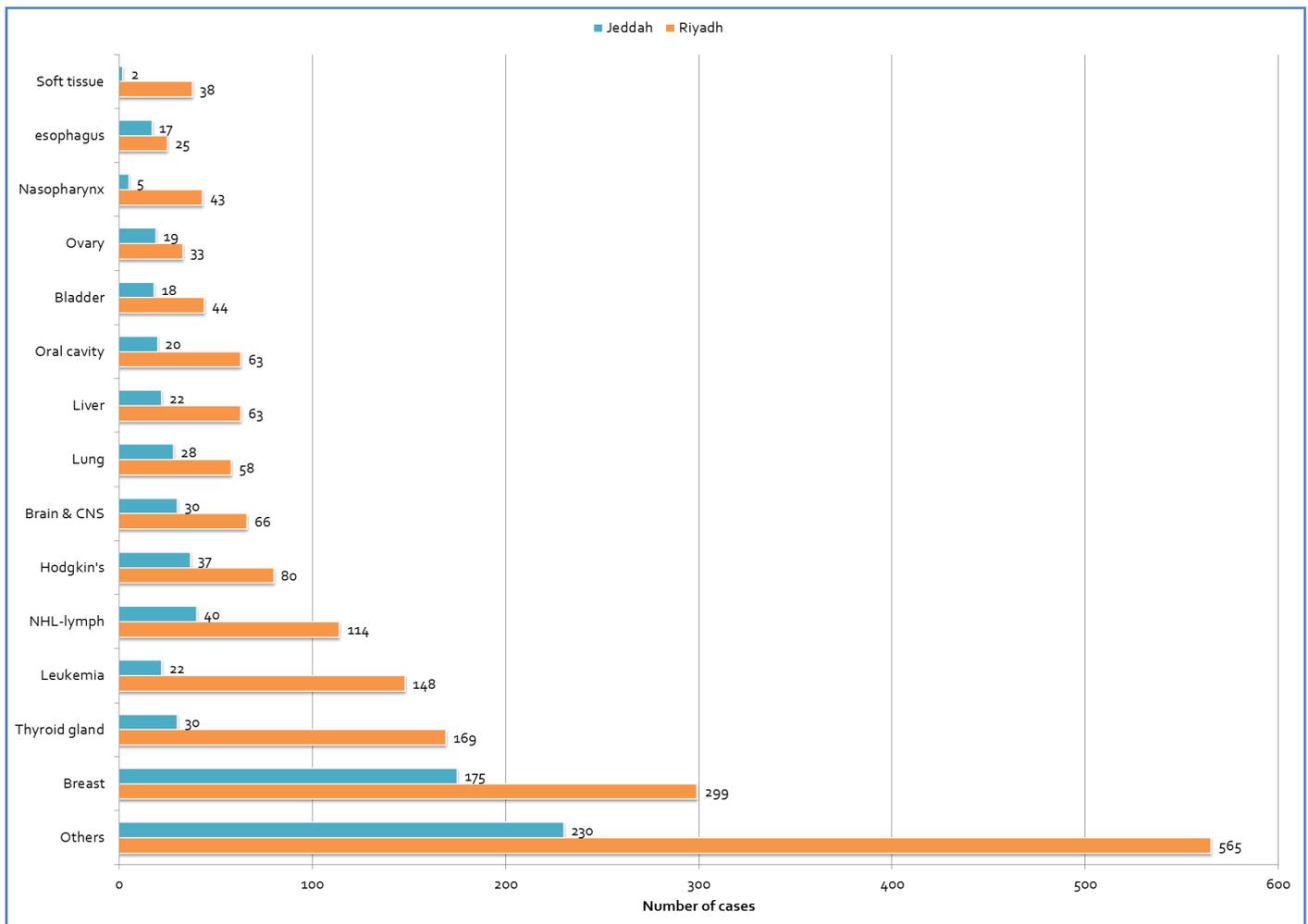


Figure 16.15: Cases of malignant tumors registered in King Faisal Specialist Hospital and Research Center (Riyadh and Jeddah) by site of tumor, 2012*

* Data represent 2012 for the absence of 2013 data

Table 16.8: Percentage of malignant tumor cases registered in King Faisal Specialist Hospital and Research Center (Riyadh and Jeddah) among each gender, 2012*

Site	Riyadh		Jeddah		Total	
	% of all Male cases	% of all Female cases	% of all Male cases	% of all Female cases	% of all Male cases	% of all Female cases
Breast	0.0	28.9	0.0	43.8	0.0	33.1
Thyroid gland	5.5	12.2	3.4	5.0	5.0	10.2
NHL-lymph	7.9	5.1	8.5	3.8	8.0	4.7
Leukemia	10.8	6.2	2.4	3.8	8.5	5.5
Lung	5.3	1.6	6.1	2.5	5.5	1.9
Oral cavity	4.1	3.0	3.4	2.5	3.9	2.9
Liver	6.3	1.4	4.1	2.5	5.7	1.7
Ovary	0.0	3.2	0.0	4.8	0.0	3.6
Esophagus	1.9	1.0	2.4	2.5	2.1	1.4
Nasopharynx	4.3	1.0	1.0	0.5	3.4	0.8
Brain & C.N.S	5.4	2.3	6.8	2.5	5.8	2.4
Bladder	4.5	0.9	5.4	0.5	4.8	0.8
Soft tissue	2.8	1.5	0.7	0.0	2.2	1.1
Hodgkin's	4.3	4.5	8.5	3.0	5.4	4.1
Others	36.8	27.1	47.5	22.5	39.7	25.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source : King Faisal Specialist Hospital and Research Center (Riyadh and Jeddah)

* Data represent 2012 for the absence of 2013 data

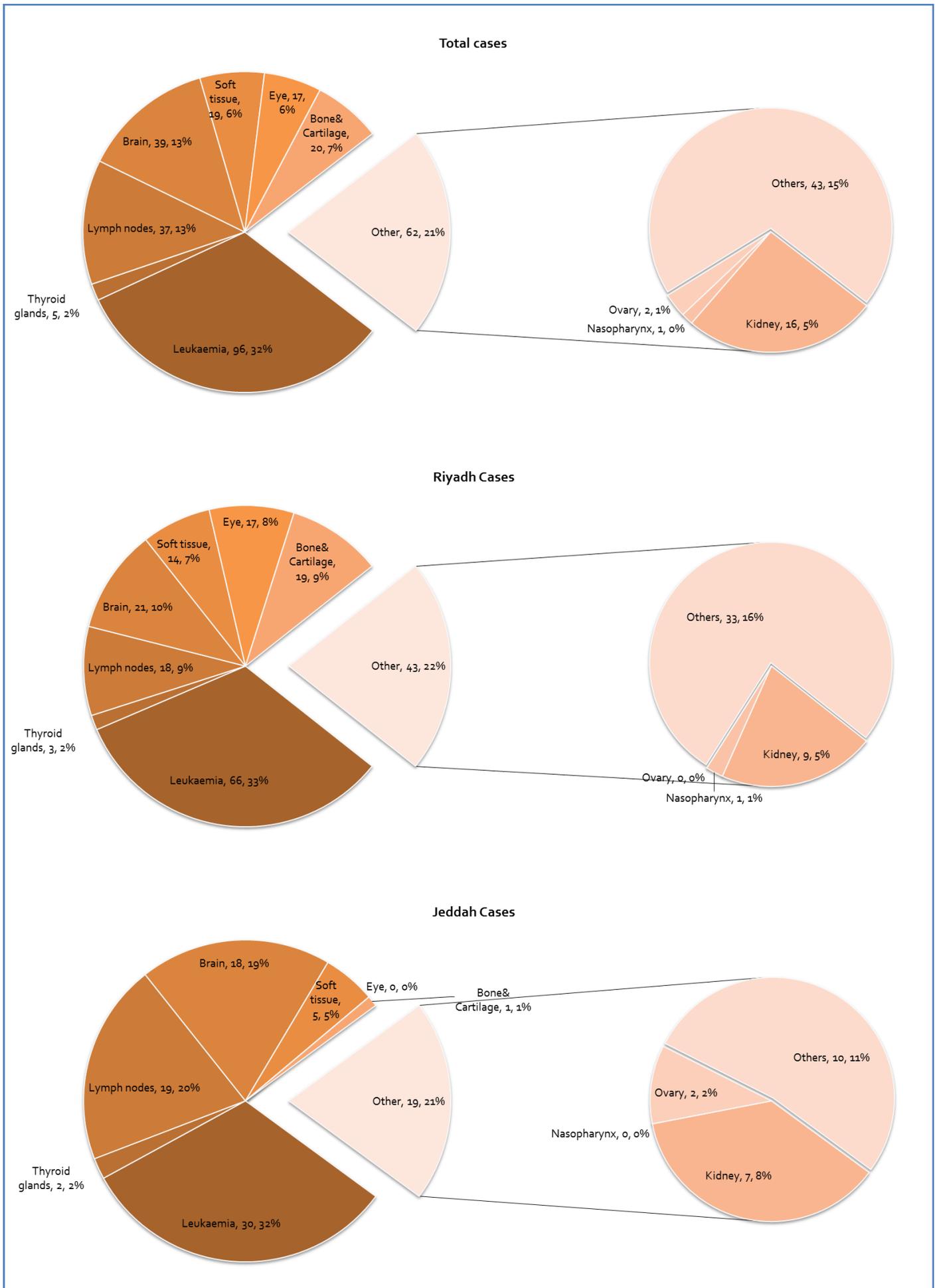


Figure 16.16: Cases of tumors among children referred to King Faisal specialist hospital (Riyadh and Jeddah) by site of tumor, 2012*

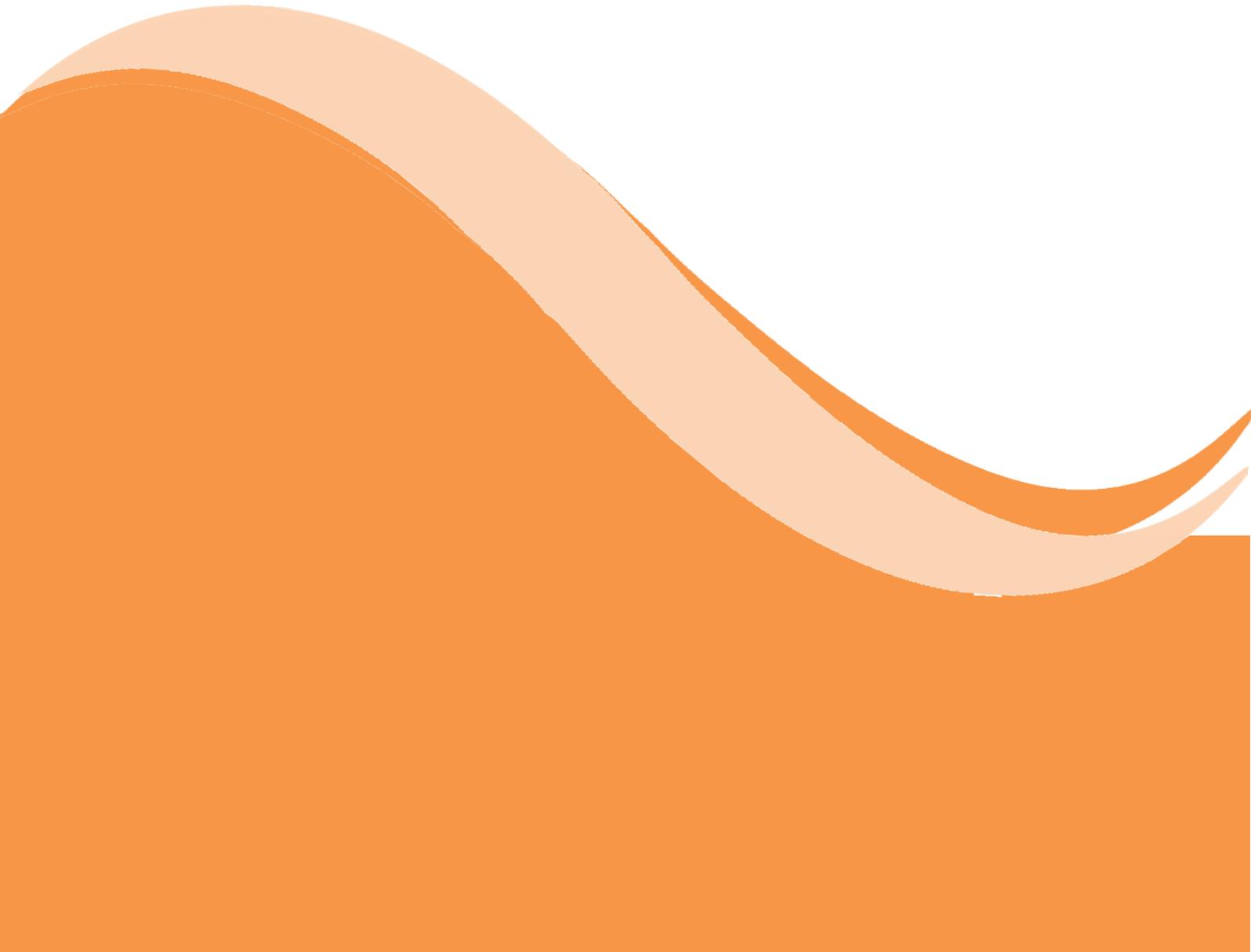
Source : King Faisal Specialist Hospital and Research Center (Riyadh and Jeddah)
 * Data represent 2012 for the absence of 2013 data

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 17: Inpatients (admissions to hospitals)



17.

INPATIENTS (ADMISSIONS TO HOSPITALS)



The term 'inpatient' refers to patients admitted to hospitals for medical treatment. The total inpatient count includes inpatients at the MOH hospitals, inpatients at the other governmental hospitals, and inpatients at the private sector hospitals.

A. INPATIENTS AT THE MOH HOSPITALS

Figure 17.1 displays the number of inpatients admitted to the MOH hospitals by region for the year 2013, with representation of the proportion of inpatients who are Saudi nationals. The total number of inpatients recorded this year is 1,701,122. Figure 17.2 displays the trend in number of inpatients at MOH hospitals across the time period 2009-2013, including a representation of the proportion of inpatients who are Saudi nationals. In the year 2013, Saudi nationals constitute 86.4% of the total cases.

In Table 17.1, selected indicators for services provided at MOH hospitals are shown by region of the Kingdom for year 2013. In terms of bed turn over, the average values for the Kingdom as a whole are as follows: general hospitals (52.2), psychiatry, fever and chest hospitals (4.9), and obstetrics & gynecology and pediatrics hospitals (59.1). In terms of length of stay, the average values for the Kingdom as a whole are as follows: general hospitals (3.9 days), psychiatry, fever and chest hospitals (68.4 days), and obstetrics & gynecology and pediatrics hospitals (2.3 days). In terms of bed occupancy rate, the average rates for the Kingdom as a whole are as follows: general hospitals (53.6%), psychiatry, fever and chest hospitals (60.3%), and obstetrics & gynecology and pediatrics hospitals (49.2%). Trends for the selected indicators by the type of MOH hospital over the time period of 2009-2013 are displayed in Figures 17.3-17.5.

B. INPATIENTS AT THE OTHER GOVERNMENTAL SECTOR HOSPITALS

Figure 17.6 displays the number of inpatients admitted to the other governmental sector hospitals by individual hospital for year 2013, with representation of the proportion of inpatients who are Saudi nationals. The total number of inpatients recorded for this

KEY ACHIEVEMENTS ...

During the time period of 2009-2013, there was an observed drop in the average number of admissions to all hospitals of the Kingdom per 100 individual, from 12 to 10.5 admissions.



C. INPATIENTS AT THE PRIVATE SECTOR HOSPITALS

Figure 17.7 shows the number of inpatients admitted to the private sector hospitals by region for the year 2013, with representation of the proportion of inpatients who are Saudi nationals. The total number of inpatients recorded for this year is 923,944.

TREND OVER TIME...

Between the time period 2009-2013, the total number of inpatients at MOH hospitals in the Kingdom has increased by 2.8% from 1,655,000 in 2009 to 1,701,000 in 2013.

Between the years 2009 and 2013, there was a marked increase in the average length of stay at psychiatry, fever and chest hospitals of the MOH from 54.6 days in 2009 to 68.4 days in 2013 (25.3% increase).

Between the years 2009 and 2013, the bed occupancy rate for MOH hospital dropped by the following rates: general hospitals (11.8%), psychiatry, fever, and chest hospitals (26.8%) and obstetrics and gynecology hospitals (7.4%).

D. TOTAL INPATIENTS ACROSS HOSPITALS OF ALL HEALTH SECTORS

Figure 17.8 is a visual representation of the proportion of inpatients admitted to hospitals across the various health sectors for year 2013. The majority of inpatients have been admitted to MOH hospitals (54%), followed by the private sector hospitals (20%) and the other governmental sector hospitals (16%). During the time period of 2009-2013, the total number of inpatients admitted to hospitals across the Kingdom has been relatively stable (around 3 million), except for a small surge that was observed in 2010 (reaching 3.3 million), which was then followed by a drop to the average value.

Figure 17.9 displays the trend in number of inpatients admitted to all hospitals of the kingdom for the time period of 2009-2013. Figure 17.10 displays the change in the number of inpatients admitted to hospitals of each health sector of the Kingdom over the time period of 2009-2013. Generally, there were minor variations across the years. The change in the proportion of inpatients admitted to hospitals of the different health sectors from 2009 to 2013 is displayed in Figure 17.11. Generally, there were minor variations across the years.

Section I

Section II

Section III

Section IV

Section V

A. INPATIENTS AT THE MOH HOSPITALS

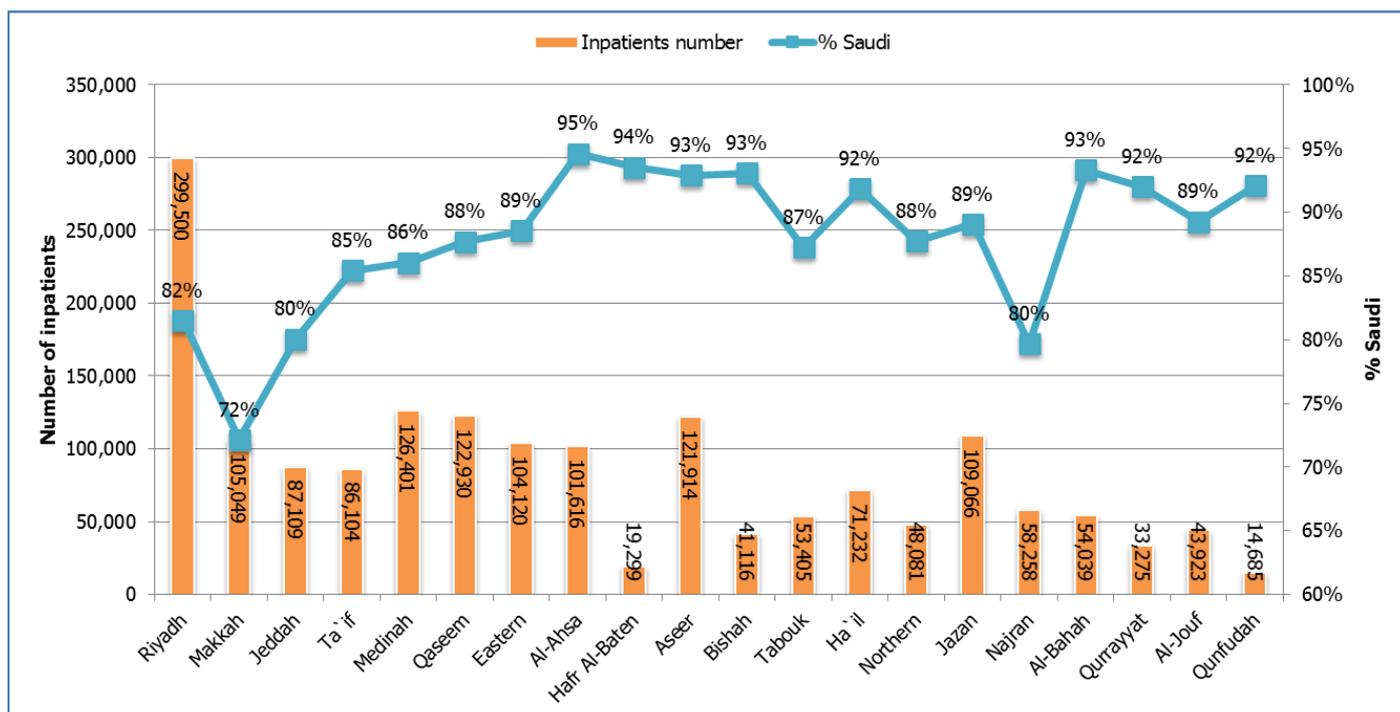


Figure 17.1: Number of inpatients at the MOH hospitals by region (showing % Saudis), 2013

Table 17.1: Selected indicators for MOH hospital services by region, 2013

Region	Bed turn-over			Average length of stay			Bed occupancy rate		
	GHS *	PCF **	ObGyn & Peds ***	GHS *	PCF **	ObGyn & Peds ***	GHS *	PCF **	ObGyn & Peds ***
Riyadh	40.6	3.7	53.3	4.7	72.0	3.2	54.1	71.8	71.8
Makkah	53.1	-	81.7	4.3	-	4.7	64.3	-	-
Jeddah	35.2	9.2	55.9	6.3	33.4	4.8	62.6	86.2	86.2
Ta'if	65.6	14.9	52.4	2.7	99.3	5.0	45.5	88.3	88.3
Medinah	41.9	2.3	66.4	4.2	157.3	4.7	49.6	99.7	99.7
Qaseem	48.8	3.0	100.3	3.9	109.0	3.3	53.7	93.2	93.2
Eastern	33.9	6.3	66.8	4.9	54.4	3.2	47.3	80.7	80.7
Al-Ahsa	34.9	6.3	126.8	4.9	56.2	2.3	47.8	99.7	99.7
Hafr Al-Baten	36.4	3.6	30.6	3.5	39.8	7.2	35.5	40.4	40.4
Aseer	59.8	6.7	91.2	3.8	43.9	2.6	61.0	83.4	83.4
Bishah	53.6	2.1	-	3.2	40.7	-	47.9	24.3	24.3
Tabouk	41.4	1.0	115.7	3.9	324.2	1.8	45.3	93.1	93.1
Ha'il	51.2	3.3	148.7	2.9	33.9	1.8	42.0	31.1	31.1
Northern	35.2	3.2	-	4.2	42.0	-	41.5	38.3	38.3
Jazan	63.3	9.2	-	3.9	26.4	-	69.8	68.6	68.6
Najran	51.6	11.4	79.7	3.7	16.3	3.2	53.3	52.3	52.3
Al-Bahah	55.8	1.4	70.5	3.6	162.4	2.1	56.6	65.1	65.1
Qurayyat	101.8	4.4	-	2.2	30.2	-	63.2	37.7	37.7
Al-Jouf	47.9	7.1	73.6	3.1	26.4	3.1	41.6	52.9	52.9
Qunfudah	88.7	-	-	3.6	-	-	89.3	-	-
Total	52.2	4.9	59.1	3.9	68.4	2.3	53.6	60.3	60.3

* GHS: General Hospitals

** PCF: Psychiatry, chest & fever hospitals

*** ObGyn & Peds: OBS/GYN & pediatrics hospitals

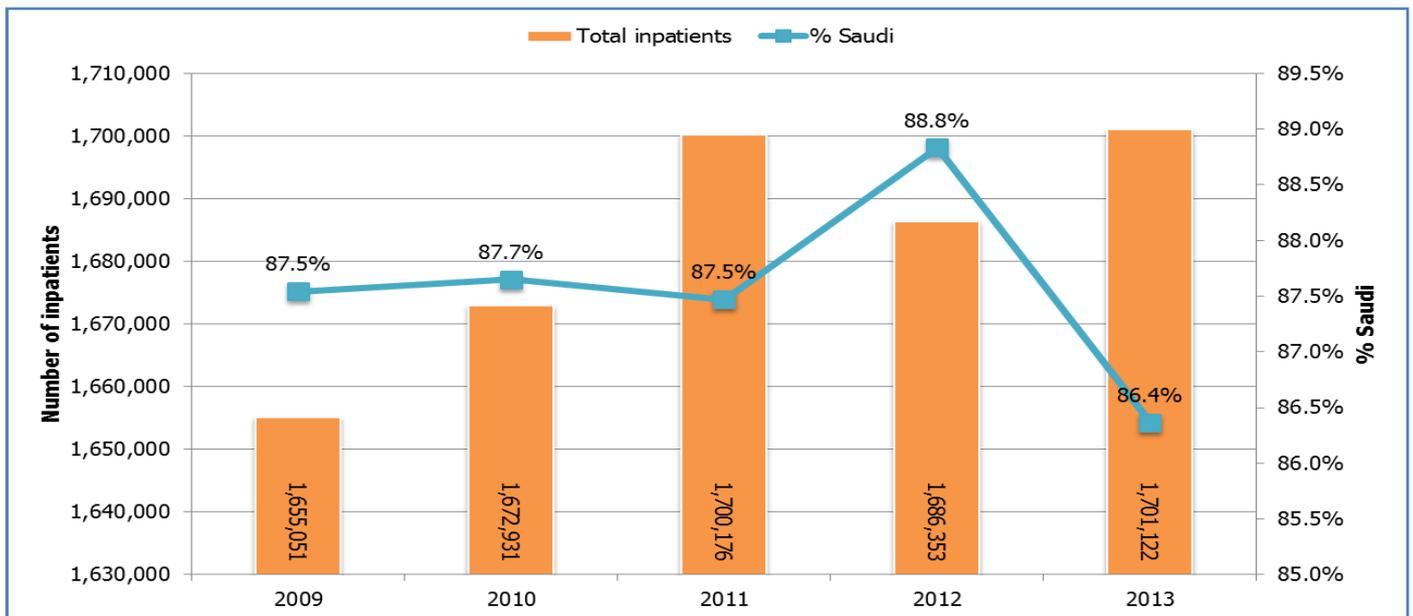


Figure 17.2: Number of inpatients at the MOH hospitals (showing % Saudis), 2009-2013

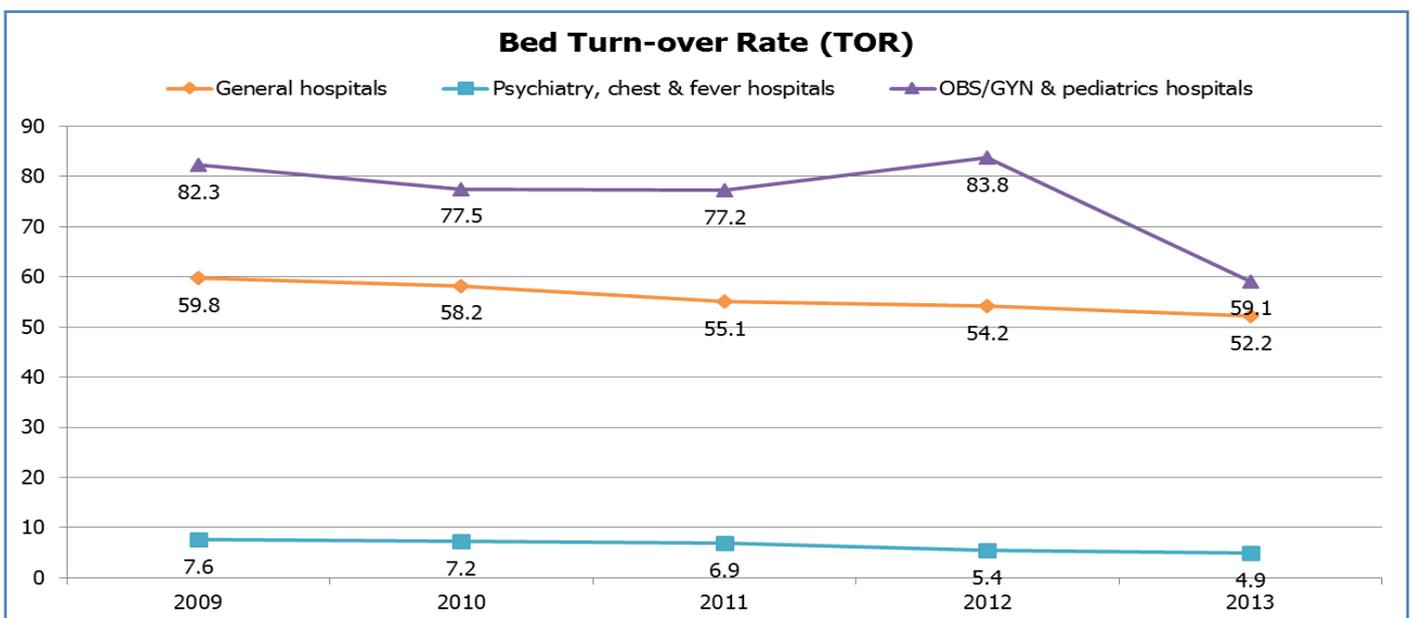


Figure 17.3: Trends of bed turn-over rate at the MOH hospitals, 2009-2013

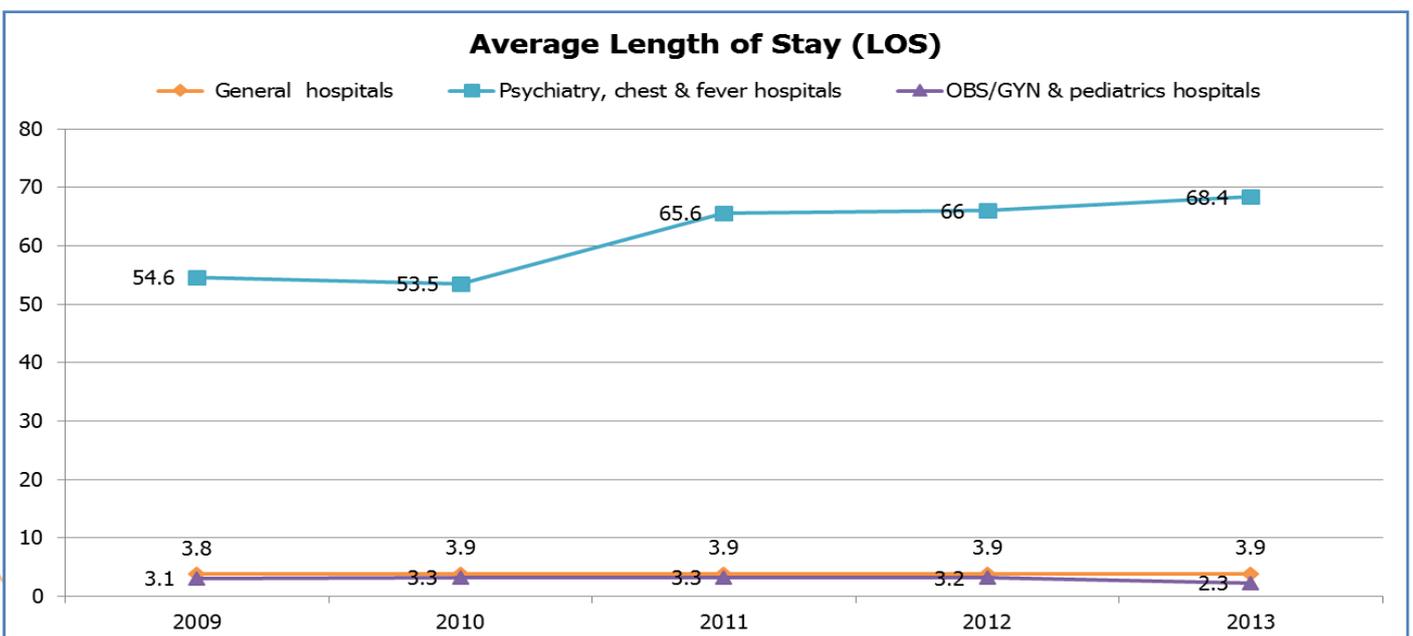


Figure 17.4: Trends of average length of stay at the MOH hospitals, 2009-2013

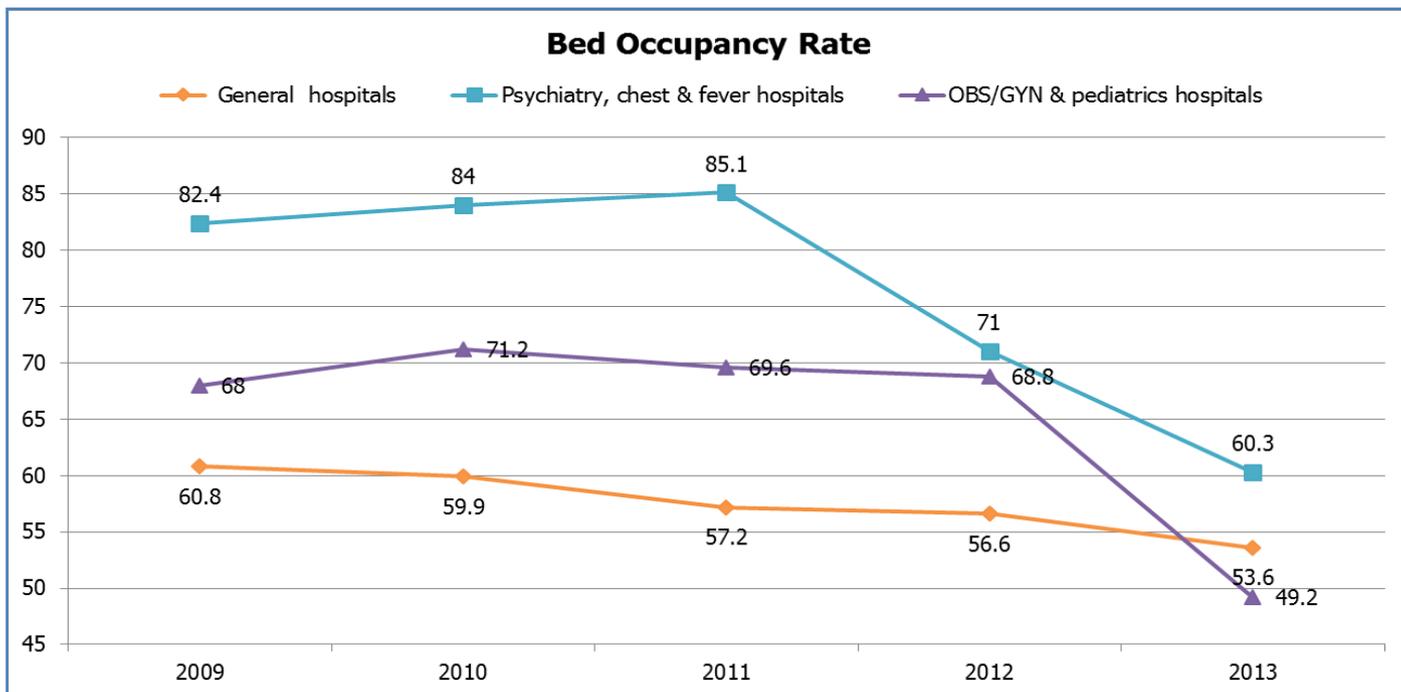


Figure 17.5: Trends of bed occupancy rate at the MOH hospitals, 2009-2013

B. INPATIENTS AT THE OTHER GOVERNMENTAL SECTOR HOSPITALS

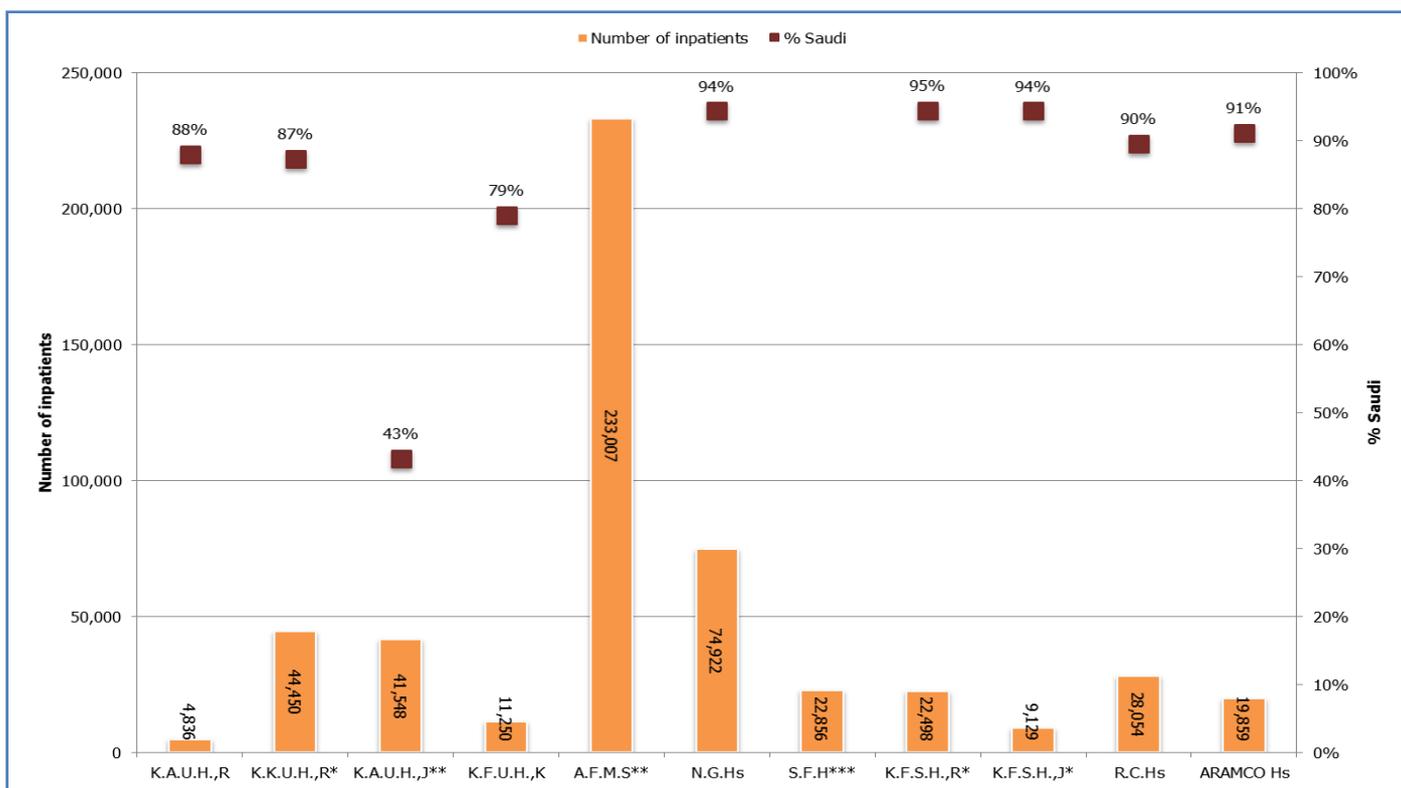


Figure 17.6: Number of inpatients at the other governmental sector hospitals (showing % Saudis), 2013

KAUHR: King Abdulaziz University Hospital, Riyadh; **KKUHR:** King Khaled University Hospital, Riyadh; **KAUHJ:** King Abdulaziz University Hospital, Jeddah; **KFUHK:** King Fahed University Hospital, Khobar; **AFMS:** Armed Forces Hospitals; **NGHs:** National Guards Hospitals; **SFH:** Security Forces Hospitals; **KFSHR:** King Faisal Specialist Hospital & Research Center, Riyadh; **KFSHJ:** King Faisal Specialist Hospital & Research Center, Jeddah; **RCHS:** Royal Commission Hospitals; **ARAMCOHs:** ARAMCO Hospitals;

* Represent data from year 2012 due to the absence of data for the year 2013
 ** Represent data from year 2011 due to the absence of data for the years 2012 and 2013
 *** Represent data from year 2010 due to the absence of data for the year 2011, 2012 and 2013

Note: Data on nationality is not available for: AFMs, NGHs, and SFH.

C. INPATIENTS AT THE PRIVATE SECTOR HOSPITALS

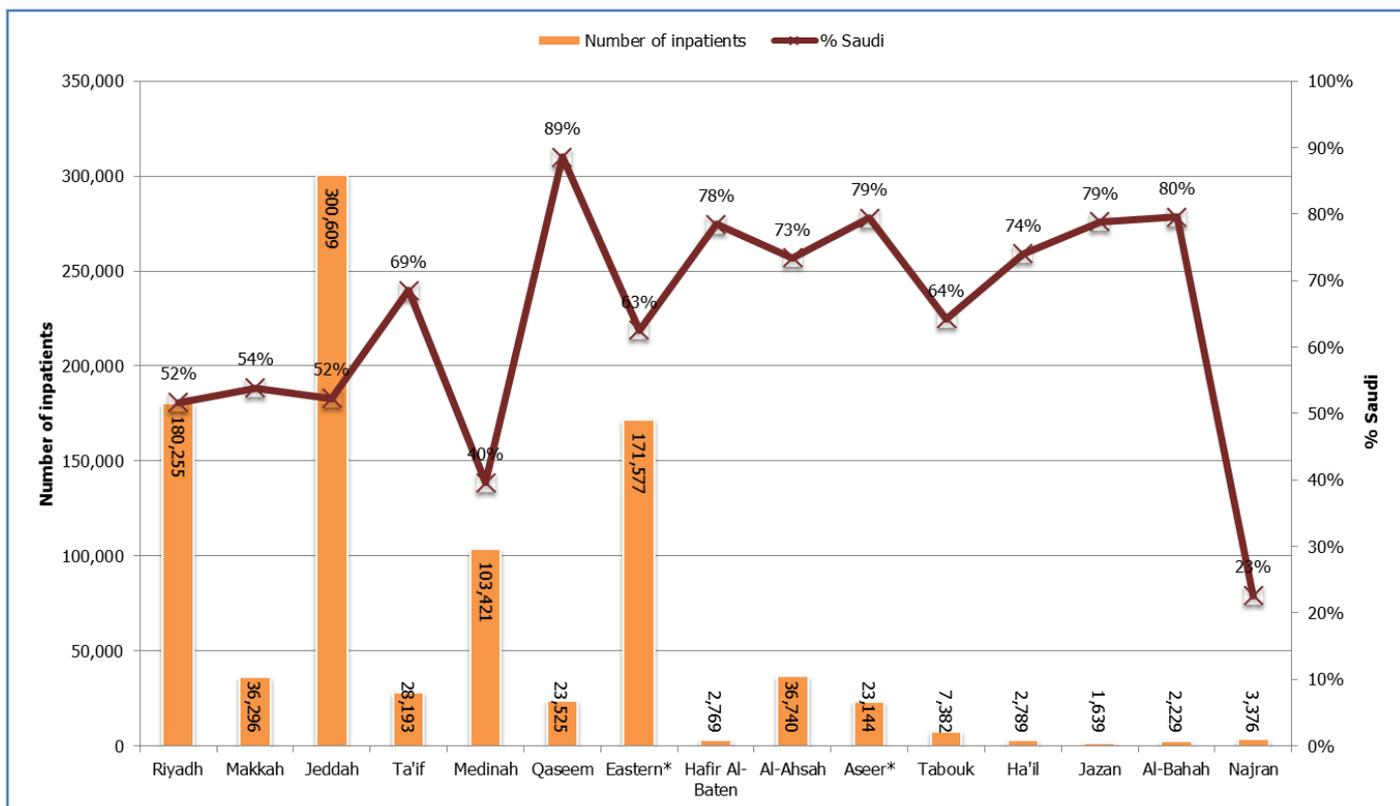


Figure 17.7: Number of inpatients at the private sector hospitals by region (showing % Saudis), 2013

Note: the only hospital in Qunfudah is closed
 Data for Riyadh represent 2009 for the absence of data for subsequent years
 Data for Aseer represent 2010 for the absence of data for subsequent years

D. TOTAL INPATIENTS ACROSS HOSPITALS OF ALL HEALTH SECTORS

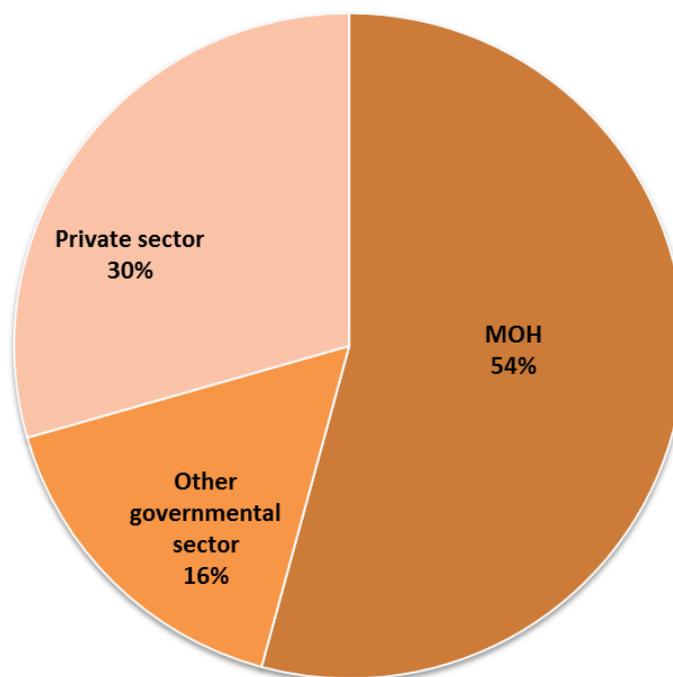


Figure 17.8: Proportion of inpatients across all health sectors of the Kingdom, 2013

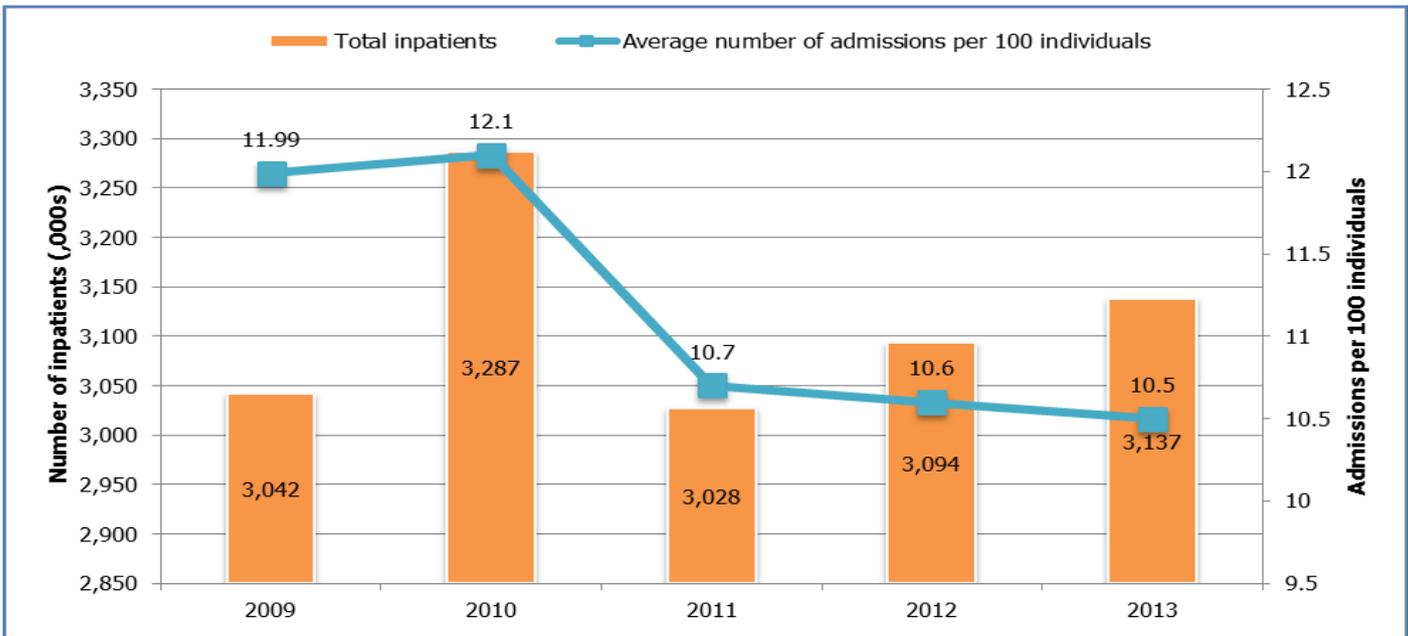


Figure 17.9: Total number of inpatients across the Kingdom, 2009-2013

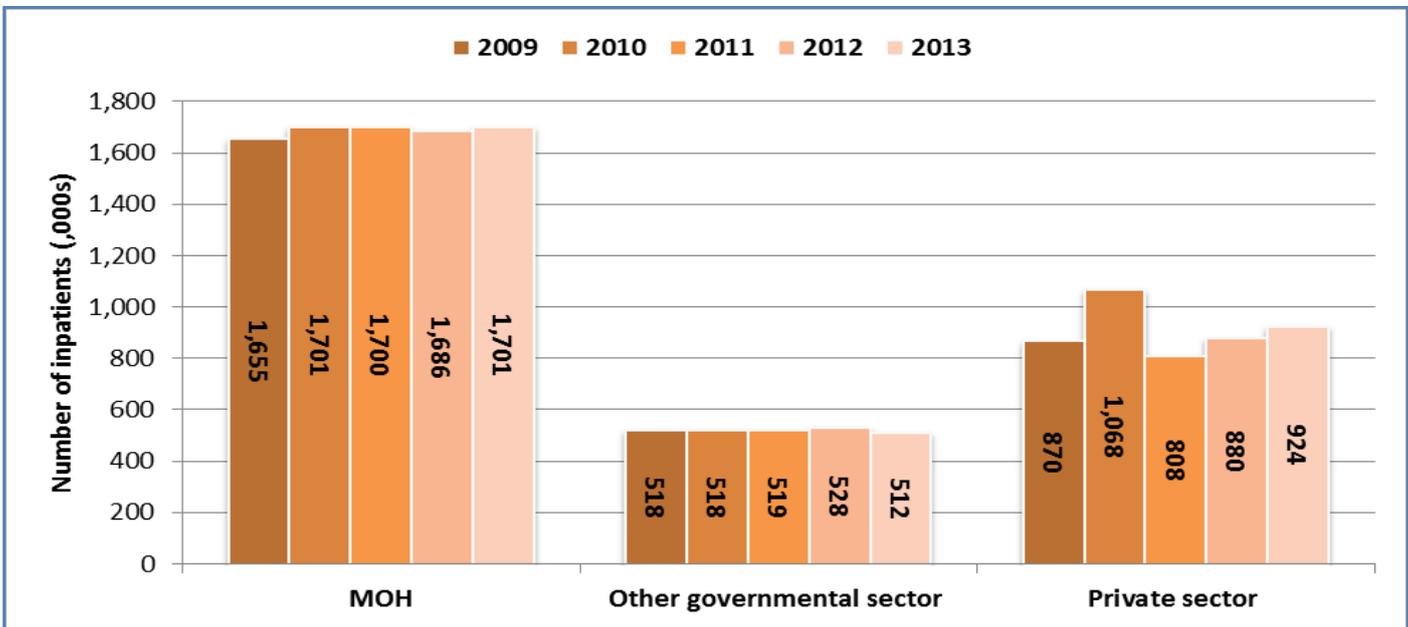


Figure 17.10: Total number of inpatients for each health sector of the Kingdom, 2009-2013

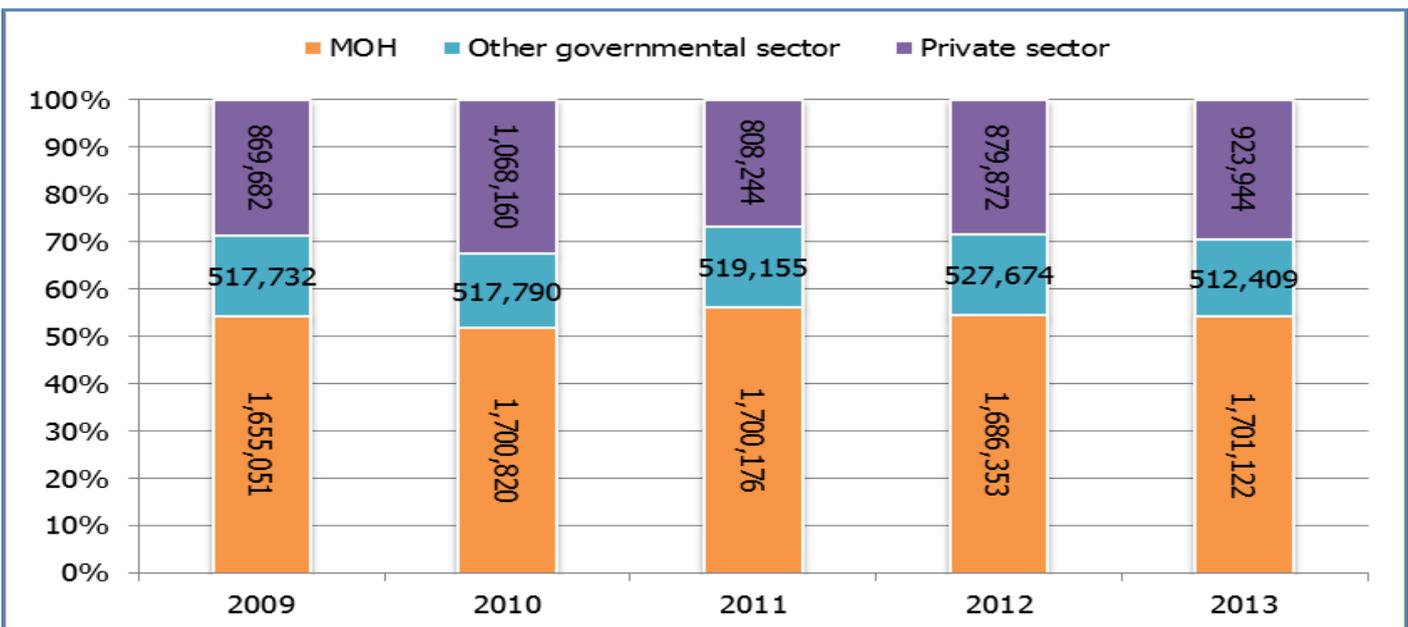


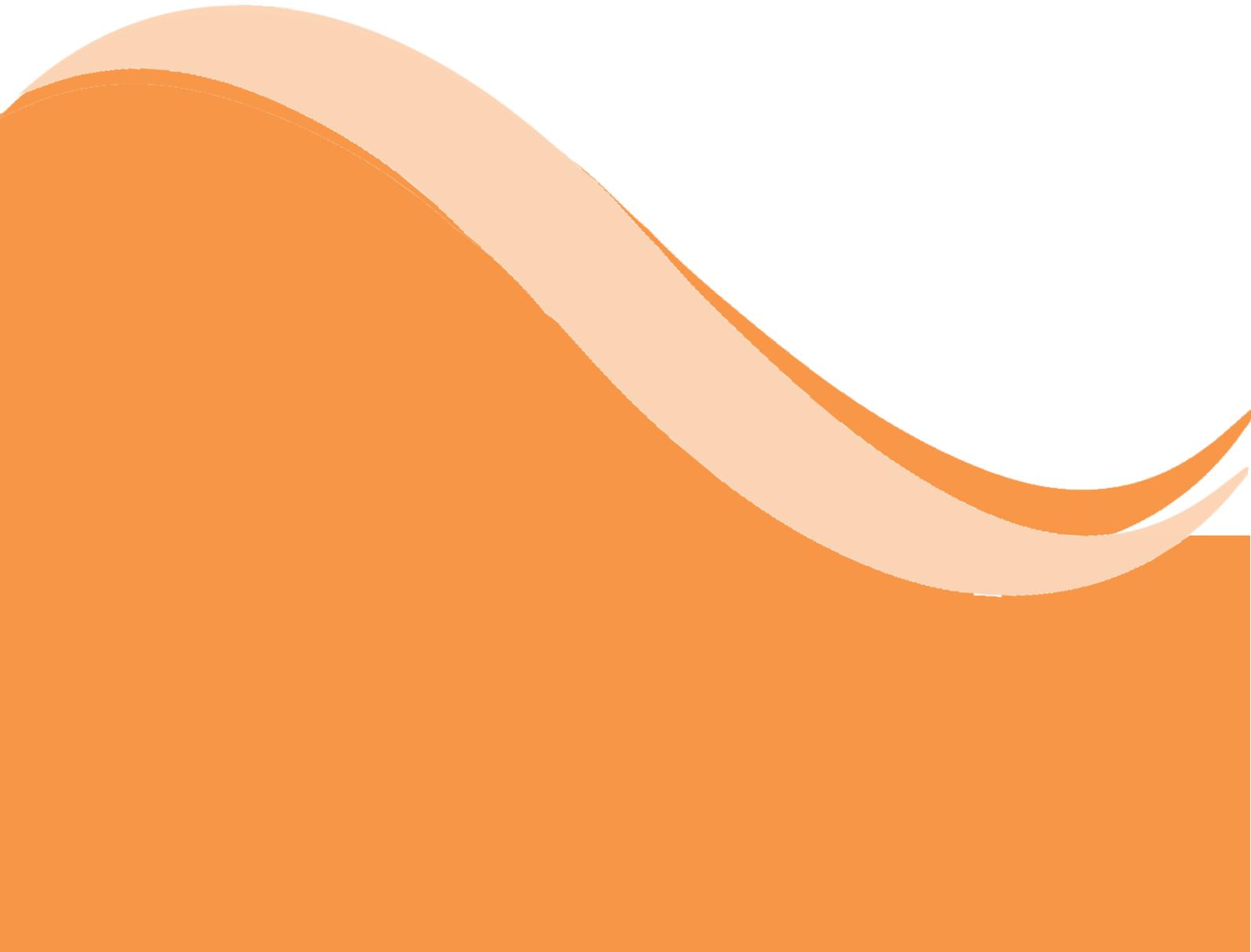
Figure 17.11: Proportion of inpatients across all health sectors of the Kingdom, 2009-2013

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 18: Surgical operations



18. SURGICAL OPERATIONS



The total numbers of surgeries performed at hospitals of the different health sectors during the year 2013 are displayed by specialty in Figures 18.1-18.3. The total number of surgeries performed at the MOH hospitals in this year is 462,360. General surgeries constitute the majority of total surgeries (26.6%), followed by surgeries of obstetrics and gynecology (25.1%).

The total number of surgeries performed at the other governmental sector hospitals in this year is 184,933. General surgeries constitute the majority of total surgeries (18.9%), followed by surgeries of obstetrics and gynecology (17.8%). The total number of surgeries performed at the private sector hospitals in this year is 365,842. Surgeries of obstetrics and gynecology constitute the majority of total surgeries (24.7%), followed by general surgeries (24.2%).

The total numbers of surgeries performed at hospitals of the different health sectors during the year 2013 are detailed further by specialty and region of the Kingdom in Tables 18.1-18.3. Figure 18.4 displays the number of same day surgeries that are performed at MOH hospitals by region during the year 2012. The total number of same day surgeries for this year is 61,277. Figure 18.5 portrays the proportion of selected gynecology (GYN) procedures that have been performed in year 2013. Evacuation constitutes the majority of total GYN procedures performed (64.7%). Geographical distribution of these procedures is provided in Table 18.4.

TREND OVER TIME...

Between the years 2009 and 2013, the total number of surgeries performed at all hospitals of the Kingdom increased by 9% (from 929,403 to 1,013,135 surgeries). The highest increase in number of surgeries was observed among those performed at the private sector hospitals (21.1% increase).

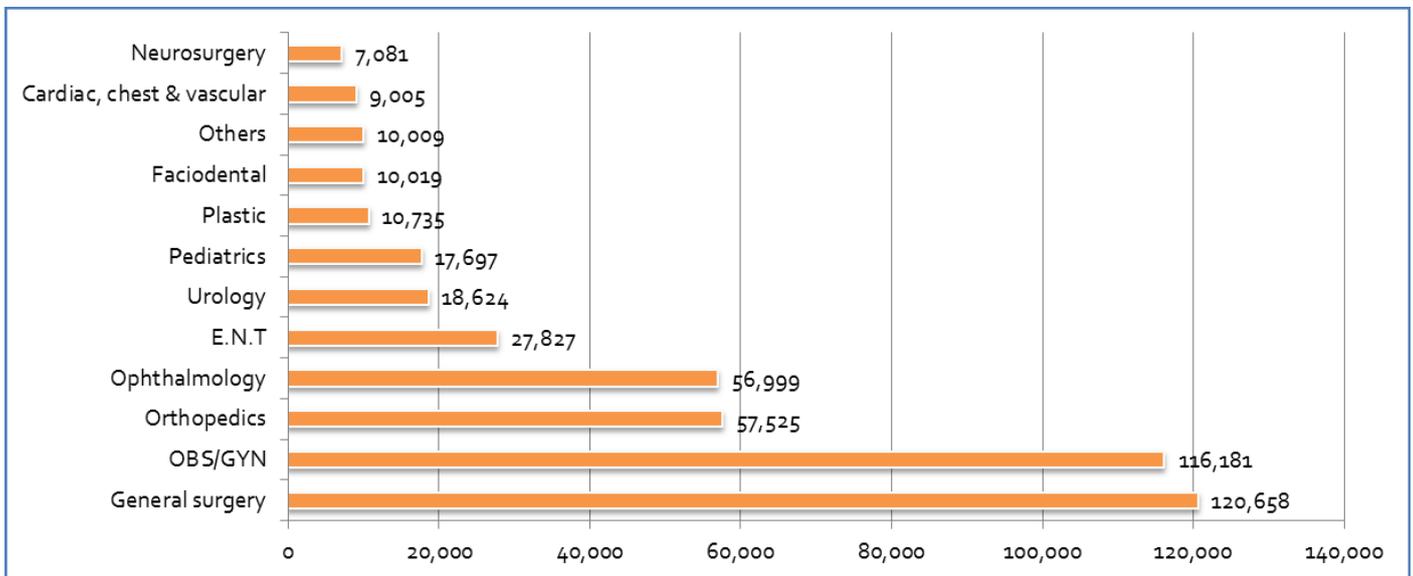


Figure 18.1: Total number of surgeries in the MOH hospitals, 2013

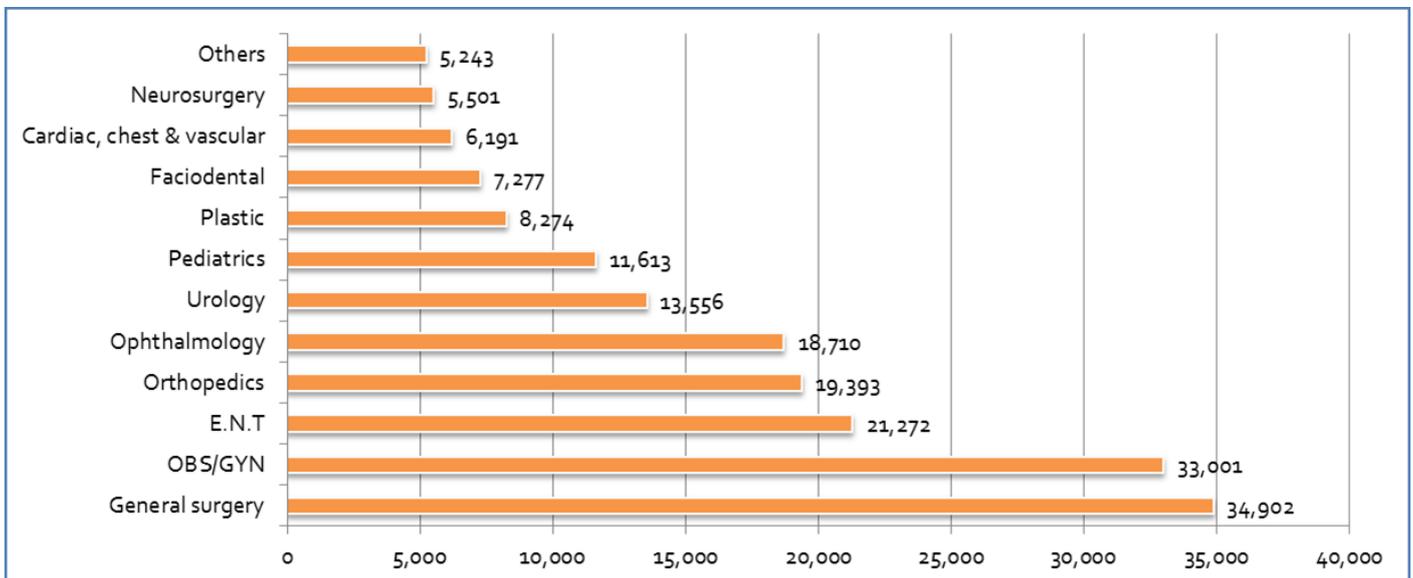


Figure 18.2: Total number of surgeries in the other governmental sector hospitals, 2013

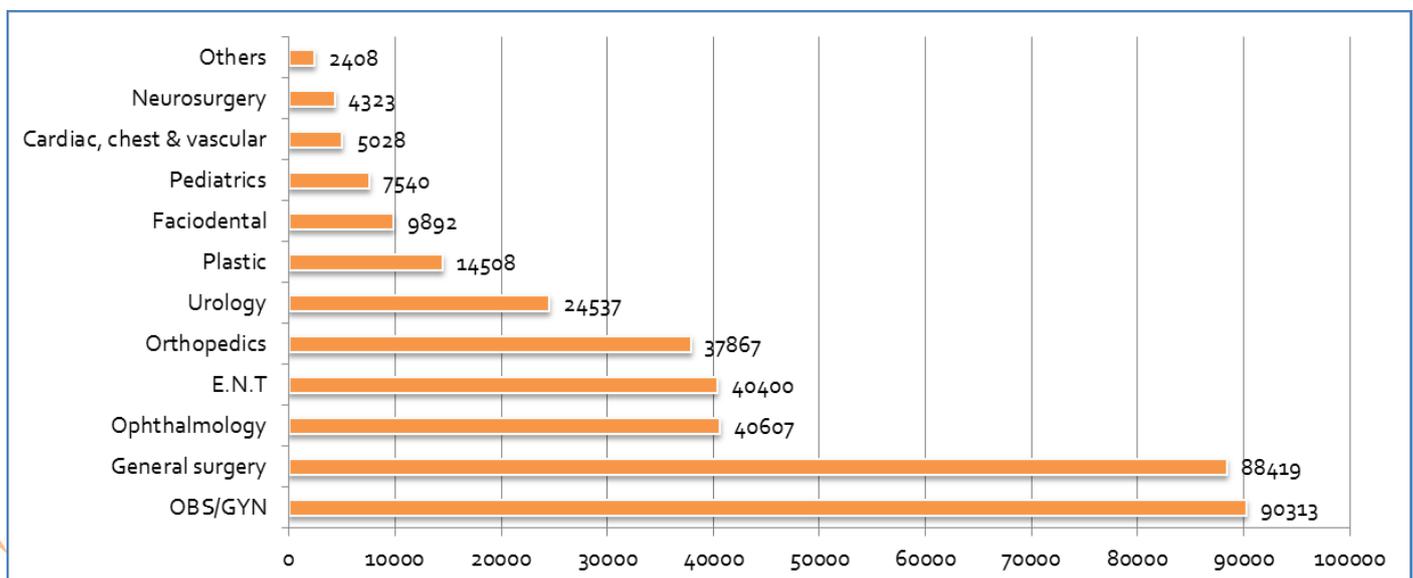


Figure 18.3: Total number of surgeries in the private hospitals, 2013

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Table 18.1: Surgeries at the MOH hospitals by region and specialty, 2013

Region	General	Cardiac, chest, & Vascular	Urology	Plastic	Orthopedics	E.N.T	Faciodental	Pediatrics	OBS/GYN	Ophthalmology	Neurosurgery	Others	Total
Riyadh	25012	1128	4145	1928	15239	6238	2442	2650	15640	25998	2120	1977	104517
Makkah	5284	1035	258	1002	3059	1651	815	713	6649	2079	529	644	23718
Jeddah	5955	458	611	907	4059	2160	369	824	5105	9012	383	267	30110
Ta'if	5160	410	933	631	2023	979	734	759	6172	3106	349	926	22182
Medinah	11769	1288	1662	673	3583	2233	341	1972	9478	2403	427	1701	37530
Qaseem	8628	774	765	532	3547	1501	464	1831	8005	1104	181	0	27332
Eastern	5867	669	1874	493	2539	1513	439	2558	6068	3723	641	933	27317
Al-Ahsa	7705	513	651	1030	2448	1751	1740	1541	5617	1394	570	1949	26909
Hafr Al-Baten	1887	182	184	53	1331	328	64	577	5317	148	99	0	10170
Aseer	7465	355	1559	645	5465	2637	1363	906	9088	1838	329	439	32089
Bishah	4388	276	395	140	1453	560	162	342	4075	737	151	6	12685
Tabouk	3257	83	439	128	1995	819	32	179	4234	276	200	46	11688
Ha'il	4378	252	699	276	1667	1101	332	489	5188	1162	351	744	16639
Northern	4602	483	404	925	1098	609	28	566	4447	283	42	0	13487
Jazan	6462	365	598	158	3210	1052	88	245	6082	1468	180	251	20159
Najran	4076	271	984	726	1523	991	203	684	5823	993	216	8	16498
Al-Bahah	2578	128	1614	339	1586	833	176	320	3591	673	160	118	12116
Al-Jouf	4329	211	377	148	905	411	100	307	3220	198	122	0	10328
Qurayyat	1126	109	379	1	385	260	99	165	1388	194	31	0	4137
Qunfudah	730	15	93	0	410	200	28	69	994	210	0	0	2749
Total	120658	9005	18624	10735	57525	27827	10019	17697	116181	56999	7081	10009	462360

Table 18.2: Surgeries at the hospitals of other governmental sector by hospital and specialty, 2013

Hospital	General surgery	Ophthalmology	ENT	Urology	Orthopedics	Cardiac, chest, & Vascular	Plastic surgery	Neurosurgery	OBS/GYN	Pediatrics	Faciodental	Others	Total
K.A.U.H.,R	1620	6215	2263	-	-	-	-	-	-	-	65	-	10163
K.K.U.H.,R*	1795	-	-	1260	1784	346	1036	364	1506	651	120	-	8862
K.A.U.H.,J**	2051	588	1054	976	811	345	250	459	2284	804	158	595	10375
K.F.U.H.,K	641	565	579	319	570	161	197	212	281	166	72	512	4275
A.F.M.S**	13238	5304	9349	4860	6895	3013	2211	1437	18949	2904	3135	715	72010
N.G.Hs.	5940	3060	3441	2014	3841	113	1958	738	4156	1591	1092	1583	29527
S.F.H.***	1714	666	1377	943	977	15	1246	56	1801	617	326	-	9738
K.F.S.H.,R*	3362	471	1234	1449	1198	1484	749	597	1007	131	248	1380	13310
K.F.S.H.,J*	629	101	358	438	282	590	137	464	409	435	85	-	3928
R.C.Hs.	1283	224	454	374	926	12	178	65	1265	274	180	417	5652
ARAMCO Hs.	2629	1516	1163	923	2109	112	312	1109	1343	4040	1796	41	17093
Total	34,902	18,710	21,272	13,556	19,393	6,191	8,274	5,501	33,001	11,613	7,277	5,243	184,933

KAUHR: King Abdulaziz University Hospital, Riyadh; KKHUR: King Khalid University Hospital, Riyadh; KAUFH: King Fahed University Hospital, Khobar; AFMS: Armed Forces Hospitals; NNGHS: National Guards Hospitals; SFH: Security Forces Hospitals; KFSHR: King Faisal Specialist Hospital & Research Center, Riyadh; KFJSH: King Faisal Specialist Hospital & Research Center, Jeddah; RCHS: Royal Commission Hospitals; ARAMCOHs: ARAMCO Hospitals; * Represent data from year 2012 due to the absence of data for the year 2013 ** Represent data from year 2011 due to the absence of data for the years 2012 & 2013 ***Represent data from year 2010 due to the absence of data for the year 2011, 2012 & 2013

Table 18.3: Surgeries at the private hospitals by region and specialty, 2013

Region	General	Cardiac, chest, & Vascular	Urology	Plastic	Orthopedics	E.N.T	Faciodental	Pediatrics	OBS/GYN	Ophthalmology	Neurosurgery	Others	Total
Riyadh	22092	437	5519	8504	7691	11929	1136	820	25849	5863	711	0	90551
Makkah	3714	0	677	40	797	1698	126	693	5356	63	57	0	13221
Jeddah	27120	3654	7211	3175	13112	13352	3256	711	29876	23714	1022	0	126203
Ta'if	1464	2	424	55	385	605	43	19	2569	152	0	7	5725
Medinah	7918	328	1914	341	2263	823	299	220	5370	4487	403	166	24532
Qaseem	1279	0	471	145	754	969	220	57	1721	581	113	559	6869
Eastern	17853	505	5368	1573	9387	6196	3811	4749	12105	4153	1803	1399	68902
Al-Ahsa	2382	91	628	229	1459	1104	253	40	2438	868	58	12	9562
Hafr Al-Baten	385	0	40	0	142	84	416	95	836	37	0	0	2035
Aseer	2569	11	1406	413	1326	2749	216	136	2312	469	155	0	11762
Tabouk	475	0	248	0	405	414	71	0	662	199	0	0	2474
Ha'il	154	0	47	0	27	30	4	0	88	0	0	0	350
Jazan	350	0	29	33	0	236	0	0	249	0	0	0	897
Najran	288	0	83	0	79	121	0	0	420	21	0	228	1240
Al-Bahah	376	0	472	0	40	90	41	0	462	0	1	37	1519
Qunfudah*													
Total	88,419	5,028	24,537	14,508	37,867	49,400	9,892	7,540	90,313	40,607	4,323	2,408	365,842

Note: *the only hospital in Qunfudah is closed
 Data of Riyadh are those of 2009 due to the absence of subsequent years data
 Data of Aseer are those of 2010 due to absence of subsequent years data
 Data of Makkah and Eastern are those of 2012 due to absence of subsequent years data

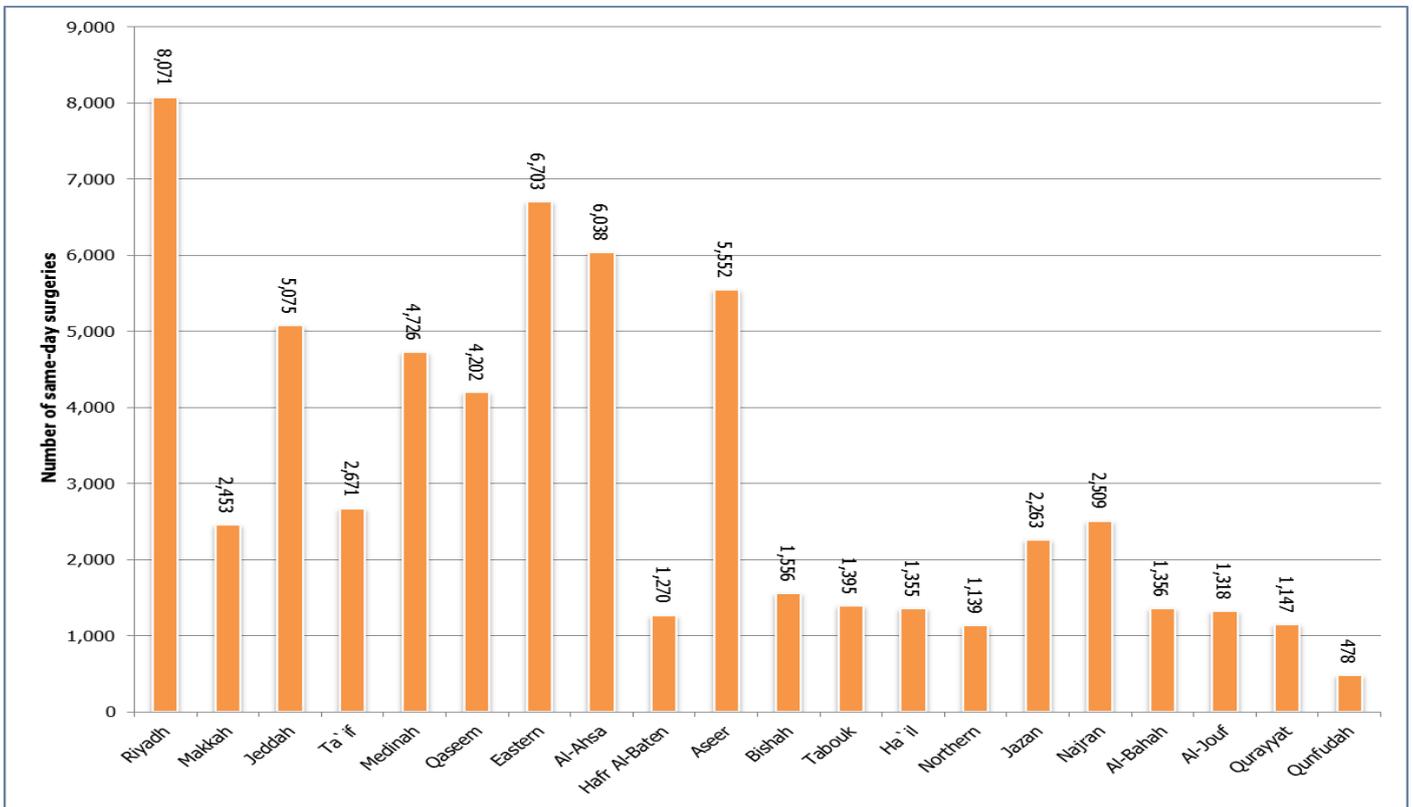


Figure 18.4: Number of same day surgeries at the MOH hospitals by region, 2012*

*Data represents the year 2012 due to the absence of 2013 data

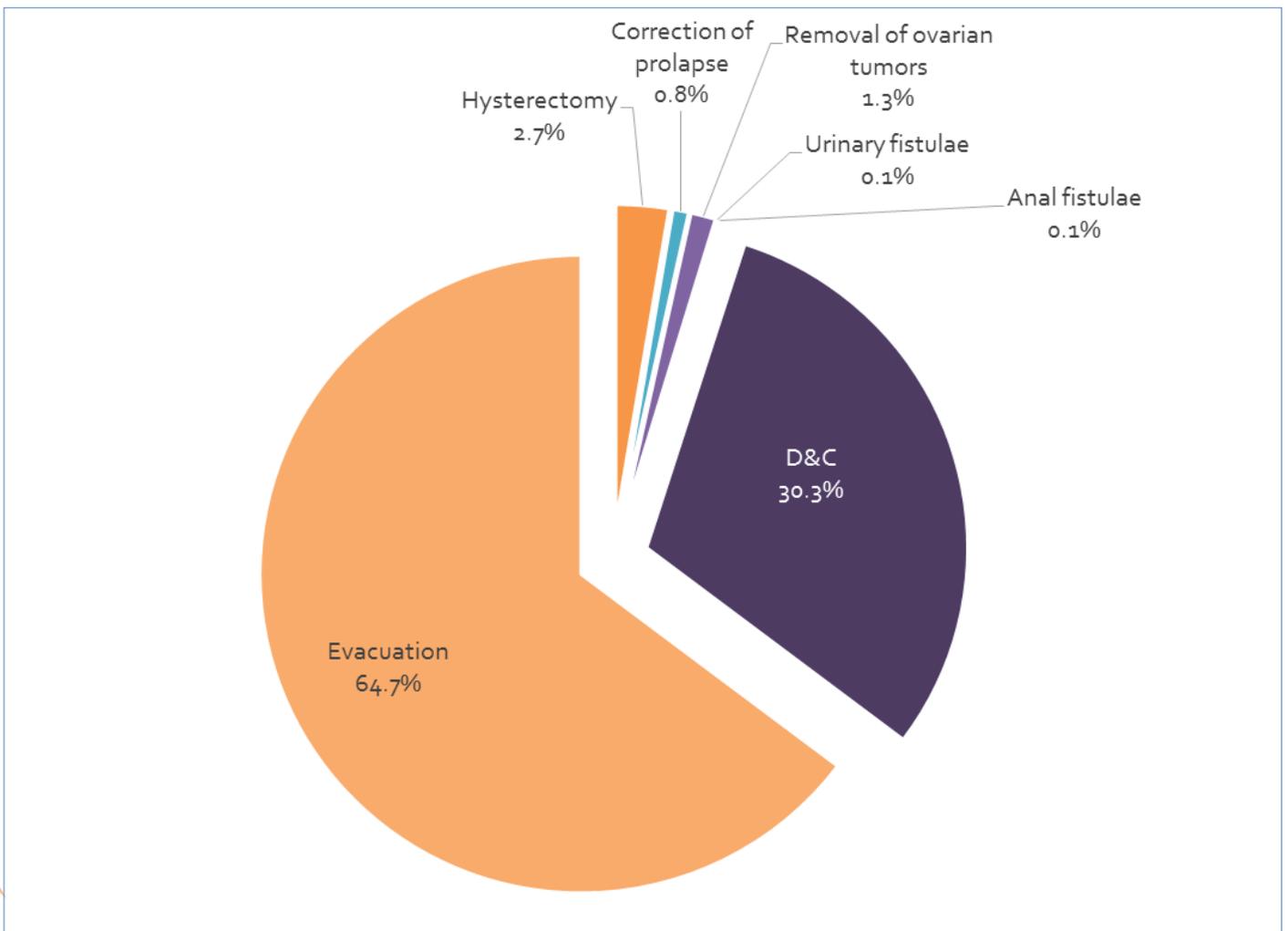


Figure 18.5: Proportion of selected GYN procedures, 2013

Table 18.4: Selected GYN procedures at the MOH hospitals by region, 2013

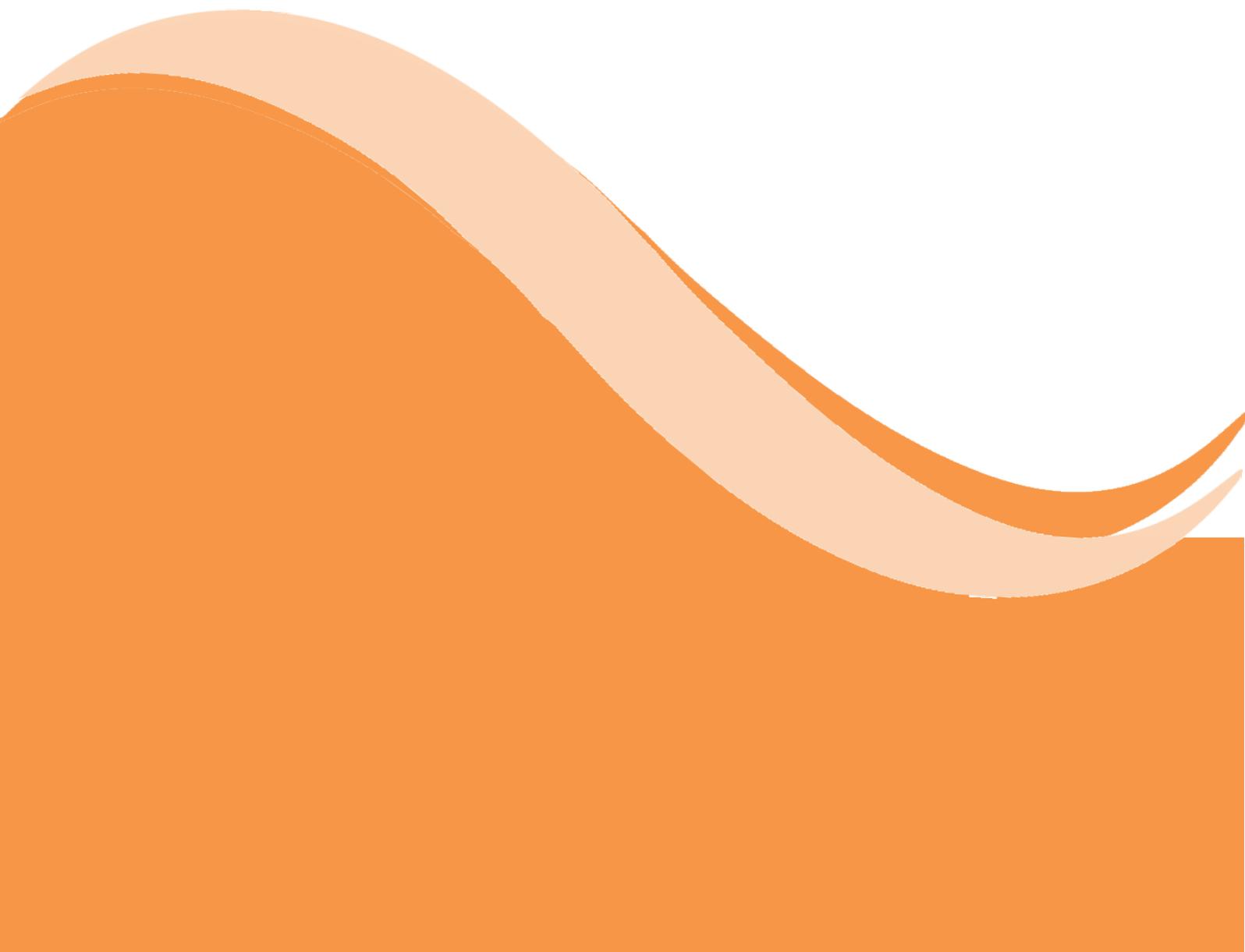
Region	Hysterectomy	Correction of prolapse	Removal of ovarian tumors	Urinary fistulae	Anal fistulae	Dilation & Curettage	Evacuation	Total
Riyadh	195	116	102	2	10	1,054	2,456	3,935
Makkah	62	2	27	8	1	388	1,660	2,148
Jeddah	42	26	24	0	0	469	1,068	1,629
Ta'if	39	9	40	0	0	222	211	521
Medinah	44	13	32	0	1	1,532	2,735	4,357
Qaseem	44	2	26	0	1	373	1,151	1,597
Eastern	49	11	19	0	1	345	711	1,136
Al-Ahsa	57	0	0	0	0	1,506	2,950	4,513
Hafr Al-Baten	11	5	11	0	2	137	229	395
Aseer	71	25	21	17	15	500	939	1,588
Bishah	6	1	0	0	0	289	66	362
Tabouk	8	0	9	0	0	230	557	804
Ha'il	29	12	13	0	4	230	585	873
Northern	26	1	2	0	0	263	348	640
Jazan	17	2	20	1	0	700	871	1,611
Najran	12	4	0	1	1	182	1,386	1,586
Al-Bahah	53	5	18	0	2	245	390	713
Al-Jouf	6	0	0	0	0	164	481	651
Qurayyat	5	1	5	0	2	105	300	418
Qunfudah	8	1	0	2	0	16	7	34
Total	784	236	369	31	40	8,950	19,101	29,511

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 19: Deliveries and births



19. DELIVERIES AND BIRTHS

DELIVERIES AT THE MOH HOSPITALS

During the year 2013, a total of 262,173 deliveries have been performed at the MOH hospitals across the Kingdom. Those are divided into normal deliveries (187,017), constituting 71.3% of total deliveries, and abnormal deliveries (75,156), constituting 28.7% of total deliveries (Figure 19.1). Abnormal deliveries mainly involve Caesarean Sections (22.3% of total deliveries). Table 19.1 shows the distribution of total deliveries performed at the MOH hospitals across the Kingdom in the year 2013, by type of delivery and region.

Figure 19.2 further displays the distribution of total deliveries performed at the MOH hospitals in year 2013 across the regions of the Kingdom, while highlighting the proportion of abnormal deliveries for each region. Mekkah had the highest percentage of abnormal deliveries (39%), while Qurayyat had the lowest (18%).

Figure 19.3 displays the number of live births delivered at the MOH hospitals of the Kingdom, with representation of the yearly proportion of pre-term births, for the time period of 2009-2013. In the year 2013, 264,914 live births are recorded, with pre-term births constituting 3.9% of the total live births delivered.

Figure 19.4 displays the number of total births at the MOH hospitals of the Kingdom, with representation of the yearly still birth ratio, for the time period of 2009-2013. In the year 2013, 261,461 births are recorded in total, with a still birth ratio of 13.2 per 1,000 live births.

DELIVERIES AT THE OTHER GOVERNMENTAL SECTOR HOSPITALS

During the year 2013, a total of 85,410 deliveries have been performed at the other governmental sector hospitals across the Kingdom. Those are divided into normal deliveries (61,126), constituting 71.6% of total deliveries, and abnormal deliveries (24,284), constituting 28.4% of total deliveries (Figure 19.5). Abnormal deliveries mainly involve Caesarean Sections (23.4% of total deliveries). Table 19.2 shows the distribution of total deliveries performed at the other governmental sector hospitals across the Kingdom in the year 2013, by type of delivery and hospital.

KEY ACHIEVEMENTS ...

Between the years 2009 and 2013, the ratio of still births per 1,000 live births that occurred at the MOH hospitals of the Kingdom dropped from 15.1 to 13.2 (12.6 % drop).

Figure 19.6 further displays the distribution of total deliveries performed at the other governmental sector hospitals in year 2013 across the hospitals, while highlighting the proportion of abnormal deliveries for each hospital. King Faisal Specialist Hospital & Research Center, Jeddah had the highest percentage of abnormal deliveries (55%) while the Armed Forces Medical Services had the lowest percentage (26%).

Table 19.3 describes the births that took place at the various other governmental sector hospitals in year 2013. A total of 85,992 live births and 739 still births are recorded this year, amounting to a total of 86,731 births. There are 11,738 cases of low birth weight babies, representing a ratio of 137 low birth weight babies per 1,000 live births. Moreover, the number of neonatal deaths during the first week of birth for this year is 240 deaths.

TREND OVER TIME...

Between the years 2008 and 2012, the number of live births delivered at the MOH hospitals across the Kingdom increased by 3.5%, from 257,697 to 266,788 live births, while those delivered at the other governmental sector hospitals decreased by 3.8%, from 90,184 to 86,742 live births.

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A. DELIVERIES AND BIRTHS AT THE MOH HOSPITALS



Figure 19.1: Deliveries at the MOH hospitals by type of delivery, 2013

Table 19.1: Deliveries at the MOH hospitals by type of delivery and region, 2013

Region	Normal deliveries	Abnormal deliveries					
		Ventouse	Breech	Forceps	C.S.	Others	Total
Riyadh	26531	701	271	120	10089	244	11425
Makkah	9596	218	42	44	5887	33	6224
Jeddah	8958	139	65	9	3082	104	3399
Ta'if	7600	411	81	19	2680	527	3718
Medinah	15751	155	73	12	6490	58	6788
Qaseem	13293	138	123	12	5282	125	5680
Eastern	9861	245	127	11	2587	114	3084
Al-Ahsa	9884	21	49	3	2733	0	2806
Hafr Al-Baten	4626	92	28	1	1534	19	1674
Aseer	13546	238	107	94	5149	171	5759
Bishah	3866	73	31	9	1810	134	2057
Tabouk	5970	131	35	6	2768	34	2974
Ha'il	7410	141	97	2	3202	162	3604
Northern	5099	60	7	5	2413	6	2491
Jazan	18364	253	231	2	3695	83	4264
Najran	7965	146	73	2	2385	47	2653
Al-Bahah	6036	168	46	17	2077	4	2312
Al-Jouf	5834	104	24	0	2379	19	2526
Qurayyat	4498	95	44	7	848	0	994
Qunfudah	2329	52	0	0	612	60	724
Total	18,7017	3,581	1,554	375	67,702	1,944	75,156

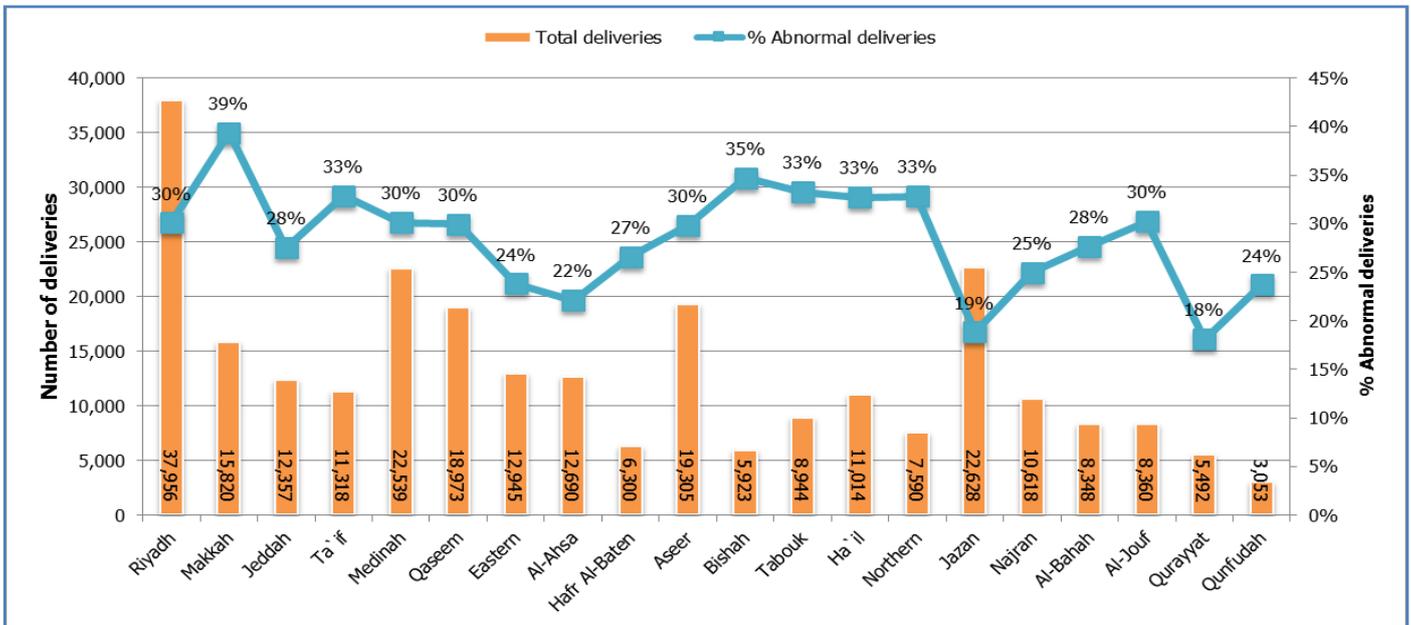


Figure 19.2: Deliveries at the MOH hospitals by region (showing % abnormal deliveries), 2013

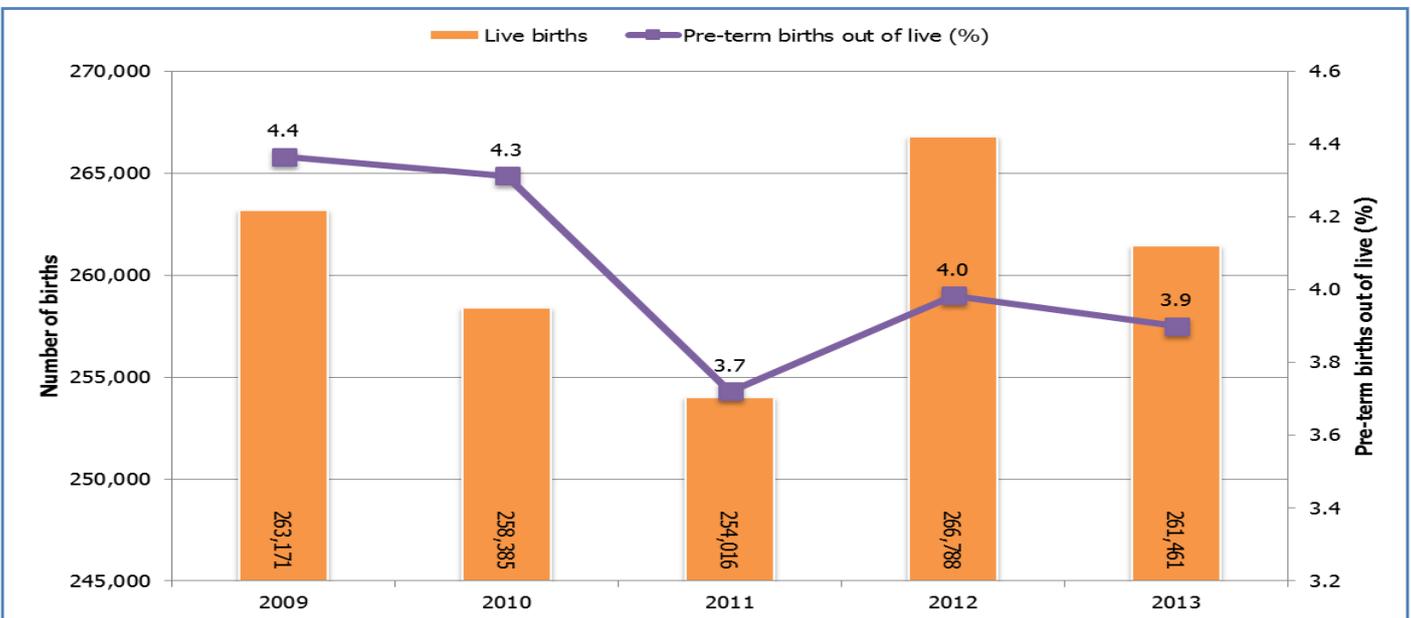


Figure 19.3: Number of live births at the MOH hospitals (showing % pre-term birth), 2009-2013

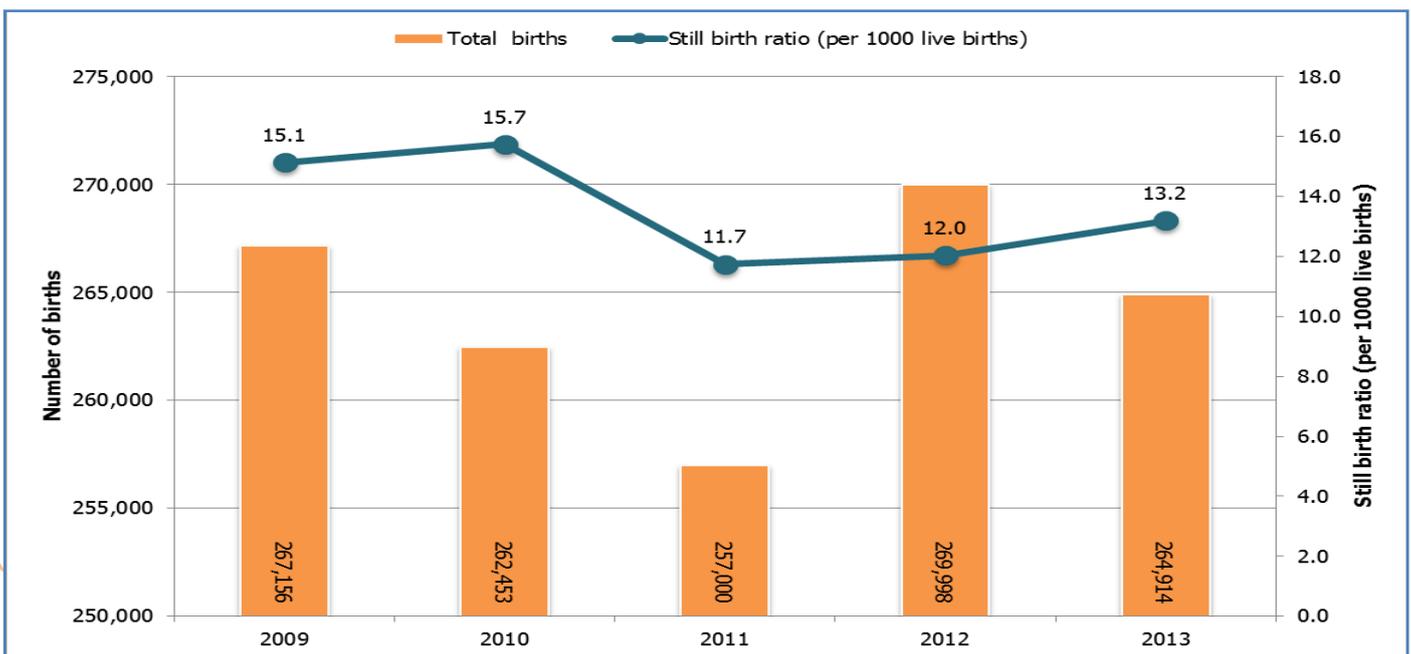


Figure 19.4: Number of total births at the MOH hospitals (showing still birth ratio), 2009-2013

B. DELIVERIES AND BIRTHS AT THE OTHER GOVERNMENTAL SECTOR HOSPITALS

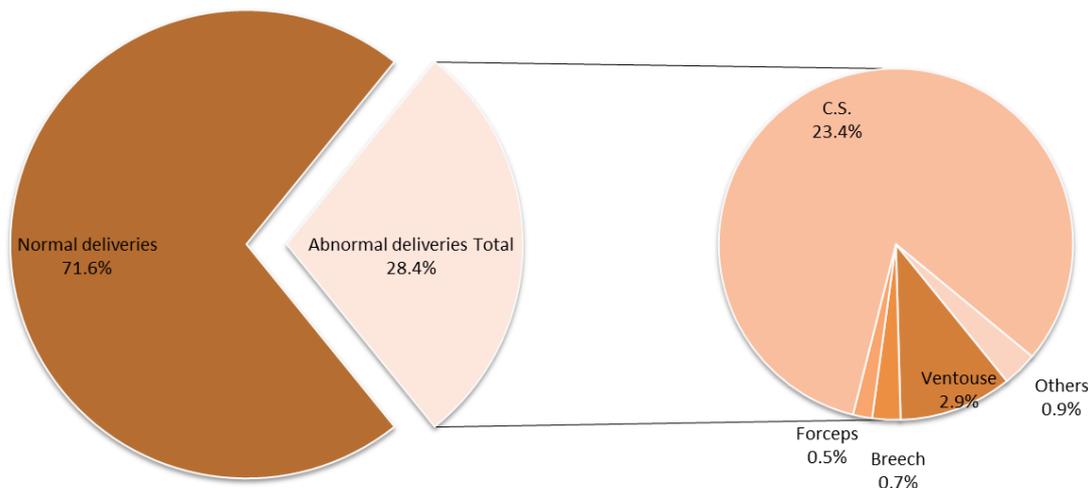


Figure 19.5: Deliveries at the other governmental sector hospitals by type of delivery, 2013

Table 19.2: Deliveries at the other governmental sector hospitals by type of delivery and region, 2013

Hospital	Normal deliveries	Abnormal deliveries					Total
		Ventouse	Breech	Forceps	C.S	Others	
K.K.U.H.,R	2,506	288	38	2	806	-	1,134
K.A.U.H.,J*	3,458	133	38	3	1,122	-	1,296
K.F.U.H.,K	789	50	11	1	365	-	427
A.F.M.S*	35,576	1,058	325	290	10,422	622	12,717
N.G.Hs	10,380	555	124	98	3,782	7	4,566
S.F.H**	3,780	200	65	2	1,168	-	1,435
K.F.S.H.,R	798	78	9	1	530	-	618
K.F.S.H.,J	180	32	3	1	188	-	224
R.C.Hs	2,621	86	10	1	1,118	0	1,215
ARAMCO Hs	1,038	35	4	25	445	143	652
Total	61,126	2,515	627	424	19,946	772	24,284

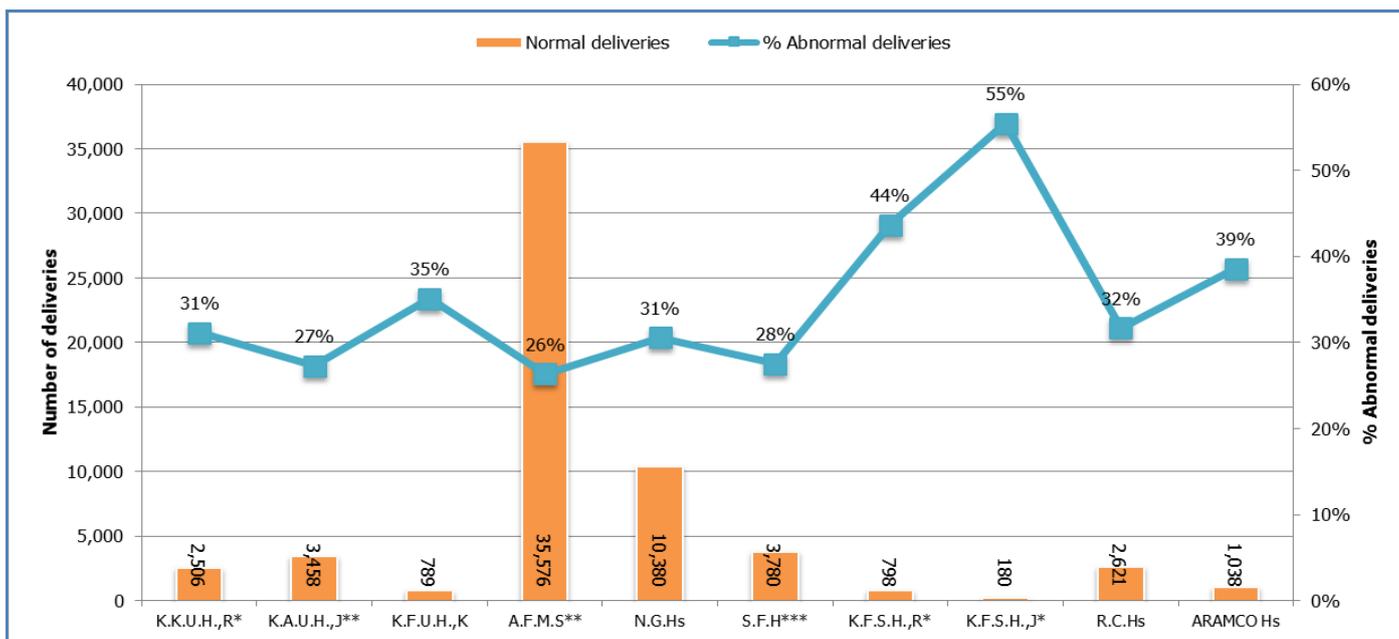


Figure 19.6: Deliveries at the other governmental sector hospitals by region (showing % abnormal deliveries), 2013

KKUHR: King Khaled University Hospital, Riyadh; **KAUHJ:** King Abdulaziz University Hospital, Jeddah; **KFUHK:** King Fahed University Hospital, Khobar; **AFMS:** Armed Forces Hospitals; **NGHs:** National Guards Hospitals; **SFH:** Security Forces Hospitals; **KFSHR:** King Faisal Specialist Hospital & Research Center, Riyadh; **KFSHJ:** King Faisal Specialist Hospital & Research Center, Jeddah; **RCHS:** Royal Commission Hospitals; **ARAMCOHs:** ARAMCO Hospitals

* Represent data from year 2012 due to the absence of data for the year 2013
 ** Represent data from year 2011 due to the absence of data for the year 2011 & 2012
 *** Represent data from year 2010 due to the absence of data for the year 2011, 2012, & 2013

Table 19-3: Births at the other governmental sector hospitals, 2013

Hospital	Live births		Still births	Total births	Still birth ratio (per 1000 live births)	Low birth weight	Low birth weight ratio (per 1000 live births)	# of Neonatal deaths during 1st week
	Saudi	Non-Saudi							Total
K.K.U.H.,R*	3,265	378	43	3,686	12	368	101	18
K.A.U.H.,J**	2,318	2,603	72	4,993	15	527	107	0
K.F.U.H.,K	970	249	24	1,243	20	203	167	5
A.F.M.S.**	48,093	236	349	48,678	7	7,152	148	102
N.G.Hs.	15,107	78	107	15,292	7	1,957	129	58
S.F.H.***	5,092	71	52	5,215	10	488	95	22
K.F.S.H.,R*	1,389	83	30	1,502	20	327	222	0
K.F.S.H.,J*	423	37	13	473	28	177	385	0
R.C.Hs.	3,391	502	34	3,927	9	310	80	27
ARAMCO Hs.	1,577	130	15	1,722	9	229	134	8
Total	81,625	4,367	739	86,731	9	11,738	137	240

KAUHR: King Abdulaziz University Hospital, Riyadh; KKHHR: King Khalid University Hospital, Riyadh; KAUHJ: King Abdulaziz University Hospital, Jeddah; KFUHK: King Fahed University Hospital, Khobar; AFMS: Armed Forces Hospitals; NGHs: National Guards Hospitals; SFH: Security Forces Hospitals; KFSHR: King Faisal Specialist Hospital & Research Center, Riyadh; KFSHJ: King Faisal Specialist Hospital & Research Center, Jeddah; RCHS: Royal Commission Hospitals; ARAMCOHs: ARAMCO Hospitals;

* Represent data from year 2012 due to the absence of data for the year 2013

** Represent data from year 2011 due to the absence of data for the year 2011, & 2012

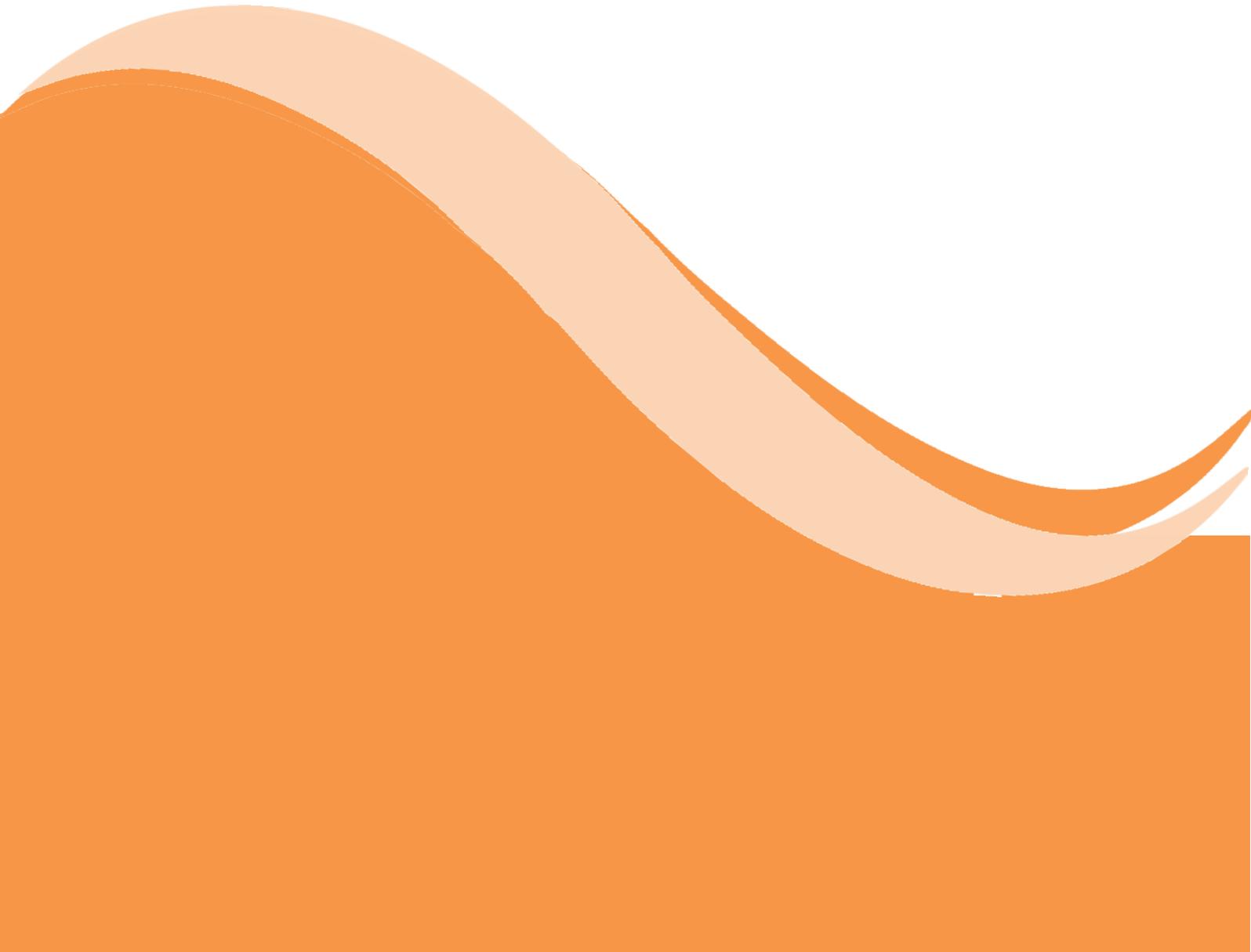
***Represent data from year 2010 due to the absence of data for the year 2011, 2012, & 2013

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 20: Ophthalmology



20. OPHTHALMOLOGY



Preventive and curative services are provided at ophthalmic departments of most hospitals across the Kingdom and at hospitals which are specialized in Ophthalmology, such as King Khaled Eye Specialist Hospital and Jeddah Specialist Hospital.

Table 20.1 displays the main activities and services that have been provided at King Khaled Eye Specialist Hospital throughout the time period of 2008-2012. A total of 158,492 outpatient visits were made during the year 2012, representing a daily average of 607 visits per day. The total number of cases attended to at the emergency department during the year 2012 is 30,663, representing a daily average of 117 cases per day. The total number of inpatients admitted during the year 2012 is 13,548. This hospital contains a cornea bank that serves a vital role in cornea transplantation procedures performed at the hospital and at other hospitals. During this year, 1,104 cornea transplantations have been performed in this hospital.

Figure 20.1 portrays the trend for outpatient visits at King Khaled Eye Specialist Hospital for the time period 2008-2012.

KEY ACHIEVEMENTS ...

Between the years 2008 and 2012, King Khaled Eye Specialist Hospital markedly expanded its outpatient services. Most noticeable is the increase in the total number of outpatient visits observed from year 2011 to 2012 (20% increase from 132,038 to 158,492 visits).

Table 20.1: Main activities and services at King Khaled Eye Specialist Hospital, 2008-2012*

Item		2008	2009	2010	2011	2012
Outpatient	Initial visits	9,016	10,916	9,708	9,604	8,462
	Follow-up visits	87,283	97,632	108,323	108,540	140,260
	Screening clinic visits	15,088	16,527	14,235	13,894	9,770
	Total	111,387	125,075	132,266	132,038	158,492
Emergency	Cases from screening clinic	502	464	636	482	280
	Follow-up	7,908	8,442	7,946	8,772	6,300
	Inpatient	1,947	1,669	1,356	...	1,283
	Others	21,404	1,315	22,522	21,512	22,800
	Total	31,761	11,890	32,460	30,766	30,663
Inpatient	Admissions	15,974	13,348	9,710	10,038	13,548
	Average length of stay	4	4	5	5	5
Surgery	Surgery procedures	26,455	19,171	10,239	11,006	22,513
	Surgery cases	19,910	10,733	9,924	10,267	9,779
Investigations	Laboratory tests	514,239	482,113	453,516	468,413	484,495
	Radiology procedures	81,124	81,213	94,035	122,020	104,106
	Respiratory therapy procedures	16,287	15,250	15,399	12,940	14,247
Eye Bank	Ophthalmic photography	28,621	29,981	33,630	29,696	32,166
	Surgeries	1,497	1,199	692	896	1,104
	Waiting list	385	287	330	477	538

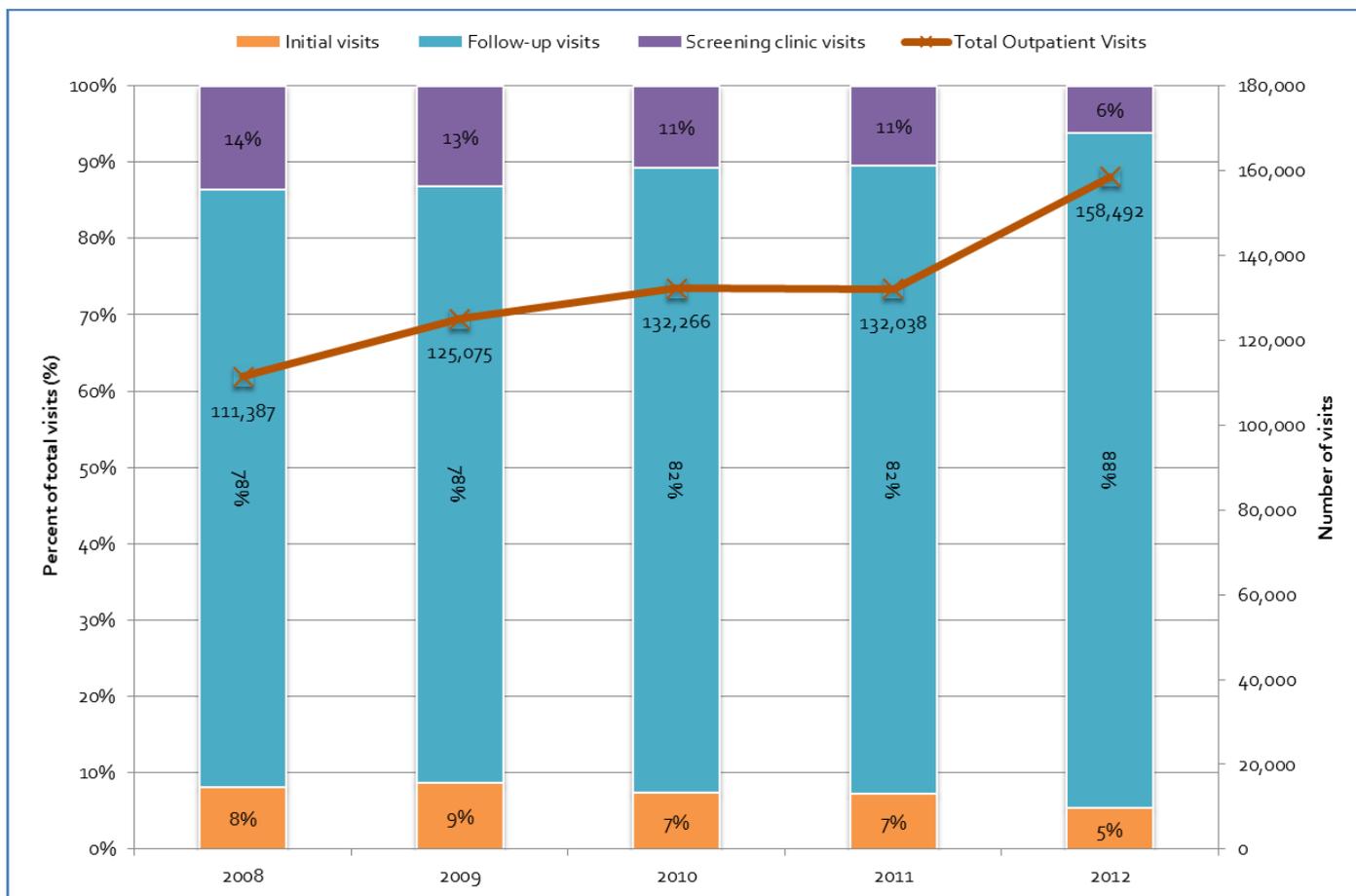


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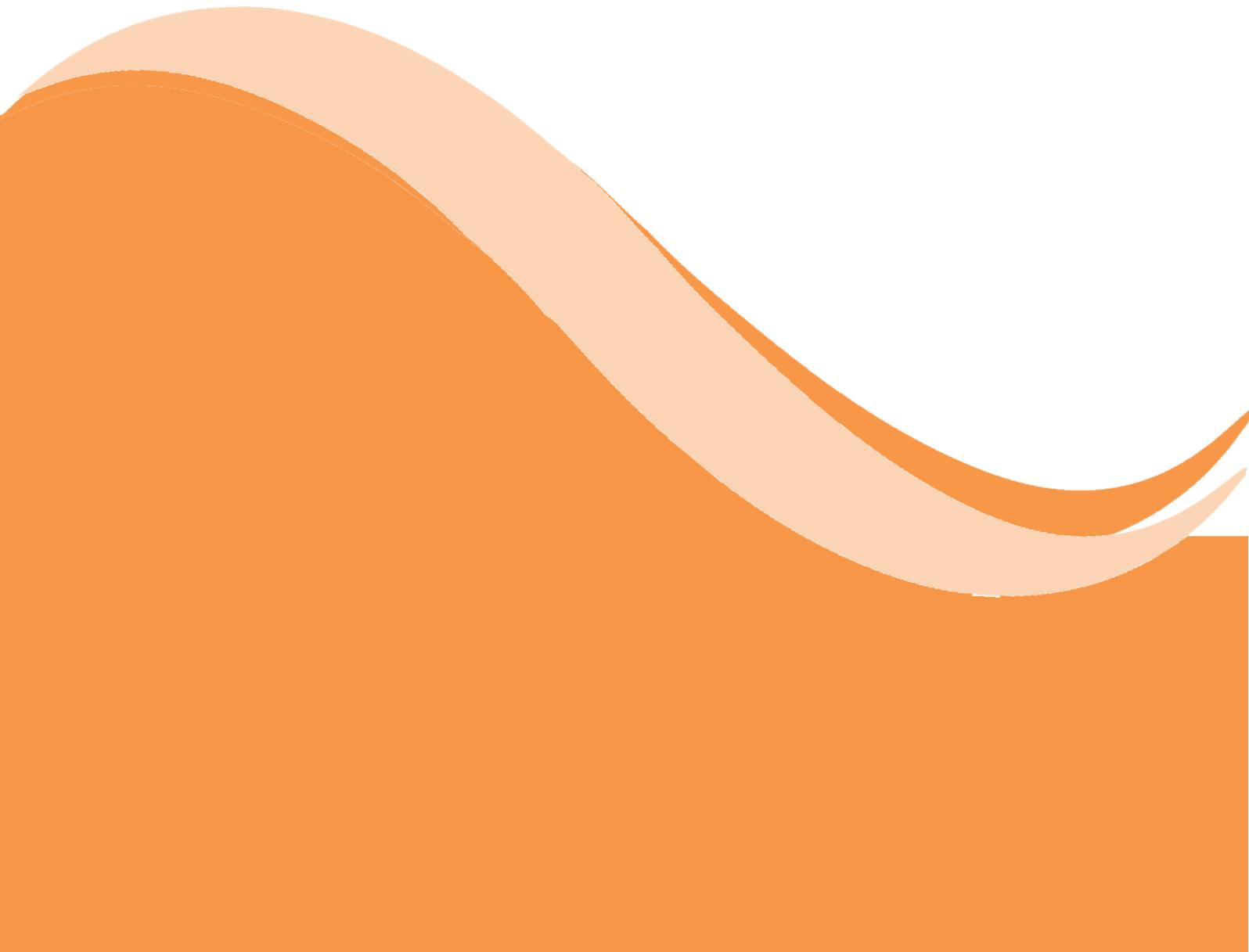
*Data represents the year 2012 due to the absence of 2013 data

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 21: Psychiatric and social health



21.

PSYCHIATRIC AND SOCIAL
HEALTH

During the year 2013, psychiatric and social health services have been provided at 25 psychiatric and convalescent hospitals, as well as 69 psychiatric clinics that are subsidiaries to hospitals. These services, both outpatient and inpatient, are demonstrated in Figures 21.1 and 21.2, according to the main disease groups identified by the International Classification of Diseases (ICD-10). The total number of outpatients at these departments/hospitals is 514,214 for this year, while the total number of inpatients is 32,528.

Figures 21.3 and 21.4 further display the outpatient and inpatient psychiatric services by region of the Kingdom for the year 2013.

Trends in the number of outpatient and inpatient psychiatric visits for the time period of 2008-2012 are represented in Figure 21.5. The trends are further detailed in Table 21.1 by region of the Kingdom. In year 2012, the highest number of outpatients is recorded in Riyadh (20.8% of total), while the highest number of inpatients is recorded in Riyadh (17.25% of total).

Figure 21.6 exhibits the distribution of referrals that were made from the Social Service Department at the MOH hospitals to other medical and non-medical institutions during the year 2013. These cases are transferred for more comprehensive treatment and/or complementary non-medical treatment. The total number of referred patients is 170,395. Among all referrals, 18.2% of the cases were referred to other hospitals and 16.1% of the cases were referred to the social security office; while those referred to governmental social agencies constitute 7.2% of all referrals.

Table 21.2 displays the distribution of referrals made in year 2013 by region of the Kingdom. The highest number of referrals is recorded in Makkah (19% of total).

KEY ACHIEVEMENTS ...

Between the years 2008 and 2012, the total number of outpatients seeking psychiatric services at MOH hospitals of the Kingdom increased by 13.5% (from 436,497 to 495,484 cases), while the total number of inpatients witnessed an overall decrease of 6.7%, with fluctuation throughout the years.

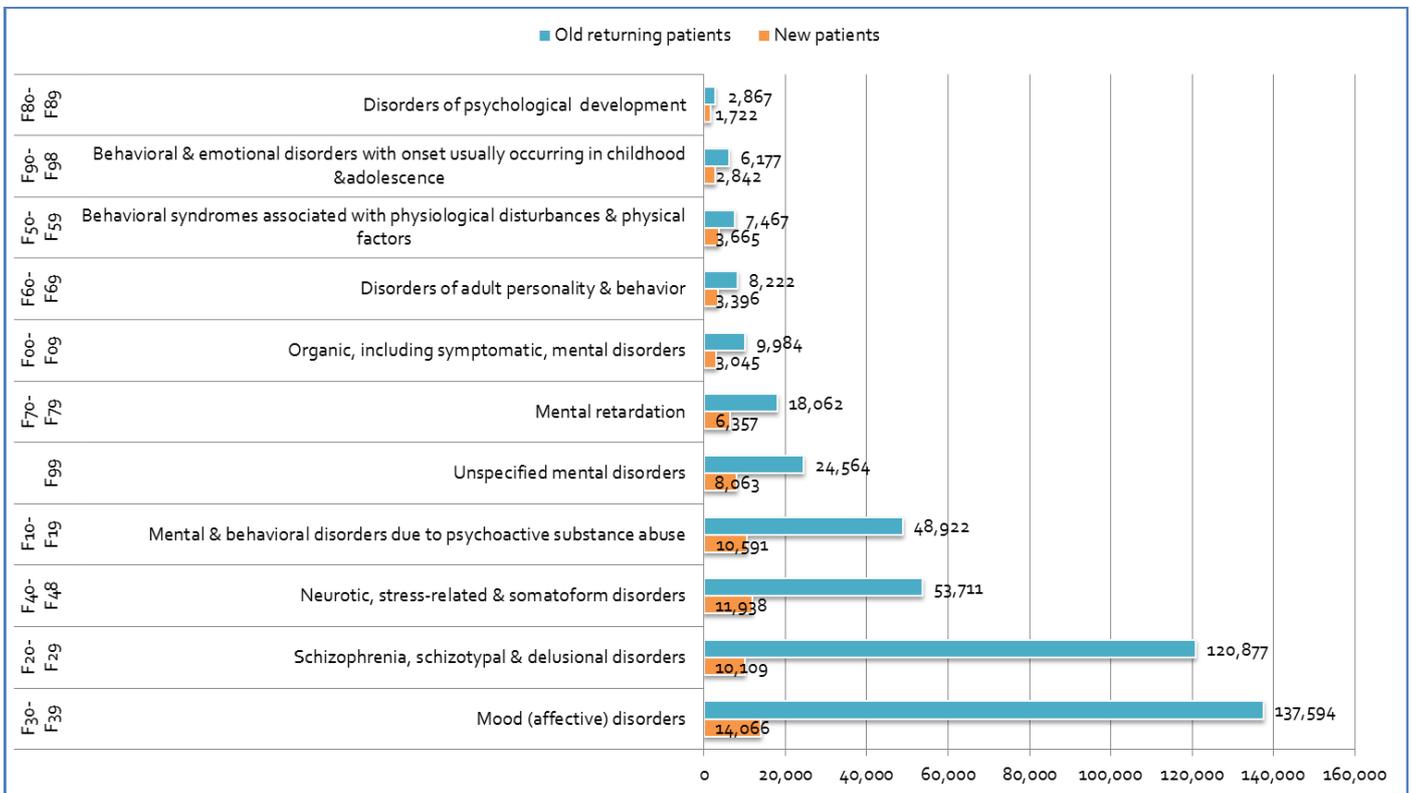


Figure 21.1: Outpatients of the Psychiatric Departments at the MOH according to main disease groups of ICD-10, 2013

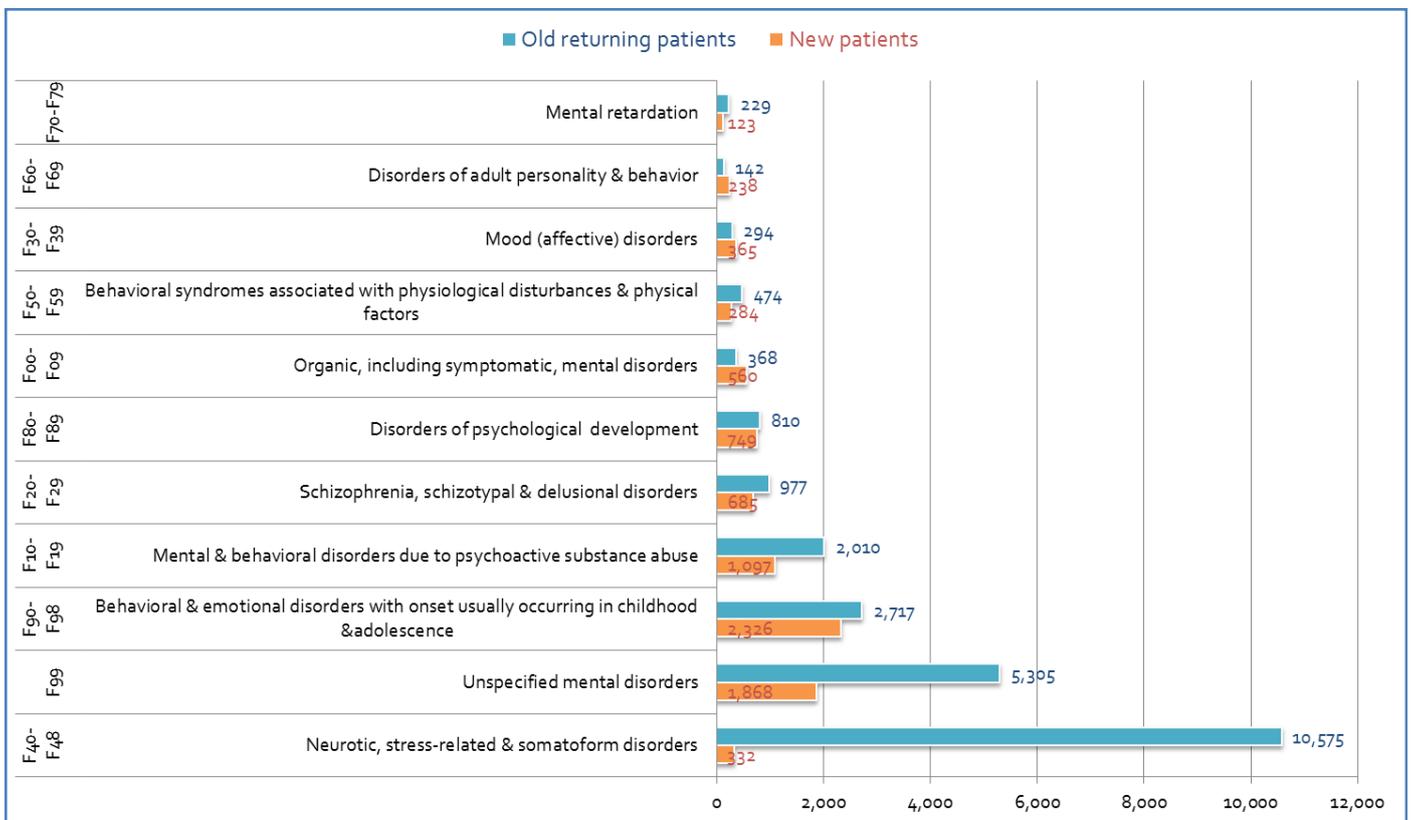


Figure 21.2: Inpatients of the Psychiatric Departments at the MOH according to main disease groups of ICD-10, 2013

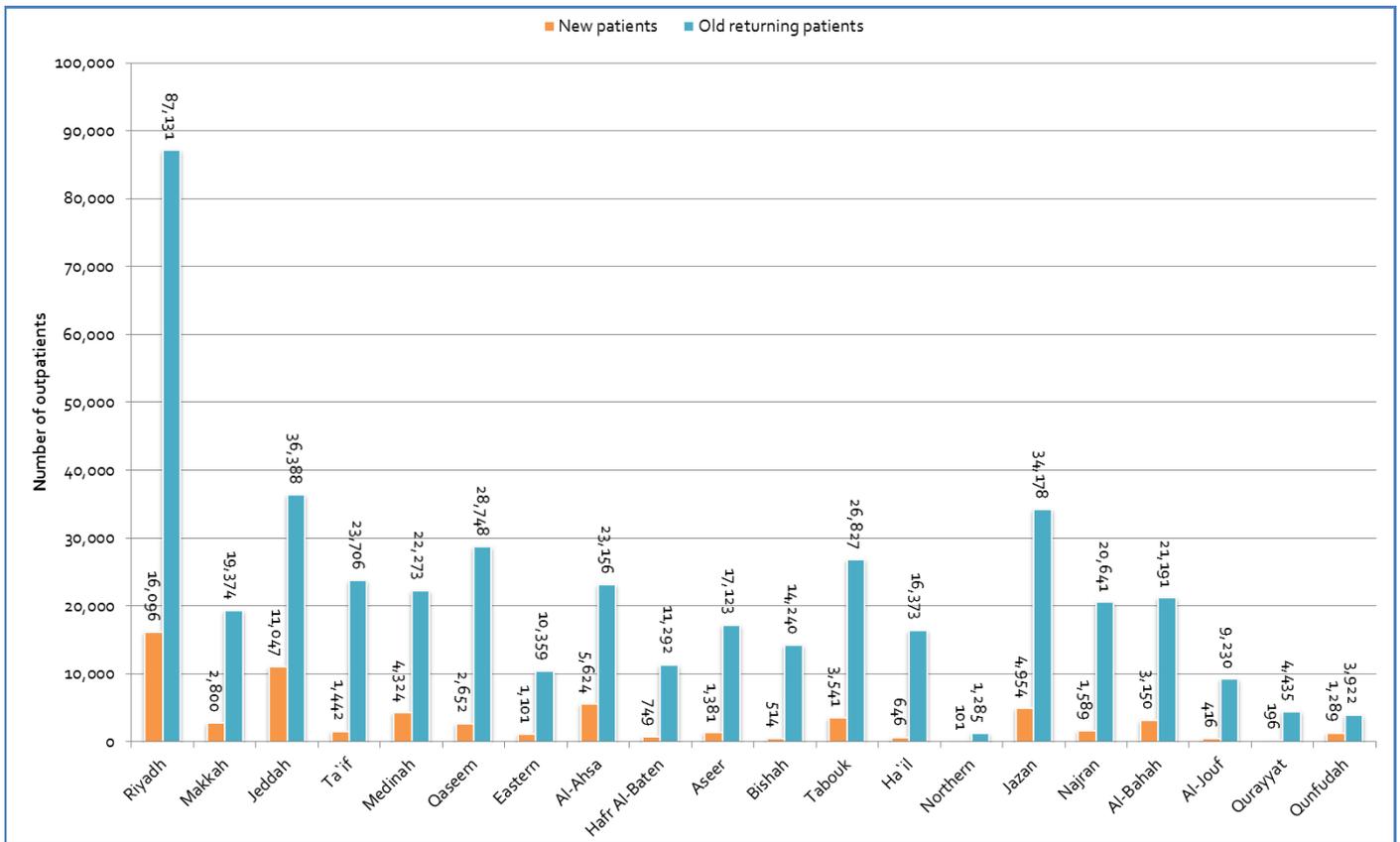


Figure 21.3: Outpatients of the Psychiatric Department at the MOH hospitals by region, 2013

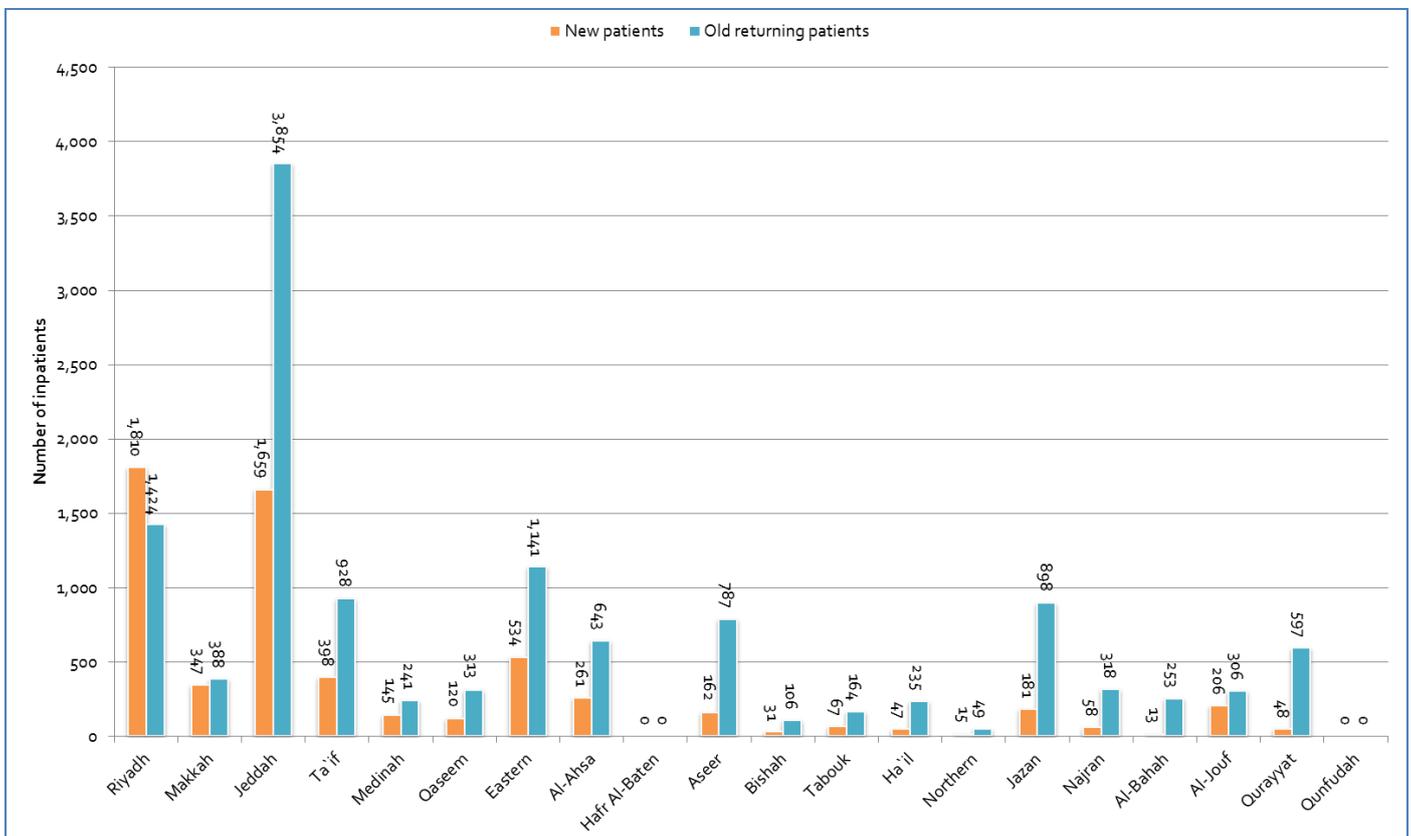


Figure 21.4: Inpatients of the Psychiatric Department at the MOH hospitals by region, 2013

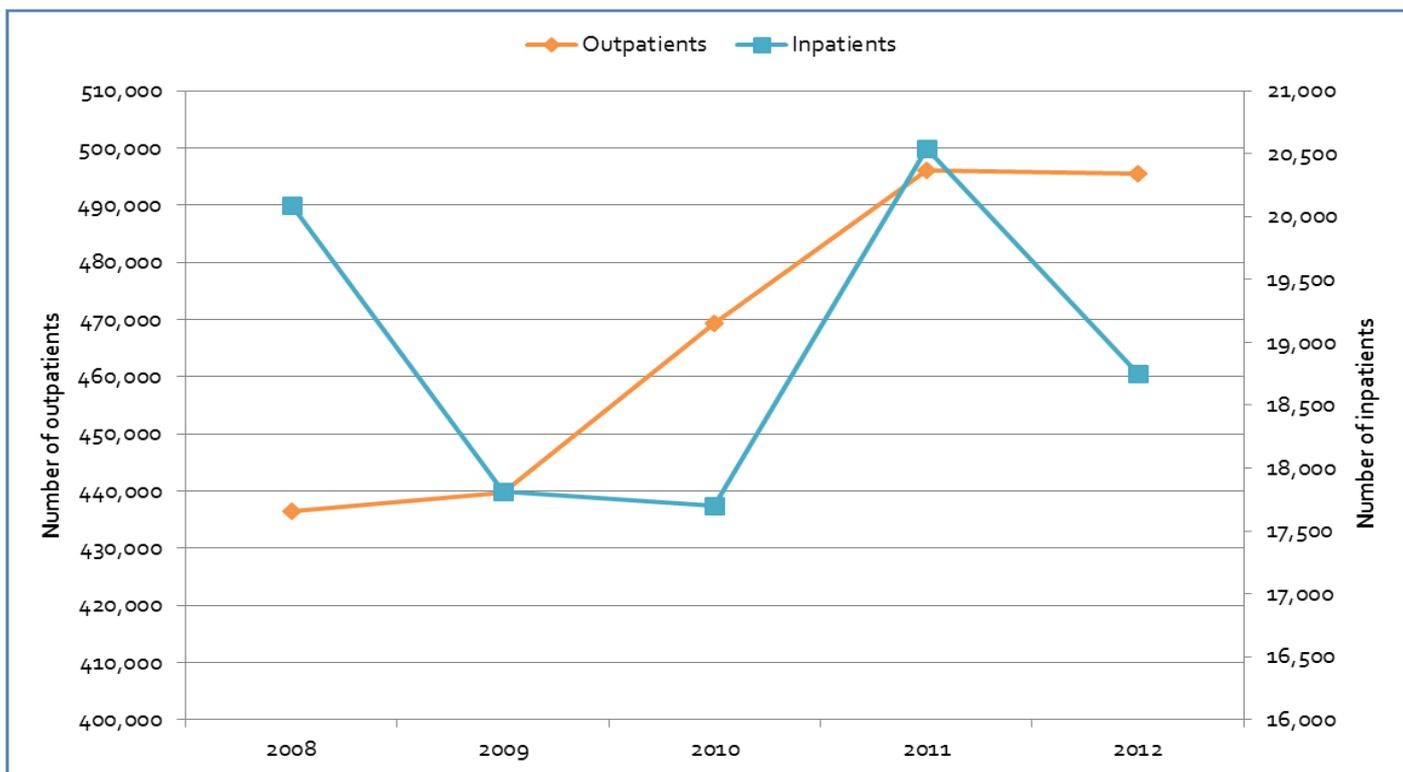


Figure 21.5: Patients of the Psychiatric Department at the MOH hospitals, 2008-2012*

Table 21.1: Patients of the Psychiatric Department at the MOH hospitals by region, 2008-2012*

Region	2008		2009		2010		2011		2012	
	Outpatients	Inpatients	Outpatients	Inpatients	Outpatients	Inpatients	Outpatients	Inpatients	Outpatients	Inpatients
Riyadh	70538	2295	78790	2166	93972	2166	93972	4136	103227	3234
Makkah	19796	666	19373	523	20663	523	20663	485	22174	735
Jeddah	34058	3103	38693	5844	45411	5844	45411	4454	47435	5513
Ta'if	24646	2536	22160	1523	24406	1523	24406	1039	25148	1326
Medinah	27184	528	26025	387	25079	387	25079	301	26597	386
Qaseem	35035	497	34666	411	35999	411	35999	389	31400	433
Eastern	9889	2063	16454	745	11520	745	11520	3906	11460	1675
Al-Ahsa	31224	542	32949	726	29709	726	29709	711	28780	904
Hafr Al-Baten	11811	421	12448	28	12299	28	12299	235	12041	0
Aseer	25462	1043	23673	1037	23189	1037	23189	927	18504	949
Bishah	9684	295	11283	346	12748	346	12748	189	14754	137
Tabouk	18717	154	23233	...	31550	...	31550	269	30368	231
Ha'il	13235	536	14617	389	15029	389	15029	273	17019	282
Northern	4884	417	9658	658	6586	658	6586	298	1386	64
Jazan	40794	1041	35612	1029	41657	1029	41657	1224	39132	1079
Najran	20853	456	21326	438	20760	438	20760	326	22230	376
Al-Bahah	22688	353	25265	405	24275	405	24275	270	24341	266
Al-Jouf	5578	516	8036	507	10025	507	10025	485	9646	512
Qurayyat	5451	349	7793	537	6686	537	6686	623	4631	645
Qunfudah	8235	0	7202	0	4473	0	4473	0	5211	0
Total	439762	17811	469256	17699	496036	17699	496036	20540	495484	18747

... Data not available

*Data represents the years 2008-2012 due to the absence of 2013 data

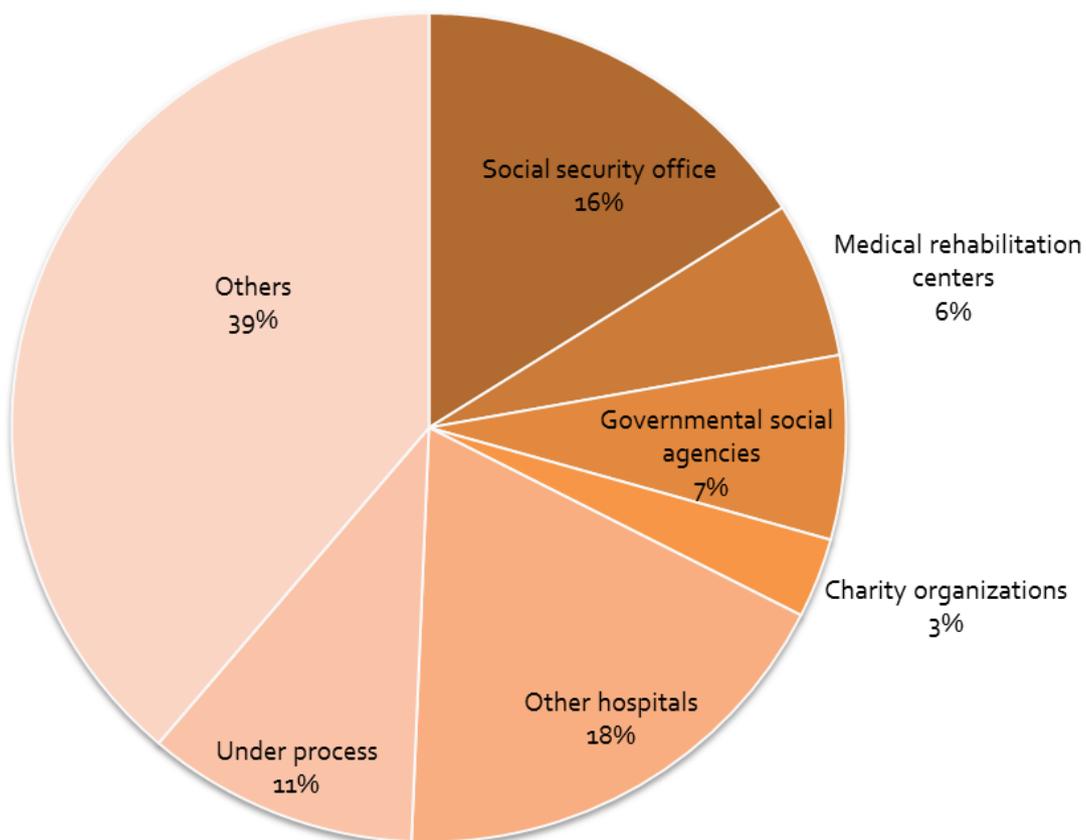


Figure 21.6: Categories of referrals from the Social Service Department at the MOH hospitals, 2013

Table 21.2: Cases of referrals from the Social Service Department at the MOH hospitals by region, 2013

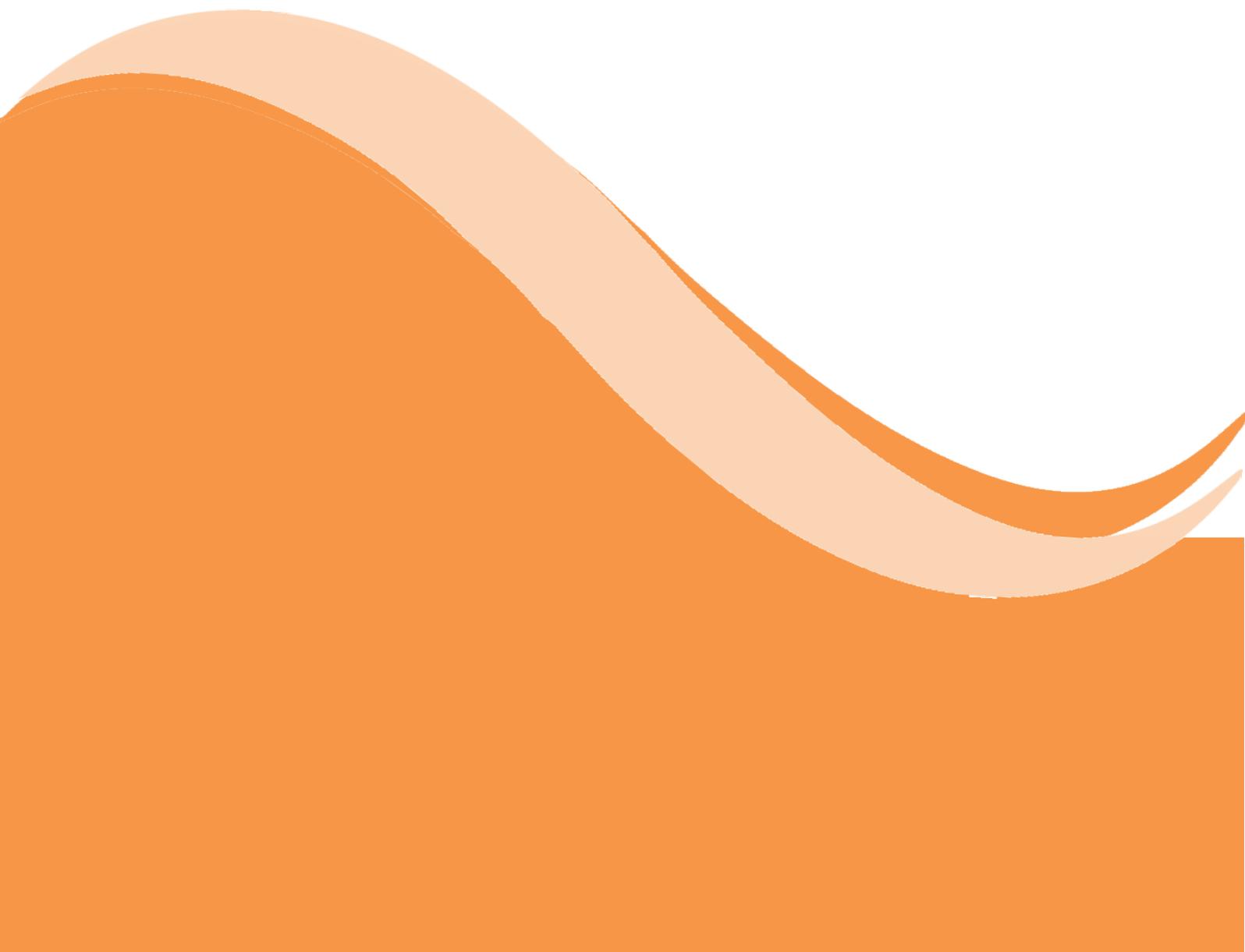
Region	Social security office	Medical rehabilitation centers	Governmental social agencies	Charity organizations	Other hospitals	Under process	Others	Total
Riyadh	3,302	1,095	362	223	1,022	734	1,442	8,180
Makkah	8	0	260	208	16	1,817	4,619	6,928
Jeddah	994	65	1,119	1,140	1,141	4,443	23,395	32,297
Ta'if	62	80	4,377	173	145	1,959	3,538	10,334
Medinah	792	282	552	553	205	1,433	1,078	4,895
Qaseem	1,409	911	639	610	771	1,094	369	5,803
Eastern	124	15	12	23	3,730	1,130	2,558	7,592
Al-Ahsa	5	31	170	43	65	249	10,177	10,740
Hafr Al-Baten	959	766	0	0	196	0	0	1,921
Aseer	3,893	899	1,037	115	2,336	206	6,812	15,298
Bishah	1,621	96	168	14	3,365	3	0	5,267
Tabouk	1,388	127	166	71	3,817	1,020	0	6,589
Ha'il	3,951	3,748	219	337	3,638	464	610	12,967
Northern	99	244	120	31	33	146	46	719
Jazan	2,994	1,140	1,374	1,350	7,737	2,688	5,059	22,342
Najran	1,414	63	603	114	1,302	15	273	3,784
Al-Bahah	2,643	116	646	42	689	149	830	5,115
Al-Jouf	933	82	299	21	582	430	831	3,178
Qurayyat	99	2	87	0	7	0	0	195
Qunfudah	724	638	11	245	198	0	4,435	6,251
Total	27,414	10,400	12,221	5,313	30,995	17,980	66,072	170,395

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 22: Dental services



22. DENTAL SERVICES



Dental preventive and curative services are provided at dental clinics across the Kingdom. In year 2011, there were a total of 2,408 clinics classified as follows: 1,405 clinics within health centers, 468 clinics within hospitals, and 535 clinics within specialized centers. This is in addition to 104 portable dental clinics. The total number of specialized dental centers was 31, which were covering all health districts.

Specialized dental centers provide various preventive and curative services. Table 22.1 summarizes the visits made to the dental centers at the MOH during the year 2013. In total, 2,216,403 visits are recorded. The largest number of visits recorded is to the X-ray clinics (437,603 visits).

Figure 22.1 shows the trend in number of oral surgeries performed at the MOH hospitals during the time period of 2009-2013. The trend is further detailed in Table 22.2 by health regions of the Kingdom.

TREND OVER TIME...

Between the years 2009 and 2013, the total number of oral dental surgeries performed at the MOH hospitals of the Kingdom increased by 21.7% from 12,793 to 10,019 surgeries.



Table 22.1: Visits to the dental centers at the MOH, 2013

Region	Oral hygiene	Periodontics	Minor oral surgery & extraction	Oral and maxillofacial surgery	Pedodontics	Orthodontics	Conservative treatment		Prosthodontics		X-ray	
							Root canal treatment	Filling	Removable	Fixed	Internal	External
Riyadh	255740	95099	121214	4346	109151	29010	68315	139697	5618	13338	91325	32730
Makkah	432	1453	3138	0	2116	5210	5914	3436	1483	3206	7568	1800
Jeddah	19117	13886	12966	1975	16989	6684	10954	32801	2901	7903	31144	13134
Ta'if	40740	1053	4591	0	2615	9673	6359	10812	2009	1997	8199	5338
Medinah	2038	3326	9872	1483	7653	8994	11212	12441	3456	5393	17698	10517
Qaseem	15812	29	2862	266	4547	6409	4481	9360	1801	4367	6086	3930
Eastern	1988	886	3107	998	4800	7883	1226	2148	1573	2625	5774	3501
Al-Ahsa	28705	1161	1254	0	7504	9201	5802	1702	402	3030	13702	2469
Hafir Al-Baten	935	867	5379	576	2011	0	4153	1154	2107	4556	6890	3438
Aseer	1228	8163	6423	0	9829	4481	15092	17429	4429	5695	13427	6846
Bishah	14011	712	921	0	245	3919	4061	3445	2022	5094	9831	1608
Tabouk	2096	593	2711	18	535	3494	7225	5320	1429	1091	15236	4128
Ha'il	3574	4577	3749	0	3877	7317	4097	14195	2842	9732	12533	5953
Northern	32585	3823	7306	846	6803	1059	3317	18332	311	1289	12550	1780
Jazan	4504	1327	986	0	1141	4427	2719	721	825	507	5516	240
Najran	1803	1721	5730	164	2594	7839	2231	2255	2141	2807	3908	6152
Al-Bahah	971	815	2290	0	3752	3680	6964	9017	1451	5163	12351	5629
Al-Jouf*	4464	2785	4622	0	1815	6656	5956	1946	1961	3229	6561	4826
Qurayyat*	3239	4231	3571	478	4351	8293	5321	46121	1361	5321	34775	4721
Qunfudah	10732	789	1381	710	1368	22	2501	4136	910	1167	3179	610
Total	444,714	147,296	204,073	11,860	193,696	134,251	177,900	336,468	41,032	87,510	318,253	119,350

* Represents the data of 2012 due to the absence of 2013 data

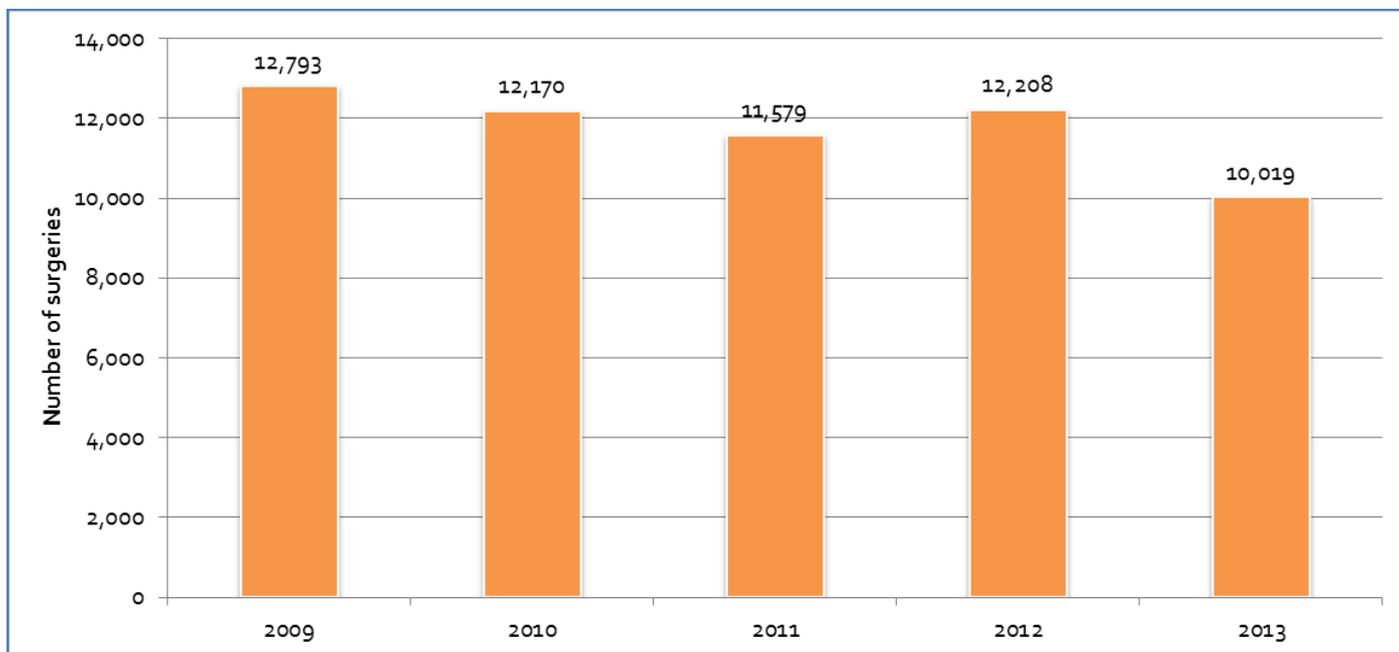


Figure 22.1: Oral surgeries at the MOH hospitals, 2009-2013

Table 22.2: Oral surgeries at the MOH hospitals by region, 2009-2013

Region*	2009	2010	2011	2012	2013
Riyadh	4,960	4,299	3,624	3,505	29,442
Makkah	1,308	1,643	1,117	1,584	815
Jeddah	550	636	591	621	397
Ta'if	375	428	625	686	734
Medinah	137	211	309	279	341
Qaseem	493	393	471	541	464
Eastern	520	492	366	409	439
Al-Ahsah	1,380	1,638	1,661	1,761	1,740
Hafir Al- Bateen	39	75	62	90	64
Aseer	2,346	1,572	1,620	1,567	1,525
Tabouk	54	45	122	43	32
Ha'il	174	169	266	374	332
Northern	29	38	39	11	28
Jazan	49	78	95	72	88
Najran	120	118	136	183	203
Al-Bahah	138	167	223	189	176
Al-Jouf	121	168	252	293	199
Total	12,793	12,170	11,579	12,208	10,019

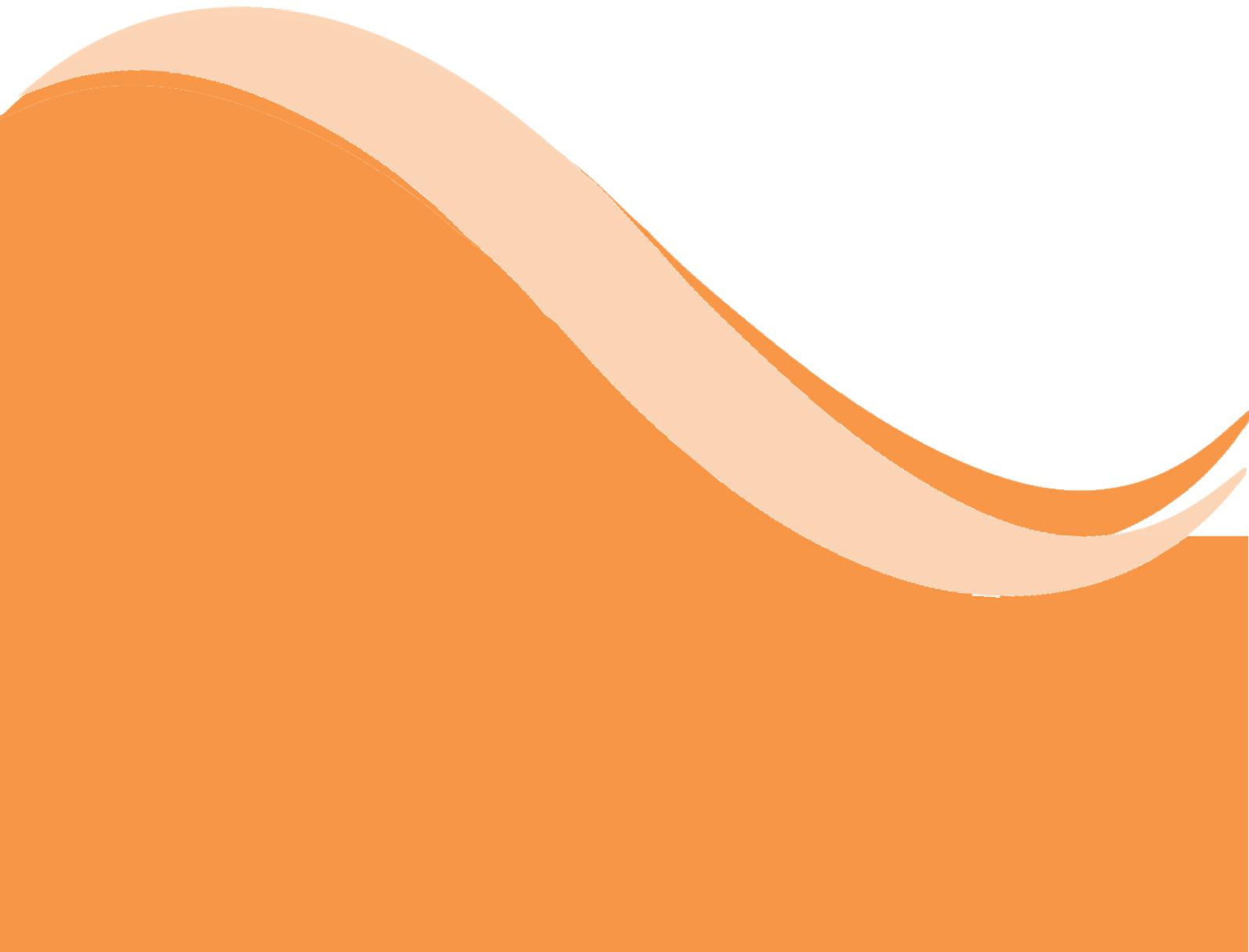
* Jeddah includes Qunfdah
 Aseer includes Bishah
 Al-Jouf includes Qurayyat

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 23: Hemodialysis and organ transplantation



23.

HEMODIALYSIS AND
ORGAN TRANSPLANTATIONS

The Saudi Center for Organ Transplantation plays an essential role in coordination and continuation of care related to organ transplantations performed in various hospitals across the Kingdom.

Figure 23.1 displays the distribution of artificial kidney centers and dialysis patients by health sector for the year 2012. There are 206 artificial kidney centers in total, 69.4% of which are within the jurisdiction of the MOH. There are 5,029 hemodialysis machines in total, 68.6% of which are within MOH facilities. A total of 12,964 patients undergo hemodialysis (66.2% of which attend to MOH facilities), while 1,326 patients undergo peritoneal dialysis (55.5% of which attend to the other governmental sector facilities). Additionally, a total of 8,354 patients attend follow-ups at kidney transplant clinics, the majority of which attend to the other governmental sector facilities (62.8%).

Figure 23.2 shows the proportions of hemodialysis patients across the health sectors by gender and by nationality during the year 2012. There has been marked development in the field of organ transplantation in the Kingdom up to the year 2010. Significant figures recorded are as follow:

The total number of liver transplantation from 1990 to 2010 is 930.

The total number of heart transplantation from 1986 to 2010 is 187.

The total number of valve transplantation and replacement from 1986 to 2010 is 517.

The total number of kidney transplantation from 1979 to 2010 is 6,648.

The total number of cornea transplantation from 1983 to 2010 is 21,513.

The total number of lung transplantations is 51.

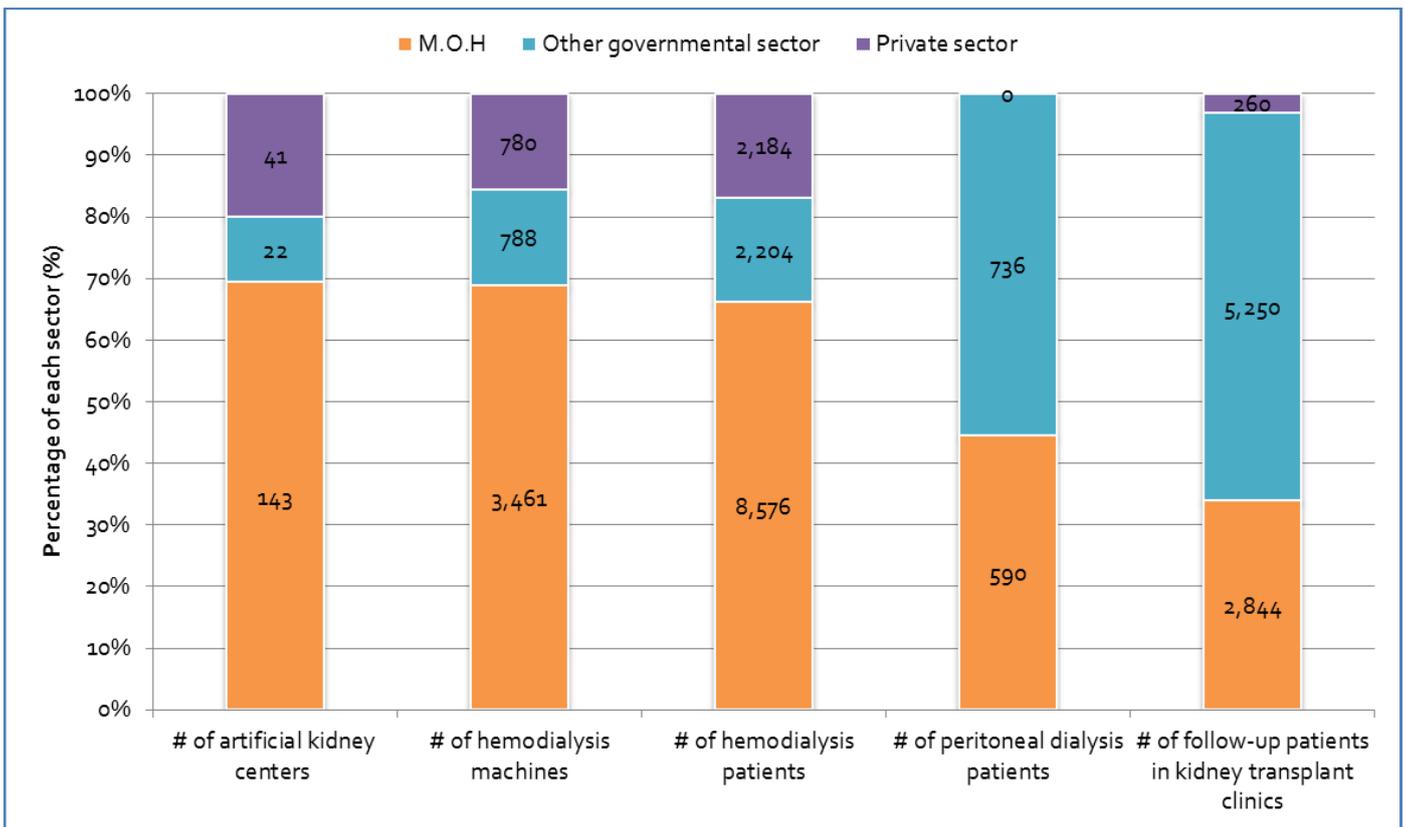


Figure 23.1: Artificial kidney centers and dialysis patients by health sector, 2012*

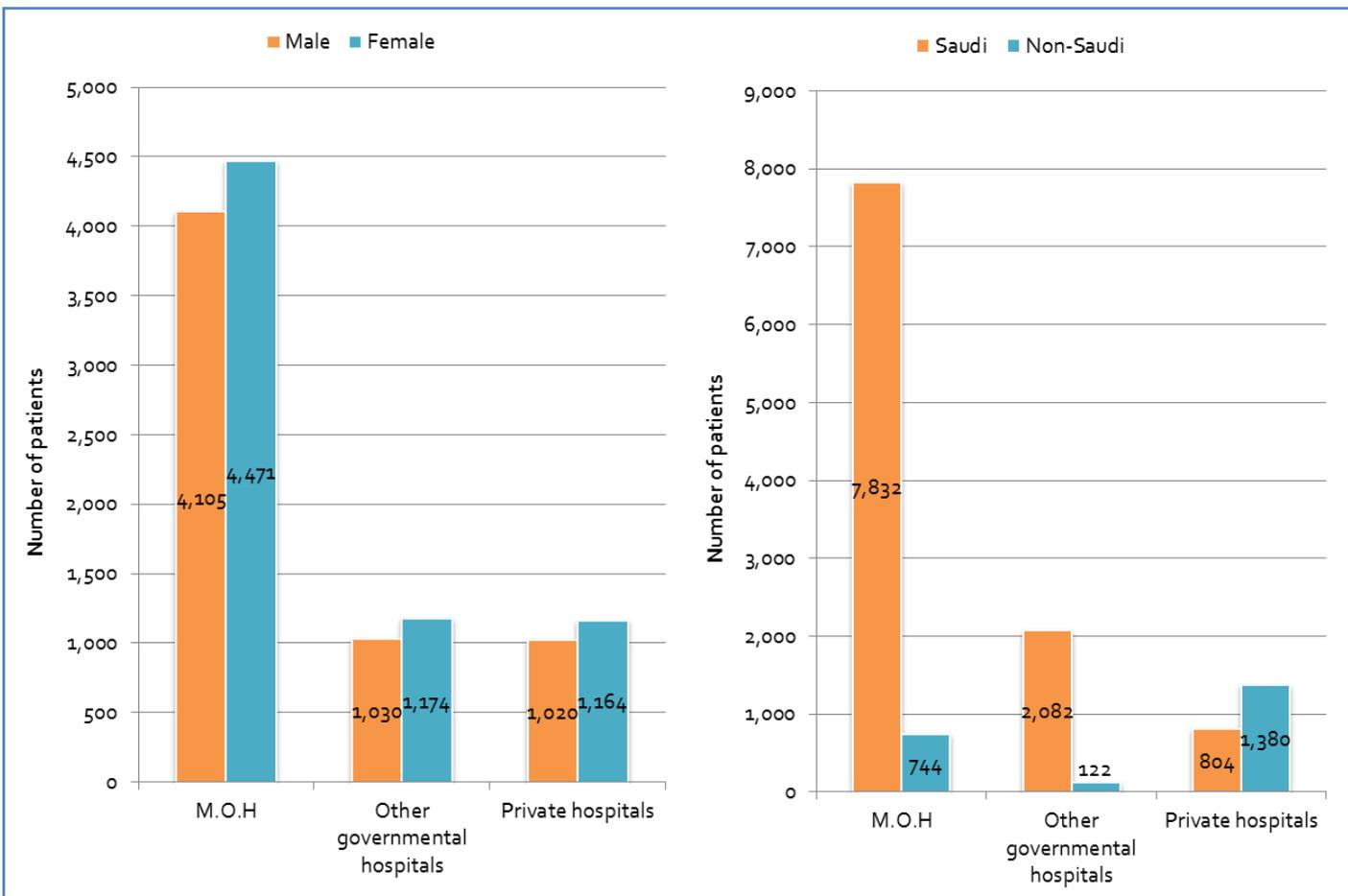


Figure 23.2: Hemodialysis patients across health sector by gender (left) & nationality (right), 2012*

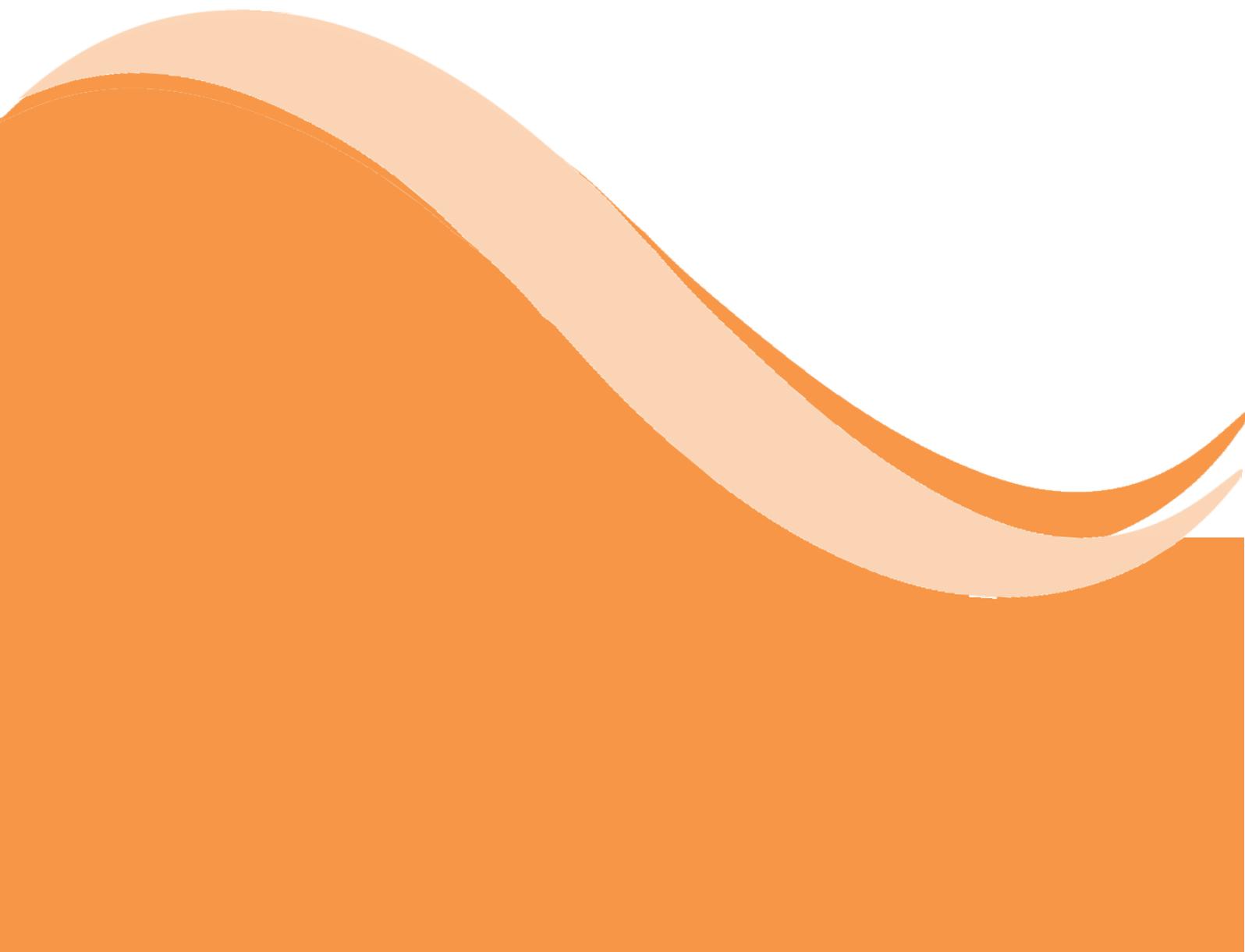
* 2013 Data is not available

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 24: Laboratory and radiology investigations and blood bank



24.

LABORATORY & RADIOLOGY INVESTIGATIONS AND BLOOD BANK

LABORATORY AND RADIOLOGY INVESTIGATIONS AT THE MOH

MOH Health Centers

Figure 24.1 displays the number of laboratory investigations that were conducted at the MOH health centers by region of the Kingdom during the year 2013. The total number of laboratory investigations in this year is 6,018,761. The highest number of investigations is recorded in Jazan (10.8%).

Figure 24.2 displays the number of radiology patients examined and radiology films used at the MOH health centers by region of the Kingdom during the year 2013. The total number of radiology patients in this year is 225,258, with the majority of the patients examined in Eastern region (17.6%).

MOH Hospitals

Figure 24.3 displays the number of laboratory investigations that were conducted at the MOH hospitals by region of the Kingdom during the year 2013. The total number of laboratory investigations in this year is 150,932,272. The highest number of investigations is recorded in Riyadh (15.9%).

Figure 24.4 displays the number of radiology patients examined at the MOH hospitals by region of the Kingdom during the year of 2013. The total number of patients examined in this year is 6,475,819, with the majority of the patients examined in Riyadh (15.7%).

Figure 24.5 displays the number of physiotherapy patients seen at the MOH hospitals by region of the Kingdom during the year of 2012. The total number of patients seen in this year is 757,777, with the majority of the patients seen in Makkah (23%).

The total number of laboratory investigations conducted at the MOH hospitals during the year 2013 is further displayed by type of investigation in Figure 24.6. The majority of investigations are under biochemistry (89,119,255). Table 24.1 provides more detail on the type of investigations conducted by region of the Kingdom.

All MOH Facilities

Figures 24.7-24.9 portray the trends observed for laboratory investigations, radiology patients and physiotherapy patients seen at MOH facilities during the time period of 2009-2013.

Other Governmental Sector Facilities

Table 24.2 displays the number of laboratory investigations and radiology patients at the other governmental sector facilities across the Kingdom during the year 2013. The total number of laboratory investigations conducted is 102,998,913 and the total number of radiology patients examined is 3,072,368 in this year.

Private Sector Facilities

Table 24.3 displays the number of laboratory and radiology investigations conducted at the private hospitals and dispensaries across the Kingdom during the year 2013. The total number of laboratory investigations conducted is 47,885,996 in this year. A total of 7,637,077 patients were examined.

MOH POISON CONTROL AND FORENSIC CHEMISTRY CENTERS

Figure 24.10 displays the number of samples and tests conducted at the MOH Poison Control and Forensic Chemistry Centers by region of the Kingdom during the year 2013.

BLOOD BANK ACTIVITIES

Blood Banks at the MOH

Table 24.4 summarizes the activities of the blood banks at the MOH by region of the Kingdom during the year 2013. The trend observed for the activities of the MOH blood banks during the time period of 2009-2013 is displayed in Figure 24.11.

Blood Banks at the other Governmental Sector Facilities

Table 24.5 summarizes the activities of the blood banks at the other governmental sectors by region of the Kingdom during the year 2013.

TREND OVER TIME...

Between the years 2009 and 2013, the total number of laboratory investigations conducted at the MOH health centers across the Kingdom decreased by 20% (from 7.5 million to 6.0 million), while the total number of laboratory investigations conducted at the MOH hospitals and central laboratories across the Kingdom increased by 22% (from 123 million to 150 million).

Between the years 2009 and 2013, the total number of radiology patients examined at the MOH facilities across the Kingdom increased by 26% (from 5.3 million to 6.7 million).

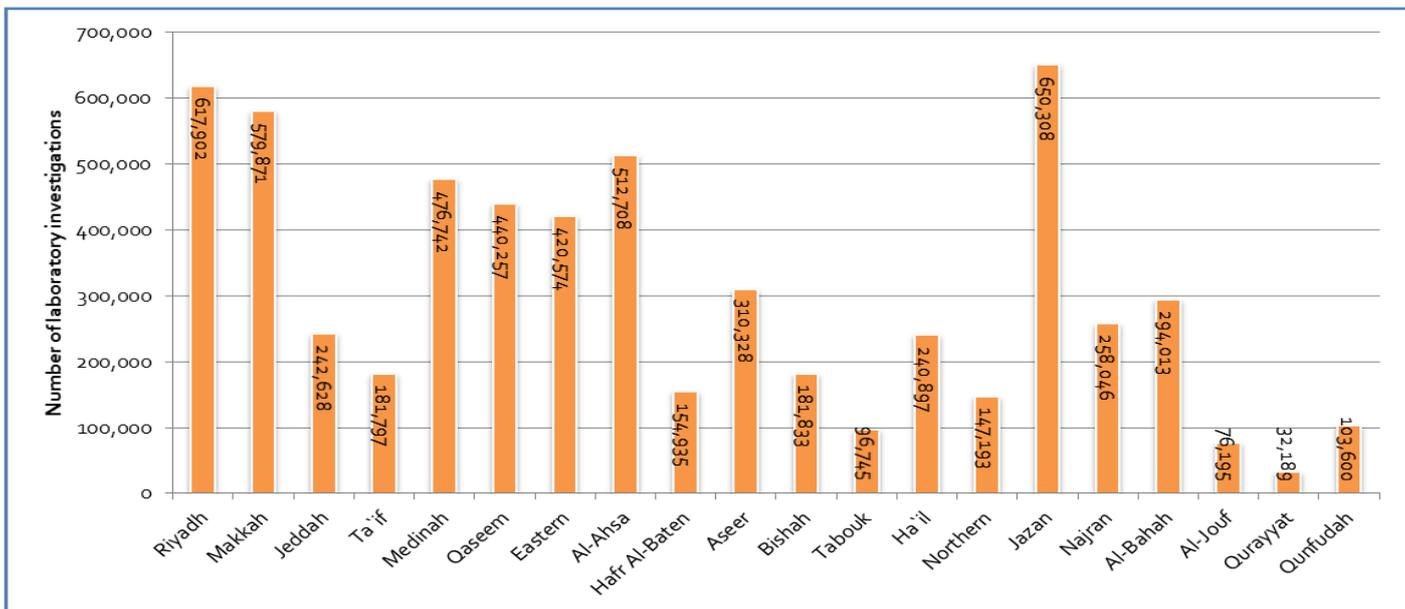


Figure 24.1: Number of laboratory investigations at the MOH health centers by region, 2013

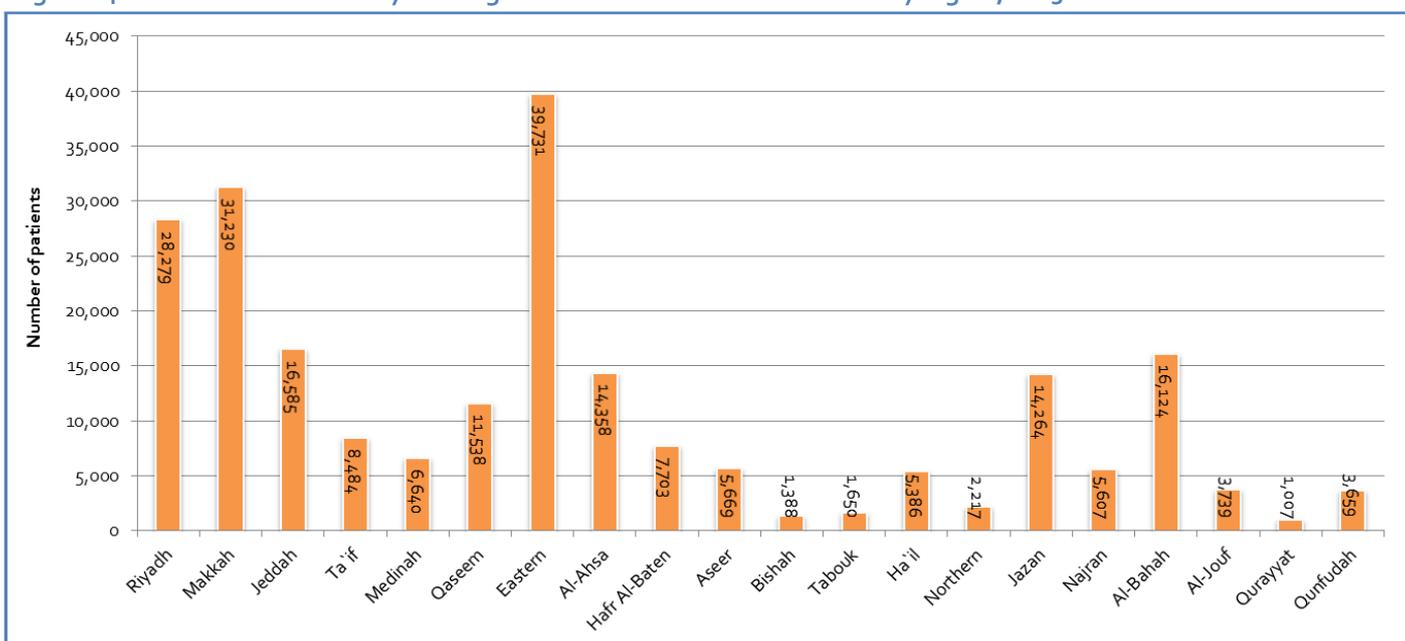


Figure 24.2: Number of radiology patients and films at the MOH health centers by region, 2013

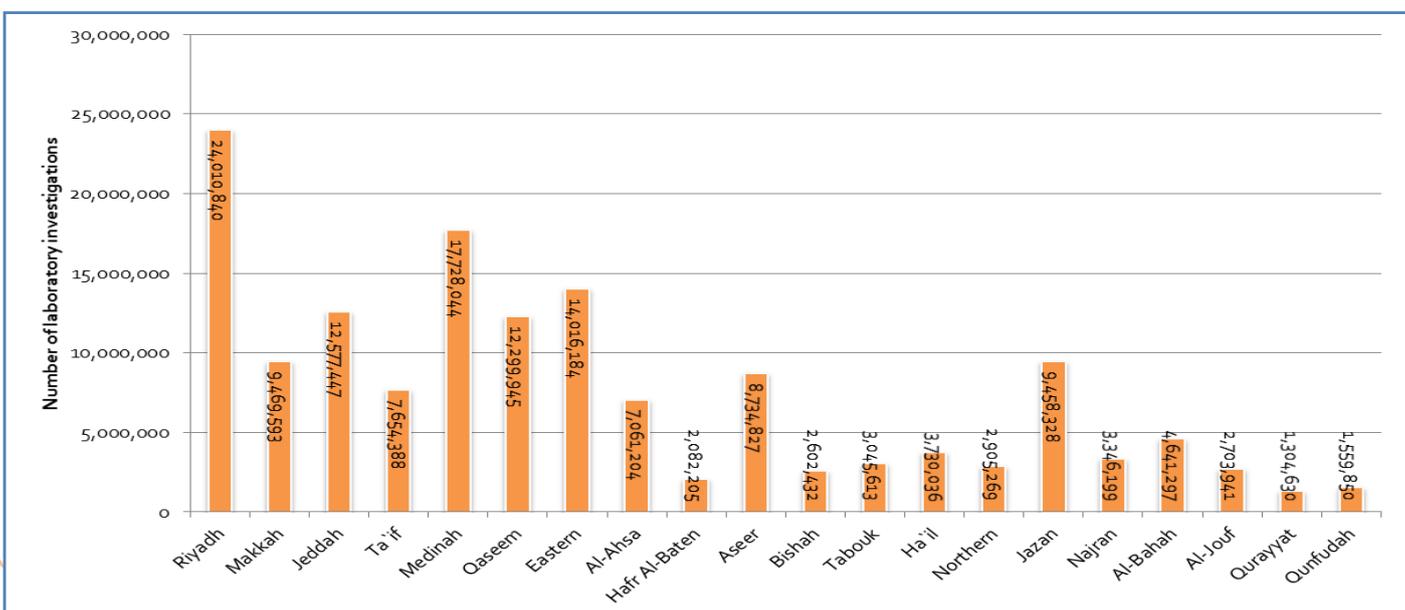


Figure 24.3: Number of laboratory investigations at the MOH hospitals by region, 2013

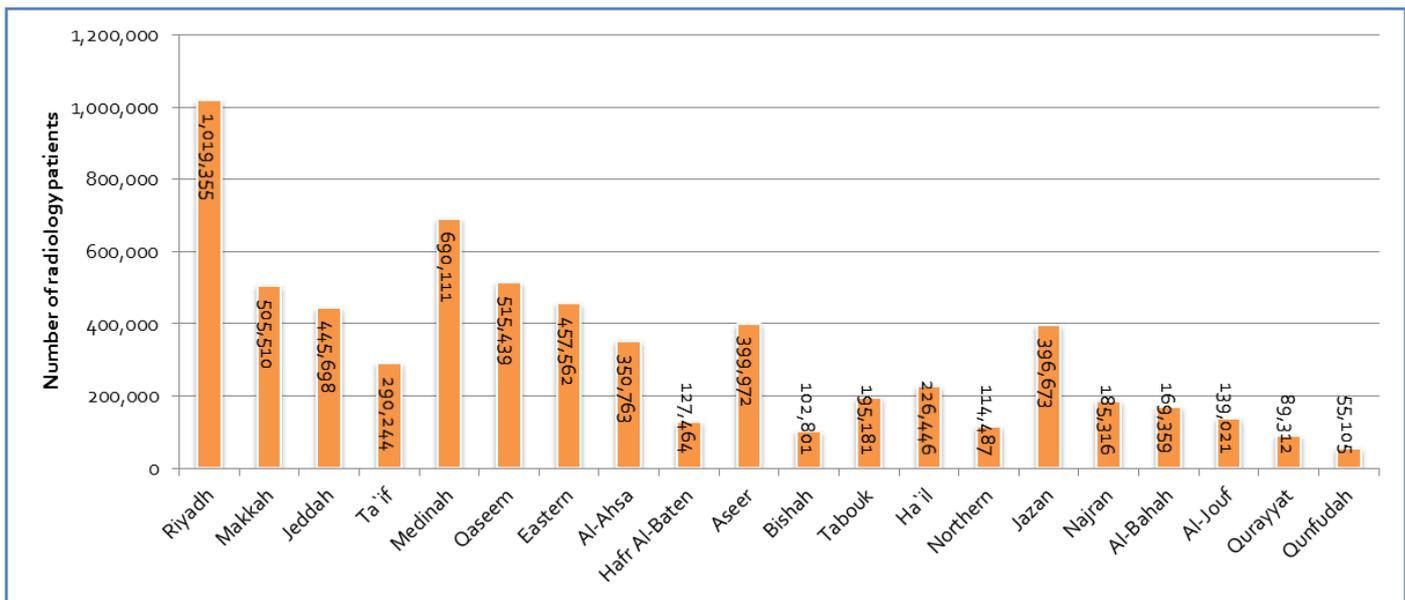


Figure 24.4: Number of radiology patients at the MOH hospitals by region, 2013

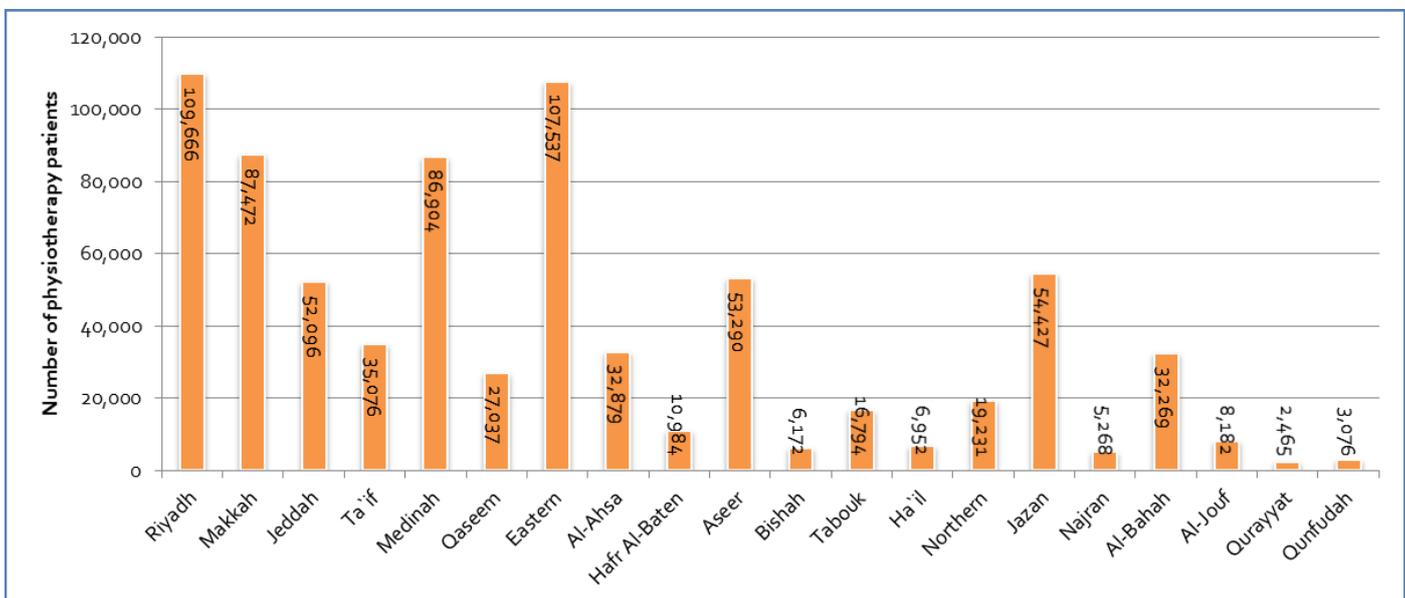


Figure 24.5: Number of physiotherapy patients at the MOH hospitals by region, 2012*

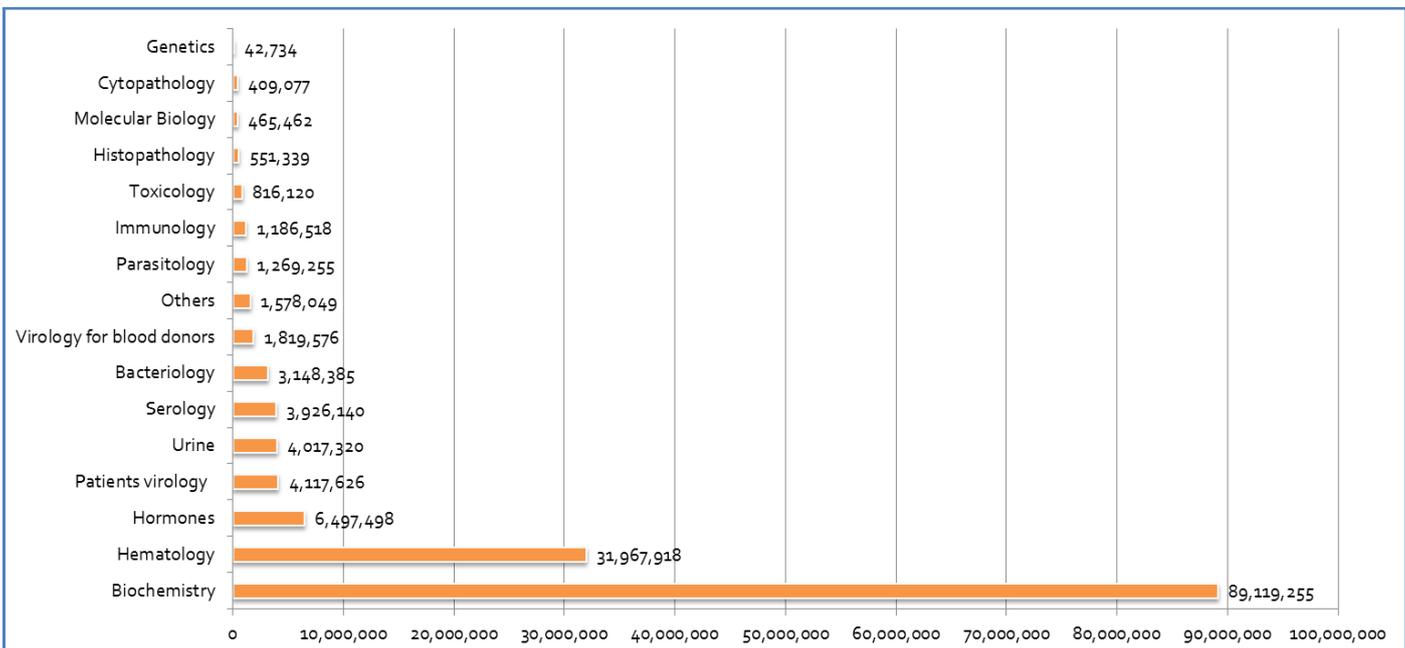


Figure 24.6: Total number of laboratory investigations at the MOH hospitals by type of investigation, 2013

* 2013 Data is not available

Table 24.1: Number of laboratory investigations at the MOH hospitals by type of investigation and region, 2013

Region	Immunology	Patients virology	Virology for blood donors	Parasitology	Urine	Bacteriology	Hormones	Biochemistry	Toxicology
Riyadh	65,533	814,605	576,289	234,226	751,401	578,844	1,384,470	13,362,346	218,093
Makkah	305,317	223,346	96,389	34,696	83,249	316,645	912,932	5,437,513	2,169
Jeddah	77,738	233,142	177,532	242,914	206,888	140,707	399,316	7,129,458	169,246
Ta'if	4,777	138,811	23,525	36,416	347,948	98,324	570,133	5,299,894	73,754
Medinah	376,370	39,247	91,795	93,351	312,376	535,839	673,613	9,767,704	4,300
Qaseem	48,441	269,692	203,542	43,733	311,164	171,097	268,157	6,859,798	3,790
Eastern	104,794	558,604	54,606	78,674	271,130	615,353	473,428	9,092,903	95,773
Al-Ahsa	22,844	242,552	76,036	6,813	138,620	74,800	257,300	5,427,615	33,322
Hafr Al-Baten	770	61,667	2,712	12,745	38,748	42,962	81,606	1,488,439	193
Aseer	9,767	404,243	72,355	102,911	394,937	62,471	294,967	4,847,506	2,872
Bishah	0	54,097	2,793	36,696	88,534	72,661	67,893	1,405,758	9,191
Tabouk	16,615	137,771	56,189	17,267	79,490	35,924	42,780	1,467,435	3,886
Ha'il	101	105,500	71,944	13,362	62,626	112,644	109,731	2,677,468	22,181
Northern	16,577	129,834	32,423	11,059	63,212	30,305	213,997	1,919,897	111,711
Jazan	111,760	289,903	137,076	209,714	348,701	84,472	367,850	4,884,642	7,626
Najran	17	44,029	41,409	11,245	153,913	45,616	98,227	2,246,051	4,738
Al-Bahah	14,646	151,113	31,737	15,596	180,547	67,742	93,671	2,754,847	2,865
Al-Jouf	2,172	144,127	22,433	53,739	115,932	41,385	77,409	1,723,820	47,842
Qurayyat	8,279	31,252	13,304	13,411	54,956	13,748	96,070	541,984	2,568
Qunfudah	0	44,091	35,487	687	12,948	6,846	13,948	784,177	0
Total	1,186,518	4,117,626	1,819,576	1,269,255	4,017,320	3,148,385	6,497,498	89,119,255	816,120

Region	Serology	Genetics	Histopathology	Hematology	Molecular Biology	Cytopathology	Others	Total
Riyadh	625,677	7,923	169,586	4,602,871	71,559	14,011	533,406	24,010,840
Makkah	282,839	1,118	23,443	1,658,637	8,012	2,728	80,560	9,469,593
Jeddah	674,873	0	25,663	2,879,683	20,872	3,574	195,841	12,577,447
Ta'if	213,388	483	8,754	825,123	4,894	3,100	5,064	7,654,388
Medinah	239,615	15,750	17,030	5,248,868	229,016	963	82,207	17,728,044
Qaseem	304,660	0	59,330	3,537,583	3,086	8,481	207,391	12,299,945
Eastern	275,952	3,589	27,690	2,049,197	10,981	12,134	291,376	14,016,184
Al-Ahsa	48,183	688	9,041	674,682	35,948	3,680	9,080	7,061,204
Hafr Al-Baten	38,124	112	1,972	305,748	227	1,228	4,952	2,082,205
Aseer	187,415	3,401	16,579	2,280,039	31,430	1,127	22,807	8,734,827
Bishah	258,785	0	2,975	590,826	254	1,779	10,190	2,602,432
Tabouk	49,465	1,386	3,231	1,031,029	29,292	39,402	34,451	3,045,613
Ha'il	111,977	818	4,844	431,044	2,582	357	2,857	3,730,036
Northern	77,991	81	3,208	280,754	36	1,261	12,923	2,905,269
Jazan	196,743	7,214	7,815	2,305,538	93,619	364,949	40,706	9,458,328
Najran	140,229	69	11,539	541,061	0	1,374	6,682	3,346,199
Al-Bahah	90,223	0	8,184	1,211,427	0	4,202	14,497	4,641,297
Al-Jouf	64,738	0	2,483	400,638	4,256	310	2,657	2,703,941
Qurayyat	30,753	102	5,360	466,953	5,275	762	19,853	1,304,630
Qunfudah	14,510	0	350	64,621	0	40	549	1,559,850
Total	3,926,140	42,734	409,077	31,967,918	551,339	465,462	1,578,049	150,932,272

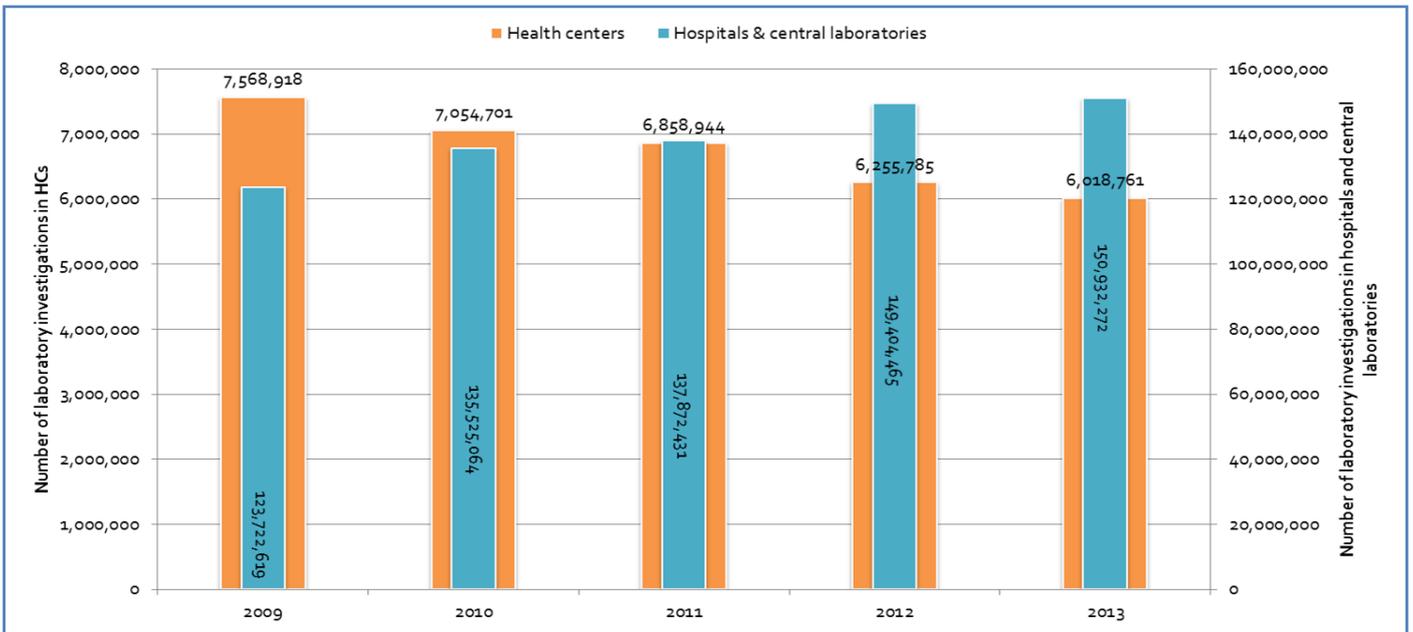


Figure 24.7: Number of laboratory investigations at the MOH facilities, 2009-2013

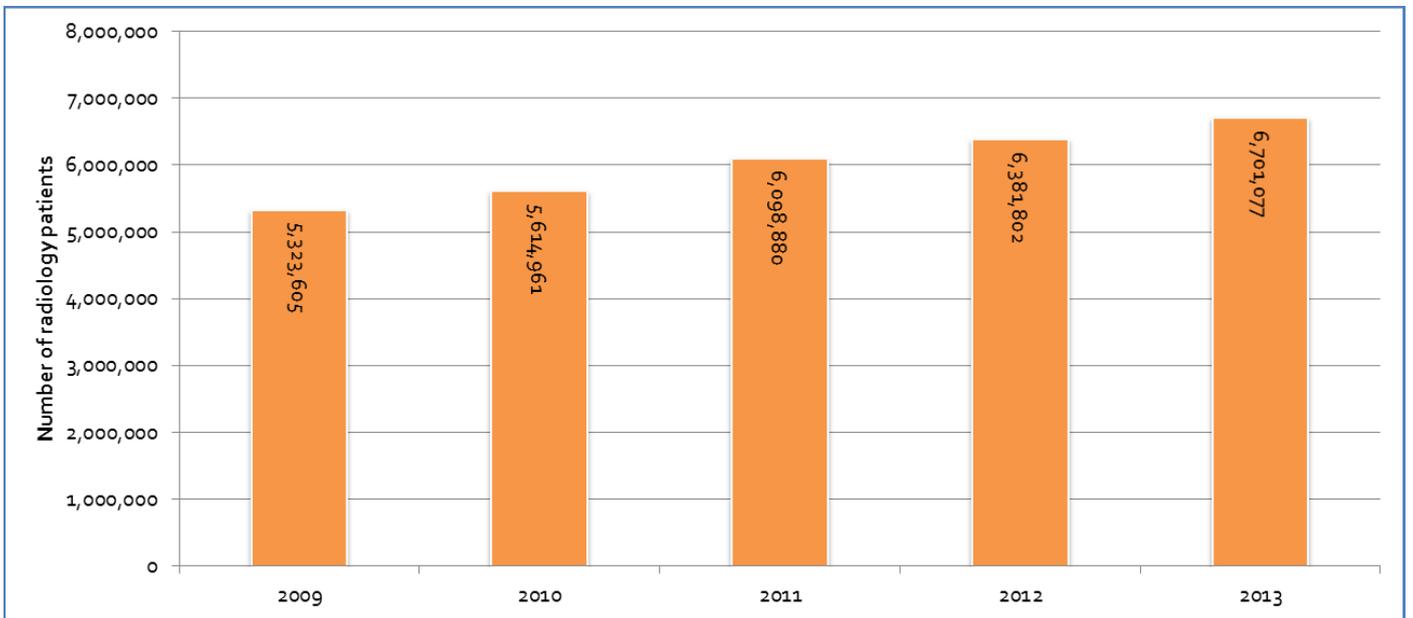


Figure 24.8: Number of radiology patients served at the MOH facilities, 2009-2013

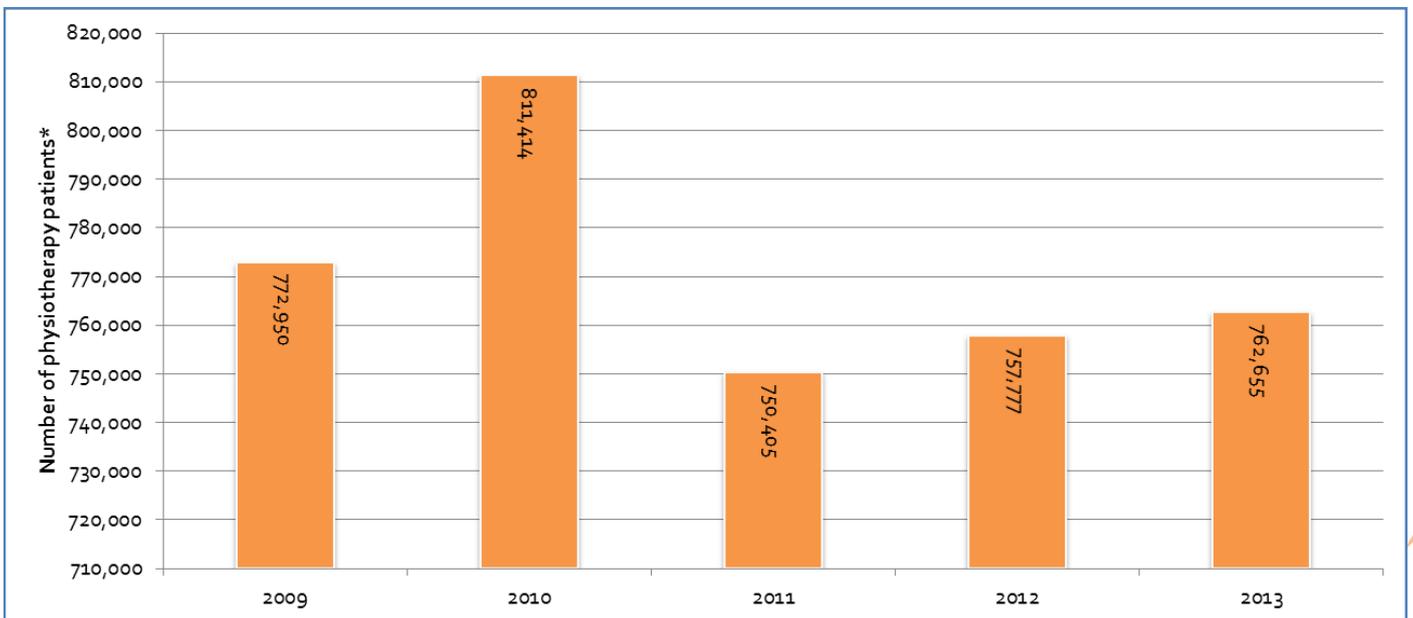


Figure 24.9: Number of physiotherapy patients served at the MOH facilities, 2009-2013

Table 24.2: Number of laboratory investigations and radiology patients at the other governmental sector facilities, 2013

Facility	Laboratory investigations	Radiology patients
K.A.U.H.,R	980,126	14,750
K.K.U.H.,R*	4,879,522	122,040
K.A.U.H.,J**	5,612,547	100,285
K.F.U.H.,K	2,091,712	83,785
A.F.M.S.**	31,615,433	1,450,550
N.G.M.S.	35,205,913	520,602
M.I.M.S.***	5,313,063	308,633
K.F.S.H.,R*	9,790,128	211,884
K.F.S.H.,J*	2,280,975	72,347
R.C.Hs	1,274,871	68,023
ARAMCO Hs	3,180,611	95,104
S.H.U.(M.O.E.)	34,194	...
Y.W.H.*	121,298	8,362
S.W.C.C.M.U.	71,973	4,696
I.P.A.M. Cl.	22,575	...
M.I.U.M.Cl.*	55,404	...
K.K.M. Cl. Abha*	4,606	...
I.M.U.M.U.*	132,080	6,339
K.Fd.U.P.& M.M.U.	13,719	4,067
Omm Al-Qurra U.*	318,163	901
Total	102,998,913	3,072,368

KAUHR: King Abdulaziz University Hospital, Riyadh; KKAUHR: King Khaled University Hospital, Riyadh; KAUHJ: King Abdulaziz University Hospital, Jeddah; KFUKH: King Fahed University Hospital, Khobar; AFMS: Armed Forces Hospitals; NGHs: National Guards Hospitals; MIMS: Ministry of Interior Medical Services; KFSHR: King Faisal Specialist Hospital & Research Center, Riyadh; KFSHJ: King Faisal Specialist Hospital & Research Center, Jeddah; RCHS: Royal Commission Hospitals; ARAMCOHs: ARAMCO Hospitals; SHU (MOE): School Health Units of the Ministry of Education; YWH: Youth Welfare; SWCCMU: Saline Water Conversion Corporation Medical Units; IPAMCL: Institute of Public Administration Clinics at Riyadh; MIUMCI: Medinah Islamic University Clinics; KKMCI Abha: King Khaled University Medical Clinics at Abha; IMUMU: Imam Muhammad bin Saud Islamic University; KFDUP&MMU: King Fahd University of Petroleum & Minerals Medical Units; OmmAl-Qurra U: Omm Alqurra University.

* Represent data from year 2012 due to the absence of data for the year 2013

** Represent data from year 2011 due to the absence of data for the year 2012 & 2013

***Represent data from year 2010 due to the absence of data for the year 2011, 2012 & 2013

Table 24.3: Number of laboratory and radiology investigations at the private hospitals and dispensaries, 2013

Region	Laboratory Investigations	Radiology Investigations
		Number of Patients
Riyadh*	6,294,763	820,861
Makkah**	1,256,979	386,337
Jeddah	8,673,362	1,168,012
Ta`if	919,260	196,594
Medinah	5,111,846	527,398
Qaseem	8,764,366	534,550
Eastern**	10,484,387	1,936,882
Al-Ahsa	1,410,874	305,757
Hafr Al-Baten	190,331	92,725
Aseer***	407,387	85,736
Bishah	142,116	24,124
Tabouk	1,837,175	172,784
Ha`il	570,926	116,122
Northern	163,227	23,591
Jazan	680,190	1,055,776
Najran	368,676	60,154
Al-Bahah	256,752	86,005
Al-Jouf	124,630	23,210
Qurayyat	111,377	10,092
Qunfudah	117,372	10,367
Total	47,885,996	7,637,077

* Riyadh data represents 2009 for the absence of subsequent data

** Makkah and Eastern represents 2012 for the absence of subsequent data

***Aseer represents 2010 for the absence of subsequent data

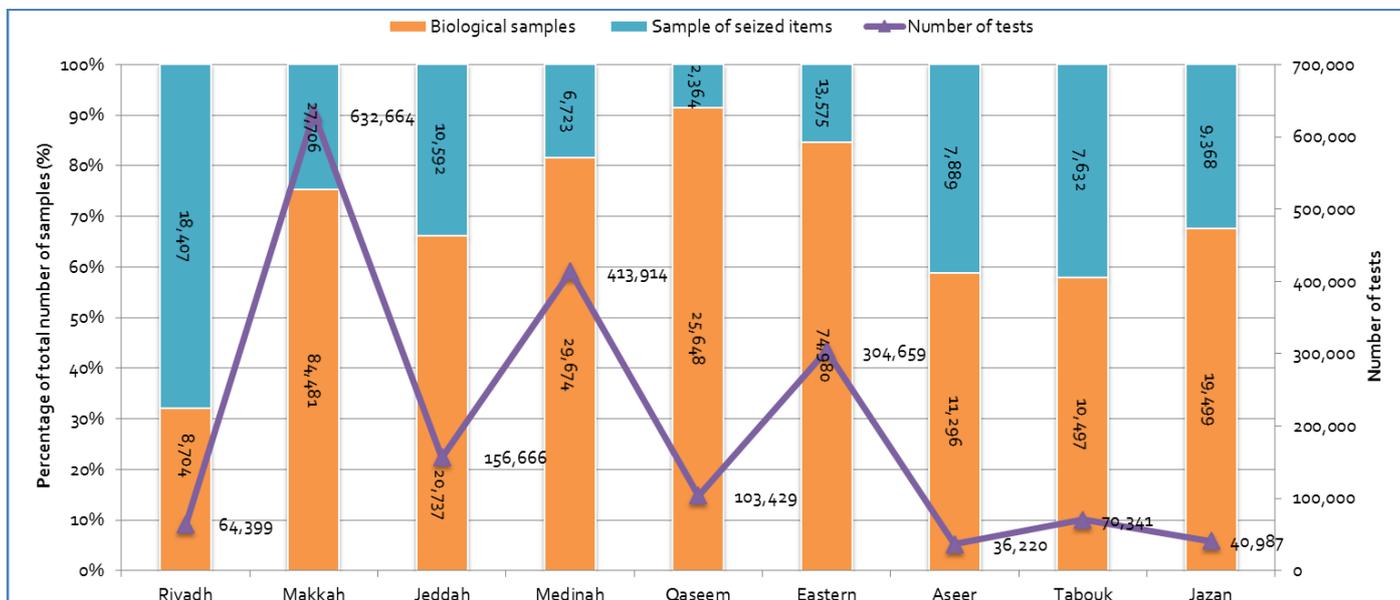


Figure 24.10: Number of samples and tests conducted at the MOH Poison Control and Forensic Chemistry Centers by region, 2012*

Table 24.4: Activities of the blood banks at the MOH by region, 2013

Region	Investigations for blood transfusions	Investigations for infectious diseases	Total Investigations	Collected blood units	Transfused blood units
Riyadh	663,253	440,712	1,103,965	38,054	60,247
Makkah	278,287	80,737	359,024	13,586	39,479
Jeddah	353,453	98,128	451,581	30,529	37,644
Ta`if	81,839	27,324	109,163	13,655	12,406
Medinah	457,151	30,736	487,887	13,202	11,063
Qaseem	331,075	176,288	507,363	15,865	16,075
Eastern	473,785	73,556	547,341	46,457	54,926
Al-Ahsa	388,676	78,871	467,547	25,837	18,781
Hafr Al-Baten	88,917	6,233	95,150	3,599	2,849
Aseer	309,845	99,030	408,875	41,538	74,040
Bishah	130,259	3,015	133,274	5,903	5,985
Tabouk	335,910	71,387	407,297	8,400	5,727
Ha`il	96,816	36,349	133,165	11,725	9,044
Northern	80,874	26,289	107,163	6,206	7,257
Jazan	226,193	137,702	363,895	30,695	27,139
Najran	162,966	49,880	212,846	7,020	6,399
Al-Bahah	157,122	33,746	190,868	8,053	14,012
Al-Jouf	72,032	36,116	108,148	6,359	5,802
Qurayyat	19,139	19,120	38,259	2,997	2,321
Qunfudah	119,621	64,708	184,329	3,908	4,278
Total	4,827,213	1,589,927	6,417,140	333,588	415,474

* 2013 data is not available

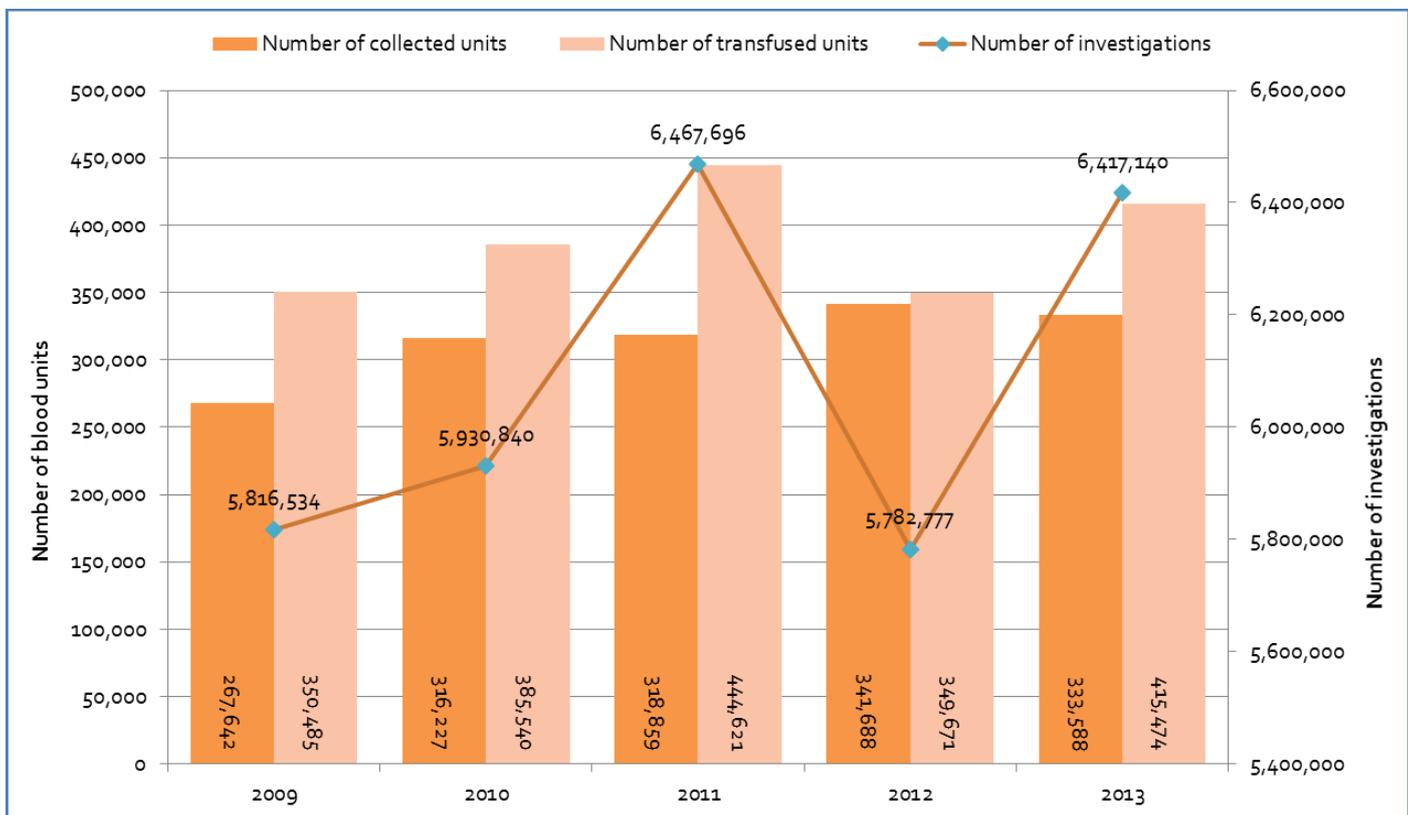


Figure 24.11: Trends of MOH Blood Banks activities, 2009-2013

Table 24.5: Blood bank activities at the other governmental sector facilities, 2013

Facility	# of Blood Banks	# of investigations	# of blood donors	# of transfusion requests
King Abdulaziz University Hospital, Riyadh	1	149	174	24
King Khaled University Hospital, Riyadh*	1	177,064	13,922	28,704
King Abdulaziz University Hospital, Jeddah**	1	222,006	12,195	13,538
King Fahed University Hospital, Khobar	1	113,989	4,813	11,215
Armed Forces Medical Services**	16	...	71,043	61,669
National Guards Hospitals	4	640,607	45,983	107,860
Security Forces Hospitals***	1	164,068	5,255	9,518
King Faisal Specialist Hospital & Research Center, Riyadh*	1	228,210	24,787	56,466
King Faisal Specialist Hospital & Research Center, Jeddah*	1	66,183	19,474	24,668
Royal Commission Hospitals	2	78,862	3,236	29,445
ARAMCO Hospitals	1	279,518	5,302	5,639
Total	30	1,970,656	206,184	348,746

* Represents data from year 2012 due to absence of data for the year 2013

* Represent data from year 2011 due to the absence of data for the year 2012 & 2013

**Represent data from year 2010 due to the absence of data for the year 2011, 2012 & 2013

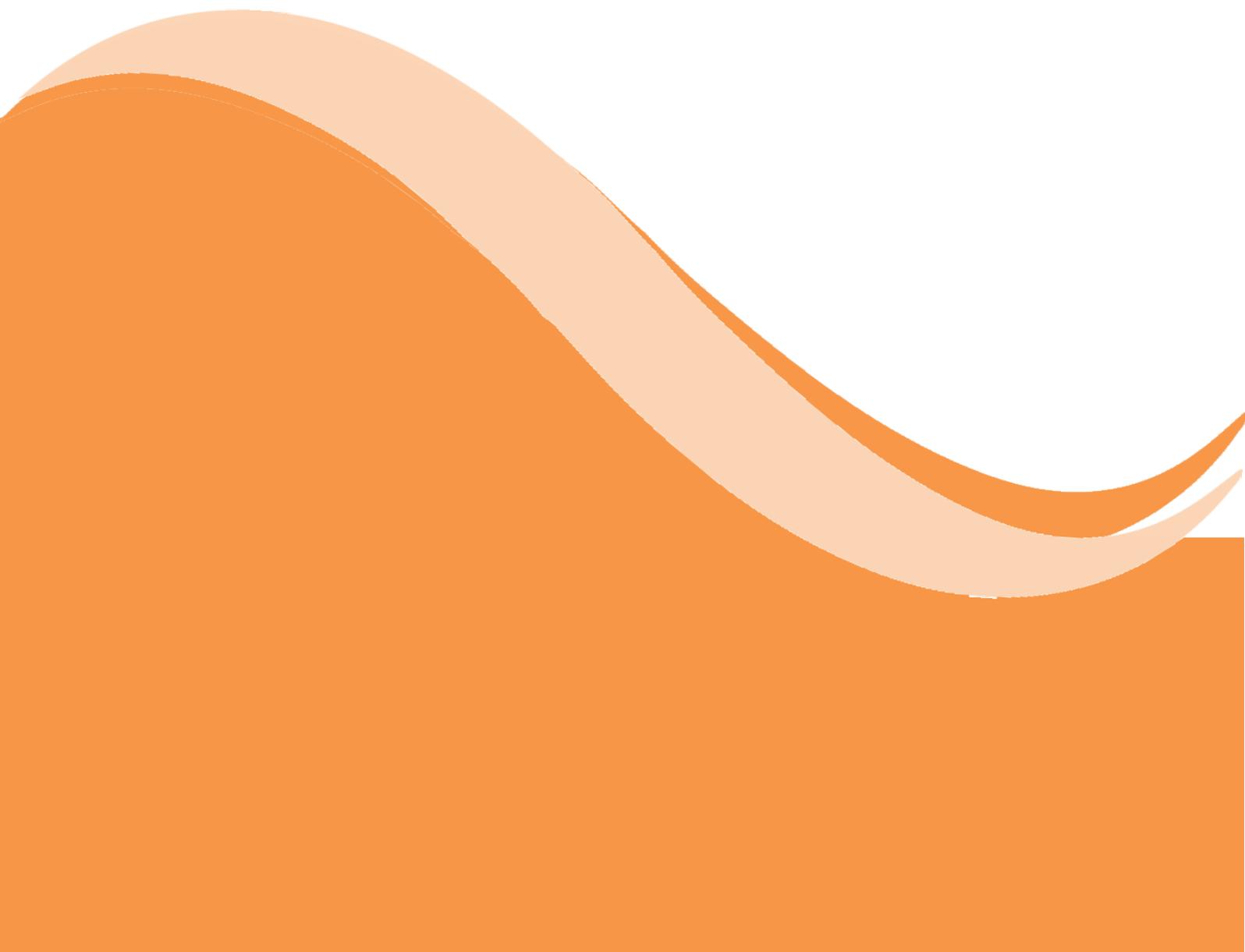
... Data not reported

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 25: Medical rehabilitation



25. MEDICAL REHABILITATION



Across the Kingdom, rehabilitation centers of the MOH, other governmental sector and the private sector offer rehabilitation services to the handicapped who are victims of road accidents or who have been disabled due to disease-related injury.

Figure 25.1 portrays the proportions for the various causes of amputation cases at the medical rehabilitation centers of the MOH during the year 2012. The major cause of amputation recorded is diabetes-related gangrene (41.2% of cases), followed by car accidents (31.8% of cases).

Table 25.1 displays the amputation cases receiving treatment at the medical rehabilitation centers of the MOH by cause of injury and region of the Kingdom for the year 2013. The total number of amputation cases recorded during the year 2013 is 4,923.

Cases attending to the medial rehabilitation centers of the other governmental sector during the year 2013 are displayed in Table 25.2. A total of 1,257,893 cases are recorded during this year, with 50,562 new cases. The majority of cases are referred to these centers for physiotherapy (92.2% of cases).

The number of disabled children receiving rehabilitation services during the year 2013 is shown by age group in Figure 25.2. The highest numbers of cases are recorded for the age of 5 years, whereas the highest average numbers of sessions per child are recorded for the age 11 years.

Figure 25.3 portrays the proportions for the sessions of rehabilitation services provided to disabled children during the year 2013. The highest number of sessions is related to services provided in schools (47.9%).

In Table 25.3, sessions of rehabilitation services provided to disabled children during the year 2013 are displayed by age group. The total number of sessions recorded during this year is 384,721.

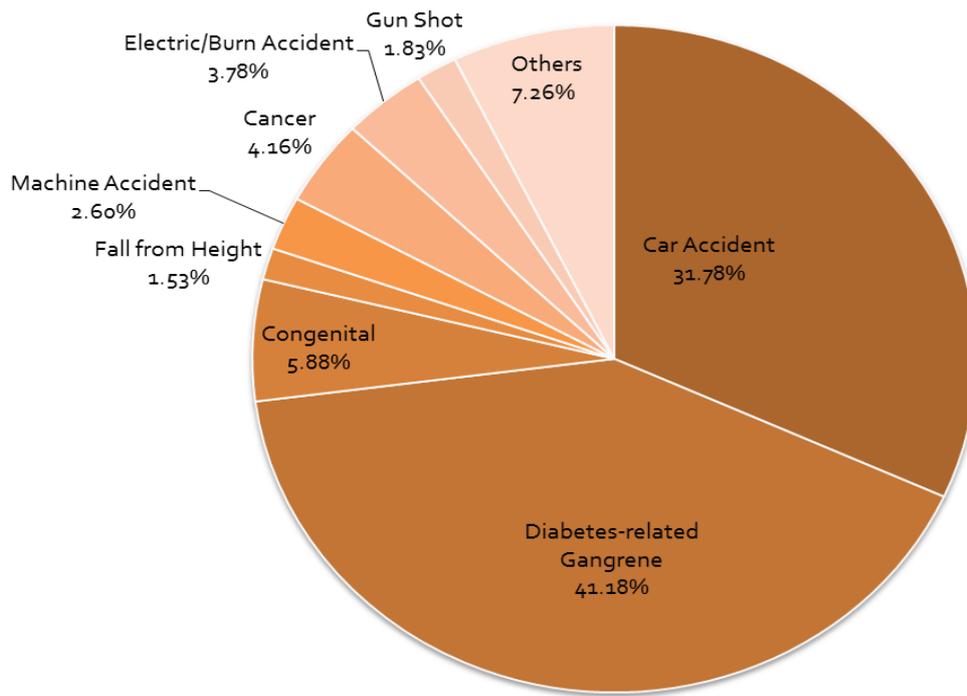


Figure 25.1: Causes of amputation cases at the medical rehabilitation centers of the MOH, 2012 *

Table 25.1: Amputation cases at the medical rehabilitation centers of the MOH by cause of injury and region, 2013

Region	Car Accident	Diabetic Gangrene	Congenital	Fall from Height	Machine Accident	Cancer	Electric/Burn Accident	Gun Shot	Others	Total
Riyadh	40	77	14	4	18	6	7	4	43	213
Makkah	29	125	11	-	1	2	1	3	-	172
Jeddah	62	170	26	4	2	22	3	1	2	292
Ta'if	...	...	...	...	...	...	...	...	...	20
Medinah	261	348	52	18	41	15	38	2	63	838
Qaseem	181	39	14	-	2	40	48	1	-	325
Eastern	116	168	238	5	22	13	12	5	273	852
Al-Ahsa	9	64	4	-	3	-	1	-	3	84
Hafr Al-Baten	8	7	1	-	-	-	-	-	75	91
Aseer	77	75	20	2	10	6	14	10	14	228
Bishah	2	-	16	-	-	-	-	-	-	18
Tabouk	412	26	25	180	110	4	8	-	415	1180
Ha'il	25	48	1	-	15	-	4	3	-	96
Northern	3	5	-	-	-	-	3	1	-	12
Jazan	127	205	12	7	5	4	4	3	6	373
Najran	3	9	2	-	-	1	-	-	-	15
Al-Bahah	21	1	-	-	4	-	3	-	7	36
Al-Jouf	37	19	3	-	4	1	-	-	12	76
Qurayyat	-	1	-	-	-	-	-	-	-	1
Qunfudah	1	-	-	-	-	-	-	-	-	1
Total	...	...	...	...	...	...	...	...	...	4923

Table 25.2: Cases at the medical rehabilitation centers of the other governmental sector, 2013

Hospital	New cases	Physiotherapy	Repair	Speech-hearing therapy	Others	Total
K.A.U.H.R	-	6659	-	9143	-	15802
K.A.U.H.,J**	-	30307	-	2846	-	33153
K.K.U.H.,R*	3434	23528	269	156	-	27387
K.F.U.H.,K	-	6839	-	5576	-	12415
A.F.M.S**	...	767652	...	...	...	767652
N.G.M.S.	41804	65548	2252	-	-	109604
S.F.H***	-	138498	-	1727	-	140225
K.F.S.H.,J*	2920	21438	-	-	-	24358
R.C.Hs*	2404	43858	-	972	-	47234
ARAMCO Hs*	-	56025	-	11467	12571	80063
Total	50562	1160352	2521	31887	-	1257893

KAUHR: King Abdulaziz University Hospital, Riyadh; KKAUHR: King Khaled University Hospital, Riyadh; KAUHJ: King Abdulaziz University Hospital, Jeddah; KFUHK: King Fahed University Hospital, Khobar; AFMS: Armed Forces Hospitals; NGMS: National Guards Medical Services; SFH: Security Forces Hospitals; KFSHJ: King Faisal Specialist Hospital & Research Center, Jeddah; RCHS: Royal Commission Hospitals; ARAMCOHs: ARAMCO Hospitals;

* Represents data from year 2012 due to the absence of data for the year 2013
 * Represent data from year 2011 due to the absence of data for the year 2012 & 2013
 **Represent data from year 2010 due to the absence of data for the year 2011, 2012 & 2013
 NR: Not Reported

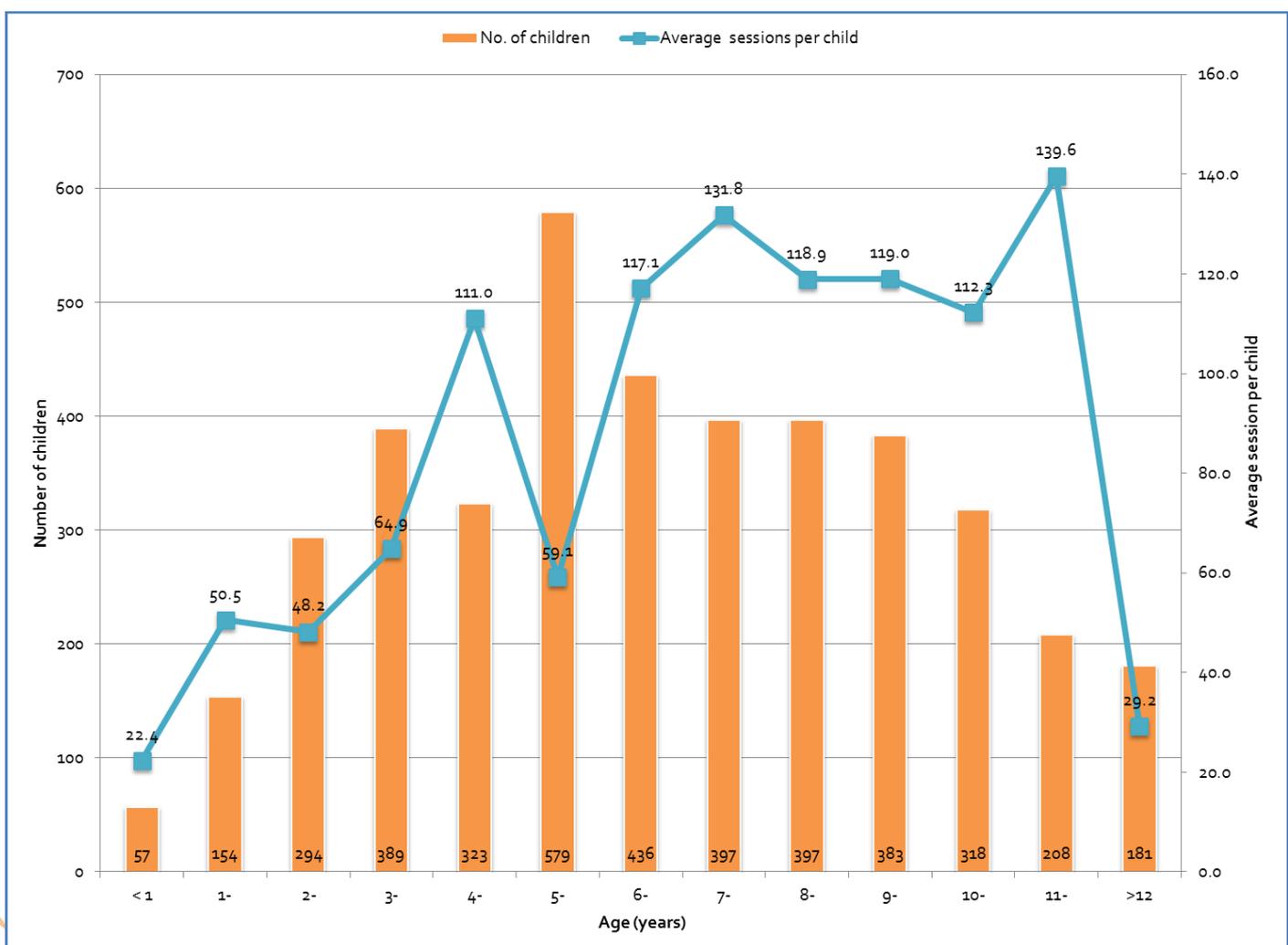


Figure 25.2: Number of disabled children receiving rehabilitation services by age group, 2013

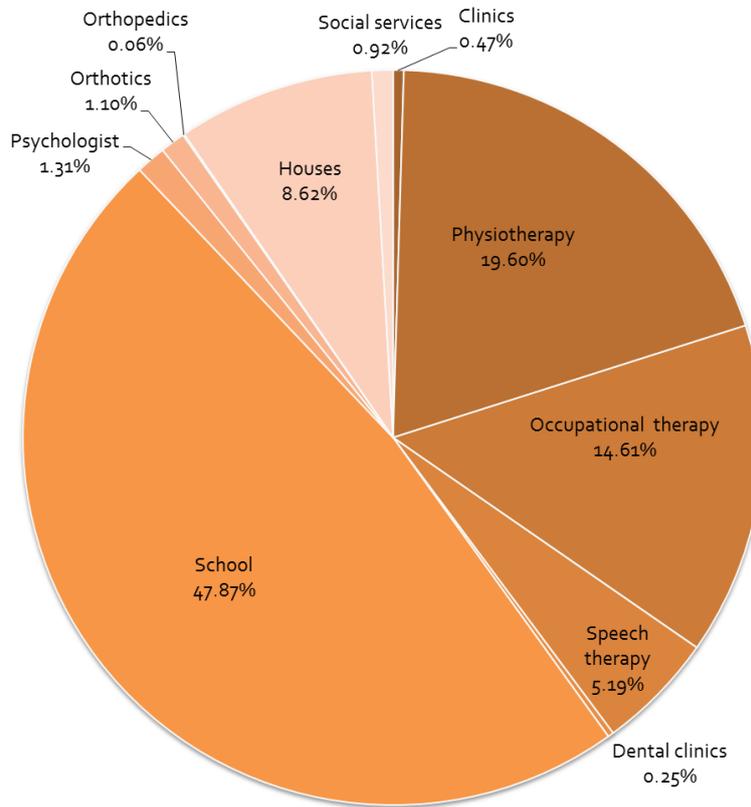


Figure 25.3: Sessions of rehabilitation services for disabled children, 2013

Table 25.3: Sessions of rehabilitation services for disabled children by age group, 2013

Age group (Year)	Clinics	Physiotherapy	Occupational therapy	Speech therapy	Dental clinics	School	Psychologist	Orthotics	Orthopedics	Houses	Social services	Total
< 1	75	287	368	202	5	0	42	1	1	244	49	1274
1-	157	2189	1910	1475	13	180	278	88	2	1334	156	7782
2-	244	3768	4213	2421	47	4	378	203	15	2591	275	14159
3-	281	5997	6095	2904	130	2405	792	354	29	5860	391	25238
4-	254	8098	7024	2835	131	9009	1067	499	28	6344	564	35853
5-	166	7551	5727	2645	105	12607	366	408	21	4314	329	34239
6-	167	9223	6372	2150	145	28563	506	543	26	2940	404	51039
7-	123	8840	5592	1546	105	32564	324	578	19	2303	340	52334
8-	104	8280	5198	1202	75	29122	407	461	17	2057	266	47189
9-	91	8277	4829	981	97	28042	359	394	26	2225	266	45587
10-	69	7257	4845	654	70	20412	188	366	18	1613	212	35704
11-	28	4675	2977	702	30	18908	241	210	18	1098	153	29040
>12	35	969	1065	232	15	2358	98	130	3	259	119	5283
Total	1794	75411	56215	19949	968	184174	5046	4235	223	33182	3524	384721

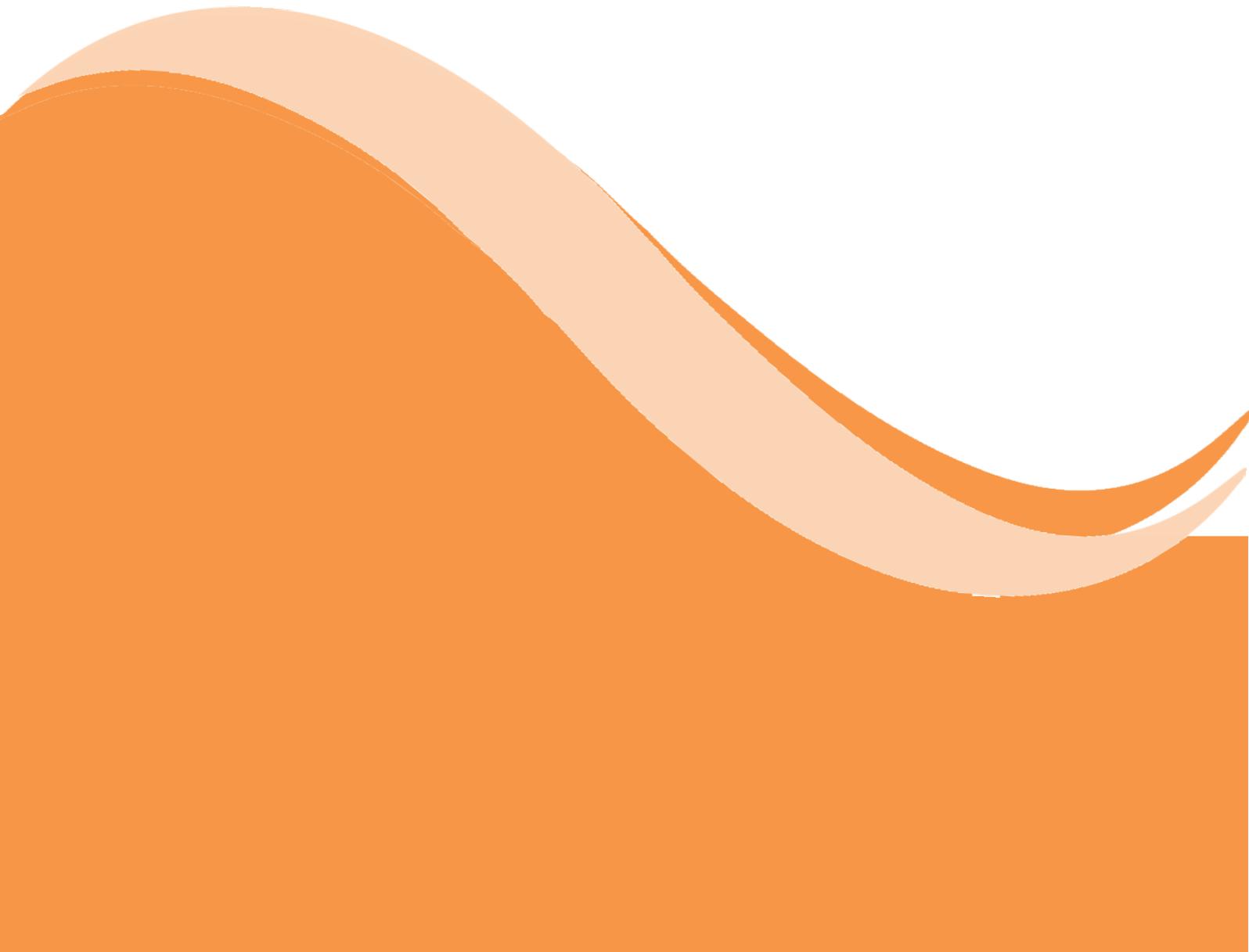
Source: Saudi Society of Caring Handicapped Children

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 26: Medical commissions



26. MEDICAL COMMISSIONS



The accessibility and availability of organ transplantations, cardiovascular surgeries, and medical treatment for medical cases of subspecialties at the specialized hospitals of the Kingdom has allowed for the provision of medical treatment within the Kingdom and has limited the need to transfer patients to medical facilities abroad.

Figure 26.1 displays the number of cases referred by the medical commissions to governmental general and specialist hospitals by region during the year 2013, with representation of the proportion of cases who are Saudi nationals. The total number of cases recorded for this year is 49,913. The highest number of cases is recorded in Riyadh (23.6%). The vast majority of cases across all regions are Saudi nationals.

Figure 26.2 further portrays the cases referred by the medical commissions during the year 2013 but by medical diagnosis. Most cases were of the ophthalmic type, followed by internal medicine, pediatrics and cardiology.

Table 26.1 displays the number of cases referred by the medical commissions to governmental general or specialist hospitals according to diagnosis by region of the Kingdom.

Displayed in Figure 26.3 are the proportions of cases by medical specialty that were transferred abroad for medical treatment during the year 2013. The majority of transferred cases were within the cases of malignant tumors. The transferred cases for this year are further shown in Table 26.2 by medical specialty and region of the Kingdom. The total number of cases transferred abroad is 2,980.

Figure 26.4 shows the number of cases transferred abroad for treatment by region of the Kingdom and recipient country during the year 2012. The majority of cases were transferred to the United States (44.6%), followed by Germany (33.4%).

Figure 26.5 summarizes the cases transferred abroad for treatment by region of the Kingdom and by type of decree issued for the transfer process.

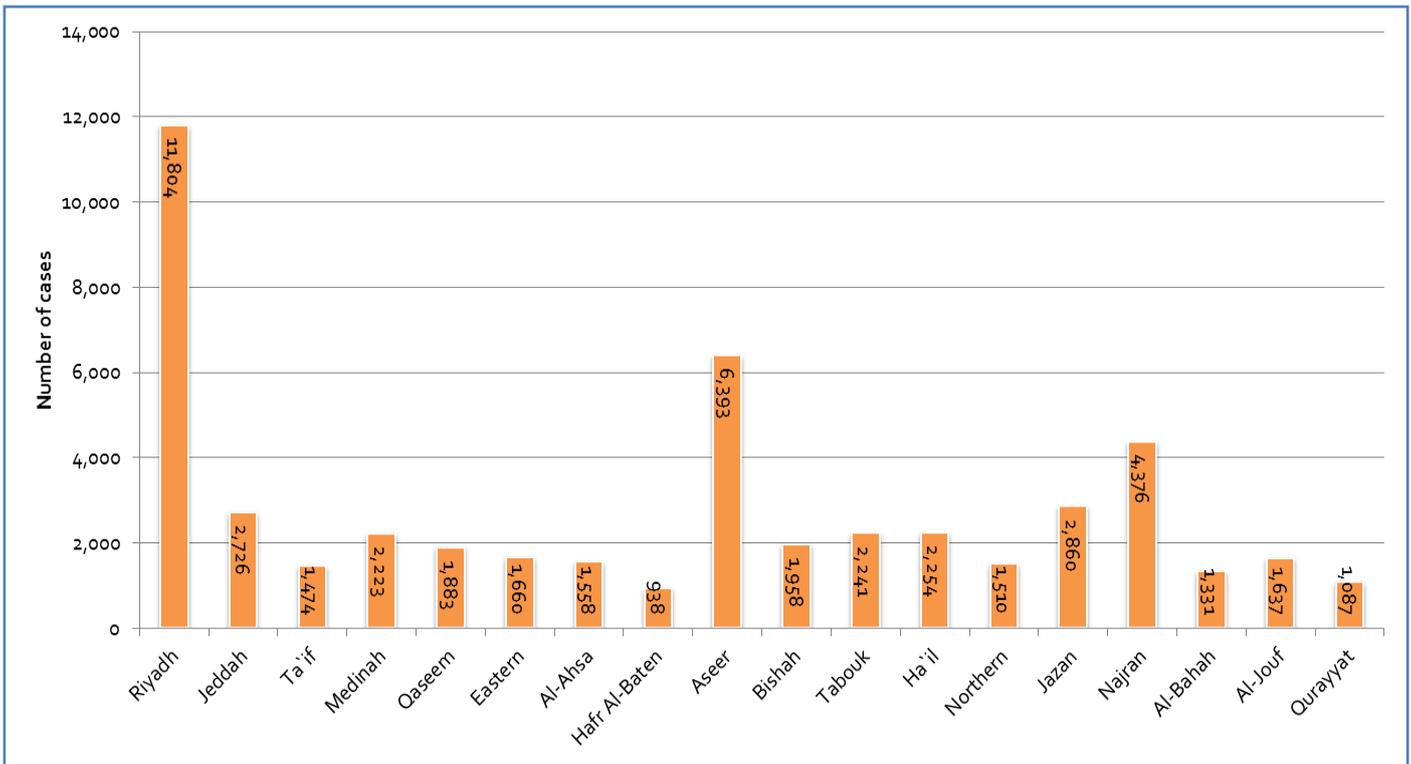


Figure 26.1: Number of cases referred by the medical commissions to governmental general and specialist hospitals by region, 2013

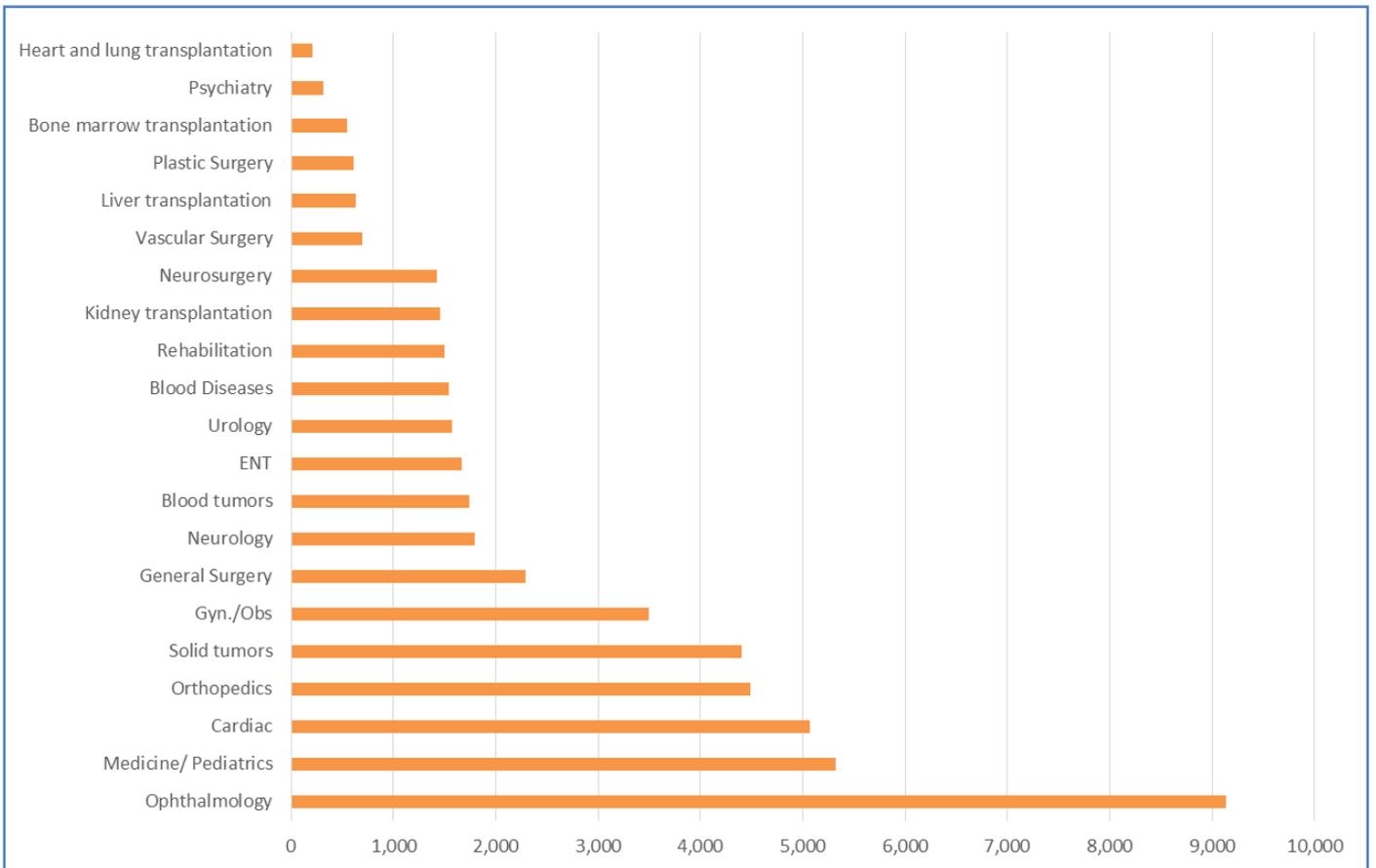


Figure 26.2: Number of cases referred by the medical commissions to governmental general or specialist hospitals by medical diagnosis, 2013

Table 26.1: Number of cases referred by the medical commissions to governmental general or specialist hospitals according to the diagnosis by region, 2013

Region	Vascular Surgery	Urology	Heart & lung transplant	Bone marrow transplant	Liver transplant	Kidney transplant	Rehabilitation	Neurosurgery	Plastic surgery	General surgery	Psychiatry	Orthopedics	Ophthalmology	Medicine / pediatrics	Neurology	Blood tumors	Solid tumors	Blood diseases	Gyn./Obs	ENT	Cardiac	Total
Riyadh	119	139	96	404	225	522	755	244	125	215	25	1225	1040	1014	351	901	896	612	1523	424	949	11804
Jeddah	7	27	18	18	91	87	146	107	27	203	45	475	206	336	20	27	258	84	204	23	317	2726
Ta'if	5	23	1	4	19	10	32	85	13	26	15	82	518	168	85	59	144	47	53	19	66	1474
Medinah	39	143	0	3	4	12	44	8	5	85	11	94	699	81	127	78	293	70	209	58	160	2223
Qaseem	0	35	0	0	49	100	86	0	0	88	14	71	477	131	126	0	398	38	19	46	205	1883
Eastern	7	10	8	7	33	34	0	9	1	333	1	56	180	89	10	31	202	74	278	26	271	1660
Al-Ahsa	63	33	0	3	12	193	23	12	9	11	1	43	333	127	68	7	180	34	231	27	148	1558
Hafr-Al-Baten	8	48	6	4	14	46	21	9	21	41	2	38	177	83	65	10	95	39	6	73	132	938
Aseer	268	429	80	82	78	80	145	242	143	401	117	417	1295	474	363	407	435	319	210	118	290	6393
Bishah	2	33	1	3	15	43	14	74	43	68	7	158	521	239	45	28	147	49	56	66	346	1958
Tabouk	54	104	2	0	16	61	23	83	24	126	4	126	681	169	62	63	183	61	48	126	225	2241
Ha'il	31	65	0	17	12	79	40	73	22	79	11	207	367	352	63	22	283	39	62	79	351	2254
Northern	20	52	0	0	0	0	9	104	23	62	1	124	317	342	3	0	103	3	76	60	211	1510
Jazan	27	98	1	3	21	51	83	46	53	185	7	391	675	268	204	61	390	13	146	137	0	2860
Najran	22	245	0	1	18	85	62	95	16	114	43	633	1002	575	60	38	259	15	175	204	714	4376
Al-Bahah	2	21	0	0	10	33	0	47	13	70	2	88	233	414	46	3	71	6	45	14	213	1331
Al-Jouf	11	39	0	0	3	2	2	128	41	122	10	143	312	354	22	4	45	13	110	49	227	1637
Qurayyat	10	24	0	0	13	18	10	62	34	58	1	115	102	111	72	4	23	20	45	118	247	1087
Total	695	1568	213	549	633	1456	1495	1428	613	2287	317	4486	9135	5327	1792	1743	4405	1536	3496	1667	5072	49913

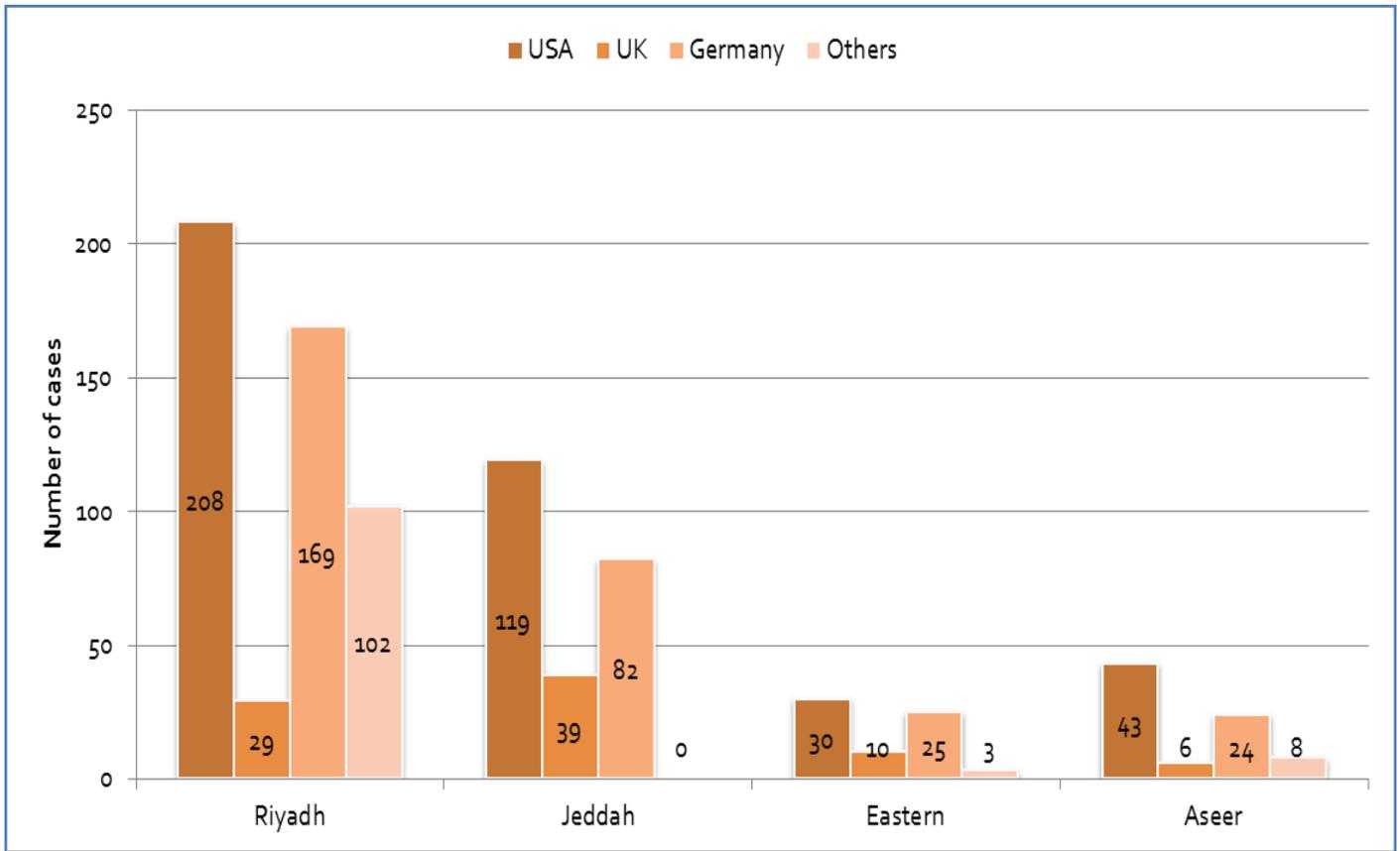


Figure 26.4: Number of cases transferred abroad for treatment by region and receiving country, 2012*

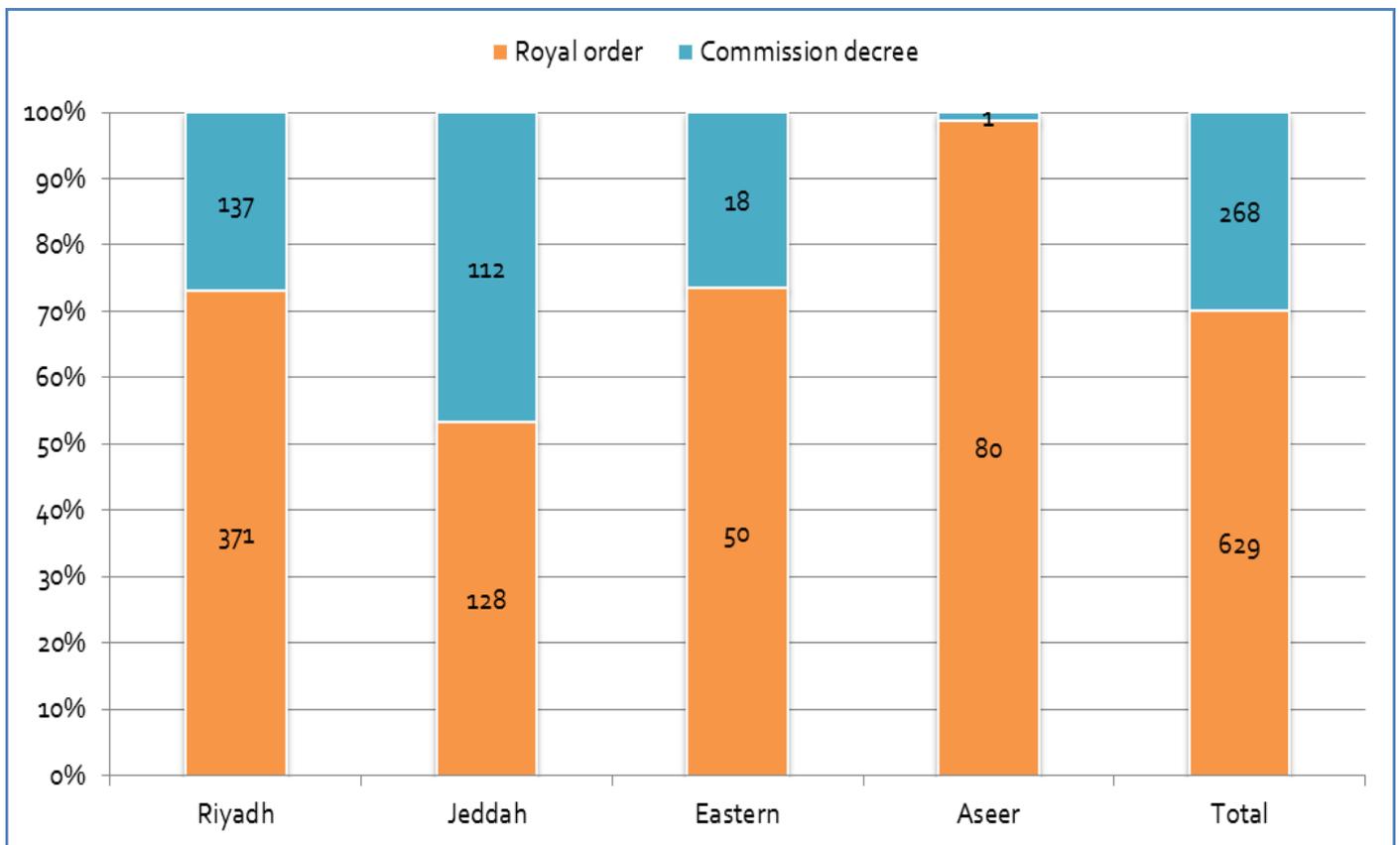


Figure 26.5: Number of cases transferred abroad for treatment by region and type of decree, 2012*

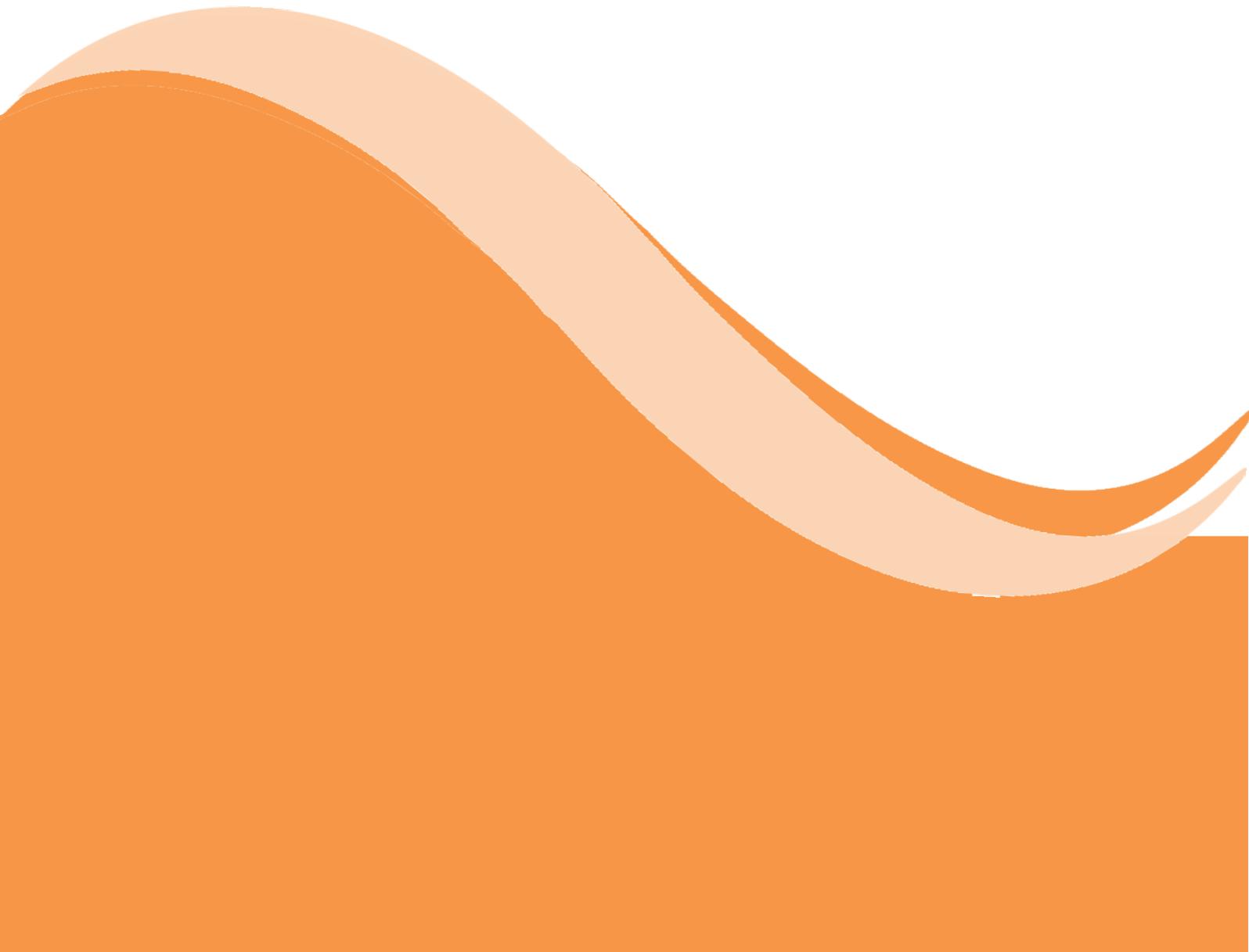
* 2013 data not available

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 27: Nutrition



27. NUTRITION



Table 27.1 provides the approximate number of meals served at MOH hospitals, along with selected indicators related to meals served, by region of the Kingdom for the year 2013. The total number of meals served at all MOH hospitals during this year is 20.9 million, which includes 10.3 million meals for nursing staff and on-duty staff members, 7.5 million meals for patients, and 3.1 million meals for patients' accompaniments. On average, 57,485 patient meals are served daily.

Patient meals constitute 35.89% of the total meals served at MOH hospitals. An average of 194 patient meals are served per bed yearly.

In Figure 27.1, the approximate number of meals served at MOH hospitals is further displayed by region, with representation of the average number of patient meals served per bed yearly for each region. The highest number of meals served at MOH hospitals during this year is recorded in Riyadh (3.8 million meals) and the highest average number of patient meals per bed in Qaseem (227).

Table 27.1: Approximate number of meals served at the MOH hospitals and selected indicators by region, 2013

Region	# of beds	Patient meals	Nurse and on-duty staff meals	Accompaniment meals	Total # of meals	Daily average # of patient meals	% of patient meals from total meals	Average # of patient meals / bed per year
Riyadh	7937	1,352,558	1,960,184	483,499	3,796,241	3821	36%	170
Makkah	2440	496,080	814,404	145,762	1,456,246	1401	34%	203
Jeddah	2968	660,339	707,894	251,569	1,619,802	1865	41%	222
Ta'if	2415	509,972	539,314	136,346	1,185,632	1441	43%	211
Medinah	2747	584,841	770,175	323,538	1,678,554	1652	35%	213
Qaseem	2664	604,750	1,031,828	265,778	1,902,356	1708	32%	227
Eastern	3056	595,262	438,384	120,887	1,154,533	1682	52%	195
Al-Ahsah	1555	289,307	394,661	77,051	761,019	817	38%	186
Hafir Al-Baten	1000	119,502	211,027	52,845	383,374	338	31%	120
Aseer	2280	514,623	692,153	309,245	1,516,021	1454	34%	226
Bishah	770	146,475	123,292	69,762	339,529	414	43%	190
Tabouk	1170	246,414	204,520	92,393	543,327	696	45%	211
Ha'il	1125	202,044	382,039	98,957	683,040	571	30%	180
Northern	1010	173,833	305,906	90,202	569,941	491	31%	172
Jazan	1850	409,153	506,217	263,047	1,178,417	1156	35%	221
Najran	1070	213,599	440,831	127,372	781,802	603	27%	200
Al-Bahah	1085	211,458	450,652	131,073	793,183	597	27%	195
Al-Jouf	860	94,717	118,613	57,639	270,969	268	35%	110
Qurrayat	490	64,864	74,622	42,539	182,025	183	36%	132
Qunfdah	200	40,984	120,545	24,505	186,034	116	22%	205
Total	38692	7,530,775	10,287,261	3,164,009	20,982,045	21273	36%	195

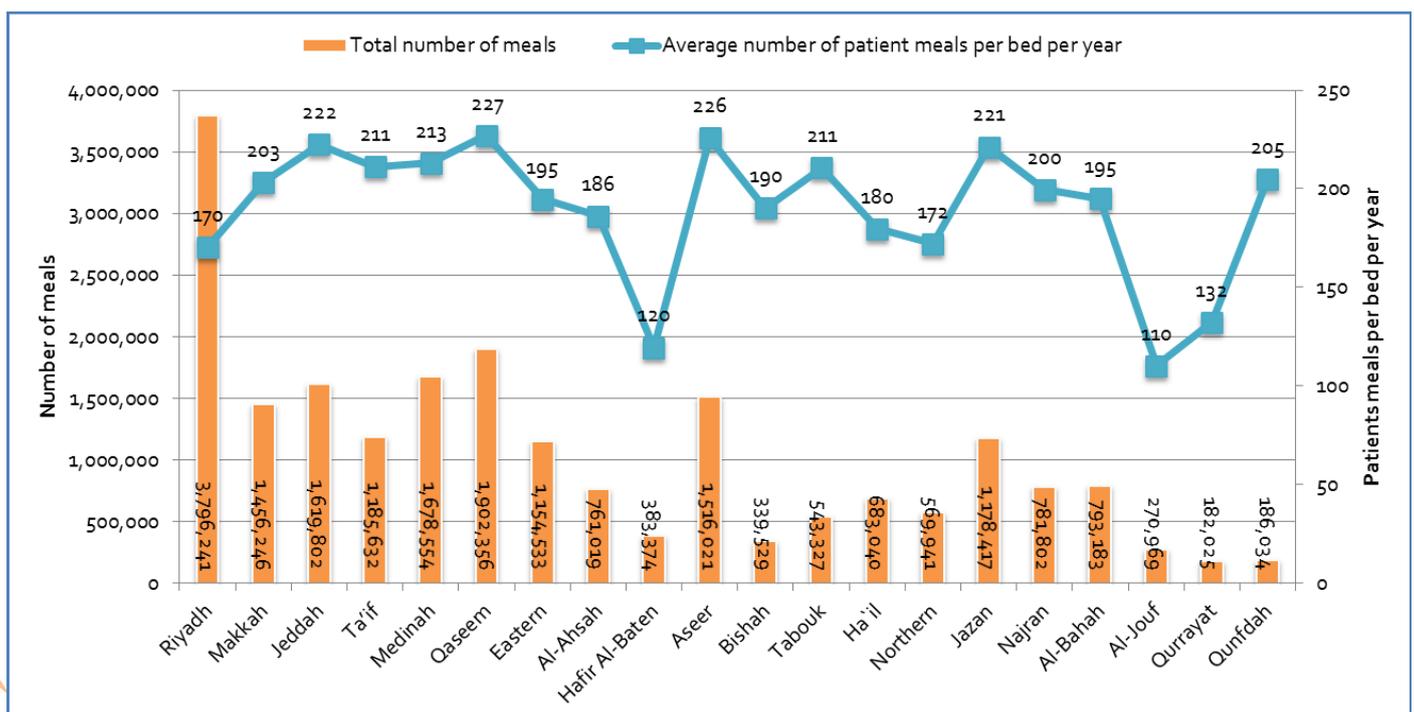


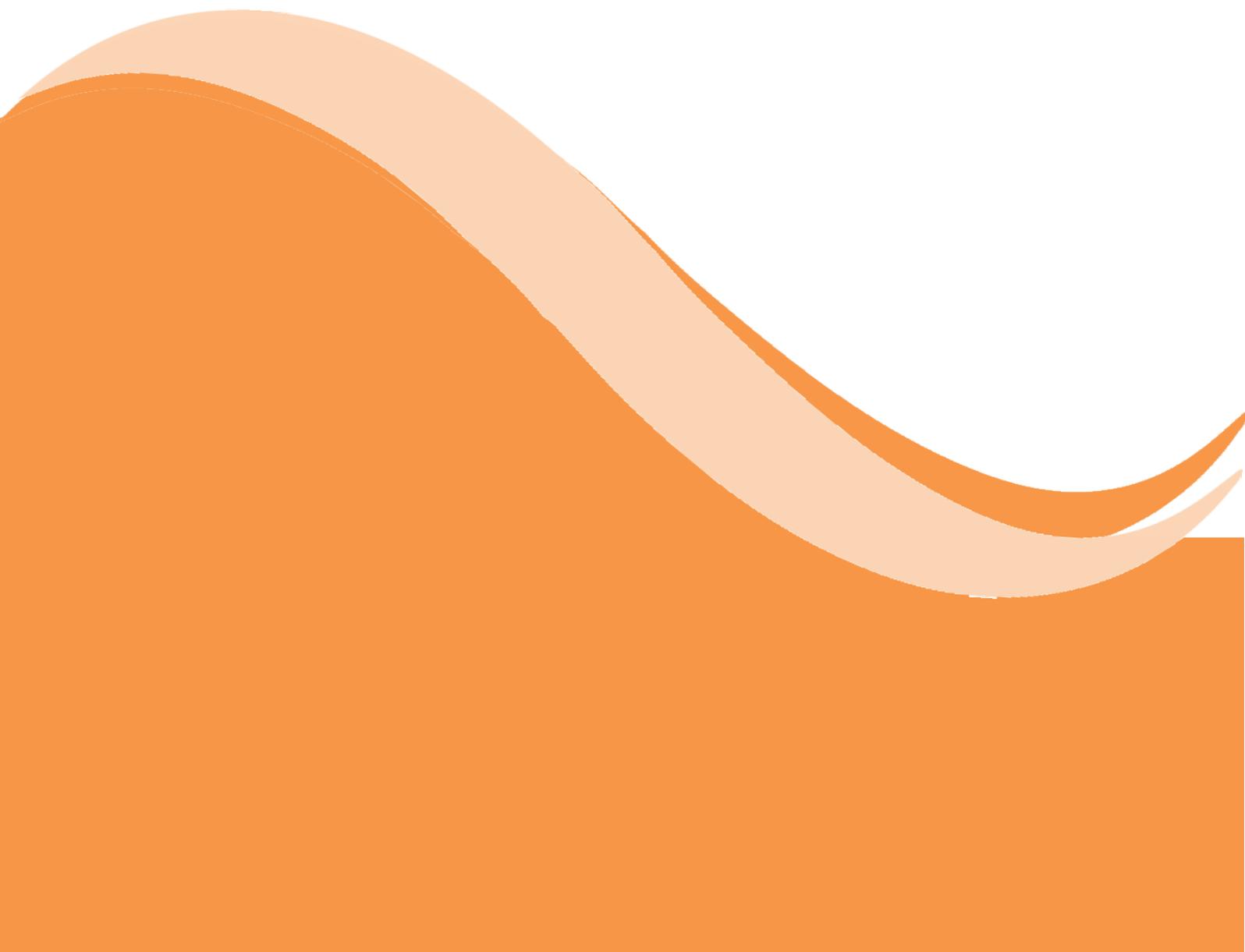
Figure 27.1: Approximate number of meals served in MOH hospitals (showing average number of patient meals / bed per year) by region, 2013

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 28: Other activities



28. OTHER ACTIVITIES

Forensic Medicine Services

Table 28.1 displays the cases presented to the Forensic Medicine Centers of KSA by region of the Kingdom for year 2013. The total number of cases in this year was 4,425, from which 2,935 were related to examination of dead cases (66%), 1,425 were related to examination of living cases (32%), and 65 required expert opinion (1%). The majority of cases were presented to the Forensic Medicine Centers of Riyadh (18%). Figure 28.1 represents the distribution of the Medical Legal Committees across the regions of the Kingdom during the year 2013. In total, there were 19 committees distributed in 7 provinces. Figure 28.2 displays the cases of medical malpractice, both new and deferred, that were referred to the Medical Legal Committees by region during the year 2013. In total, 2,413 cases were referred during this year. The majority of referred cases were in Riyadh (20%). Figure 28.3 displays the number of sessions and resolutions made by the Medical Legal Committees by region during the year 2013, with representation of the ratio of sessions needed per resolution made in each region. The total number of sessions in this year was 2,838, the majority of which took place in Riyadh (38%). The total number of resolutions in this year was 864, the majority of which took place in Riyadh (26%). The highest ratio of sessions needed per resolution made was in Qaseem (5.2 sessions per resolution). Figure 28.4 shows the distribution of resolutions of medical malpractice related to examination of dead cases that were made by the Medical Legal Committees (a total of 320 cases) according to the presence or absence of convictions by region during the year 2013. The total number of resolutions related to dead cases that were made with conviction was 167 (52%), while the total number of resolutions made related to dead cases without conviction was 153 (48%).

Home Health Care Program

Figure 28.5 displays the number of MOH hospitals implementing the Home Health Care Program by region during the year 2013, with representation of the number of manpower and beneficiaries. The total number of hospitals is 180, with 33,813 beneficiaries involved.

Table 28.1: Cases presented to the Forensic Medicine Centers of the Kingdom by region, 2013

Region	Dead Cases			Living Cases	Expert Opinion	Grand Total
	External Examination	Autopsy	Total			
Riyadh	71	363	434	339	3	776
Makkah	120	88	208	156	2	366
Jeddah	188	155	343	393	4	740
Ta'if	68	25	93	22	0	115
Medinah	278	73	351	151	12	514
Qaseem	114	24	138	4	0	142
Eastern	139	121	260	114	0	374
Al-Ahsa	77	25	102	9	0	111
Hafr Al-Baten	9	14	23	7	0	30
Aseer	308	84	392	114	6	512
Tabouk	98	23	121	45	0	166
Ha'il	78	19	97	10	0	107
Northern	29	9	38	14	1	53
Jazan	0	98	98	0	0	98
Najran	53	17	70	20	0	90
Al-Bahah	54	6	60	8	37	105
Al-Jouf	28	17	45	10	0	55
Qurayyat	18	2	20	0	0	20
Qunfudah	37	5	42	9	0	51
Total	1,767	1,168	2,935	1,425	65	4,425

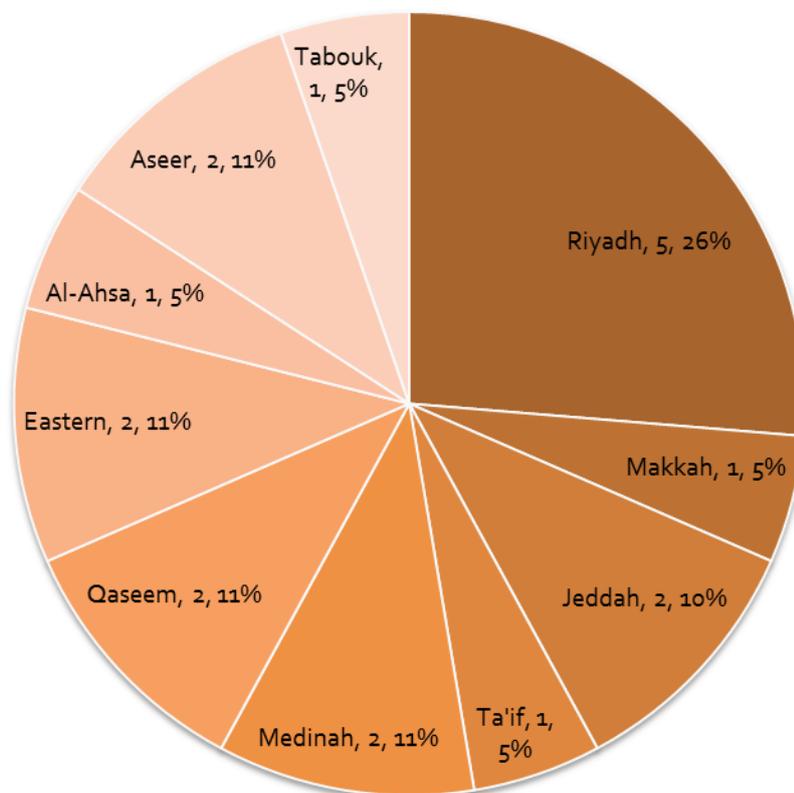


Figure 28.1: Distribution of the Medical Legal Committees across the regions of the Kingdom, 2013

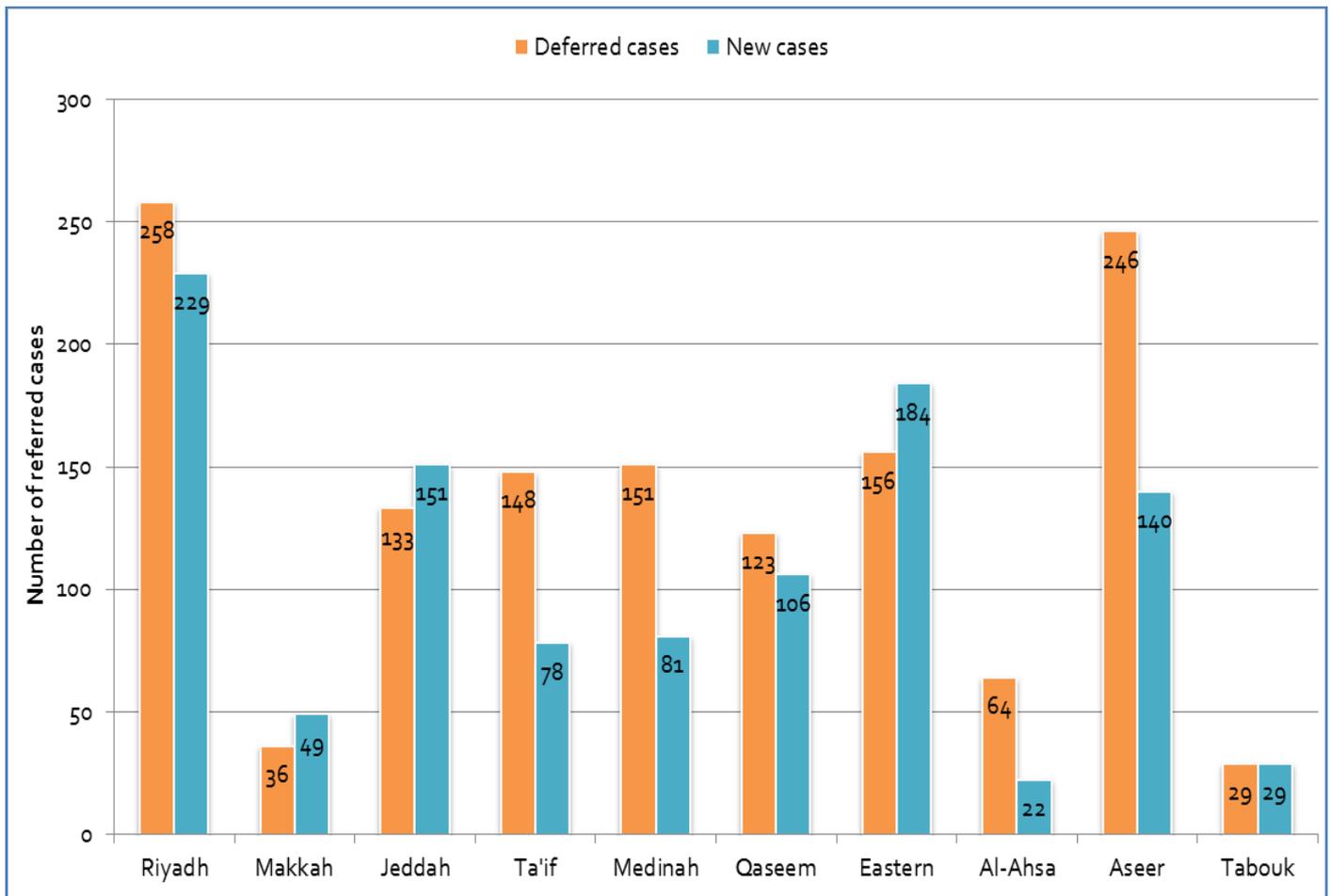


Figure 28.2: Cases of medical malpractice referred to the Medical Legal committees by region, 2013

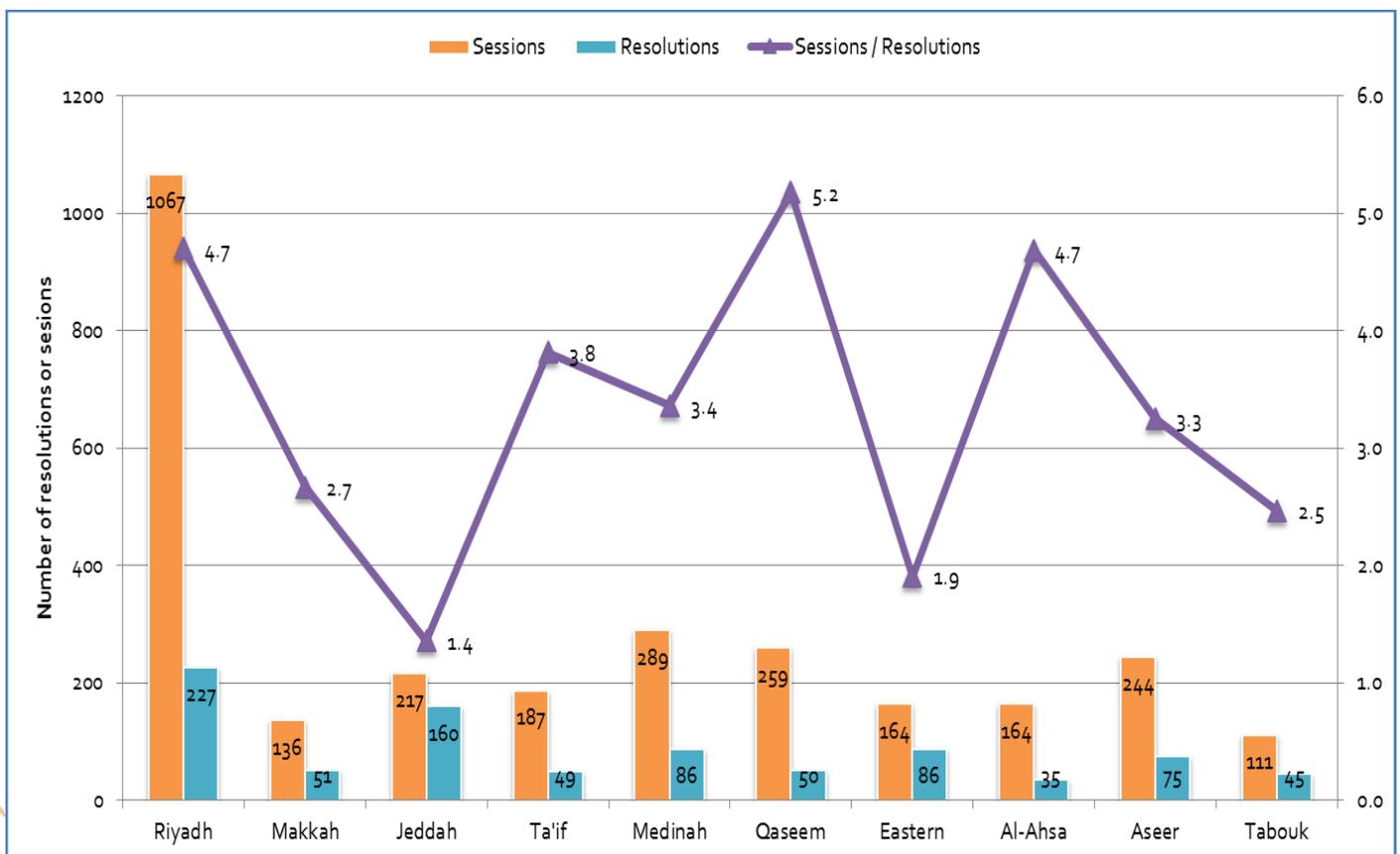


Figure 28.3: Number of sessions and resolutions of the Medical Legal committees by region, 2013

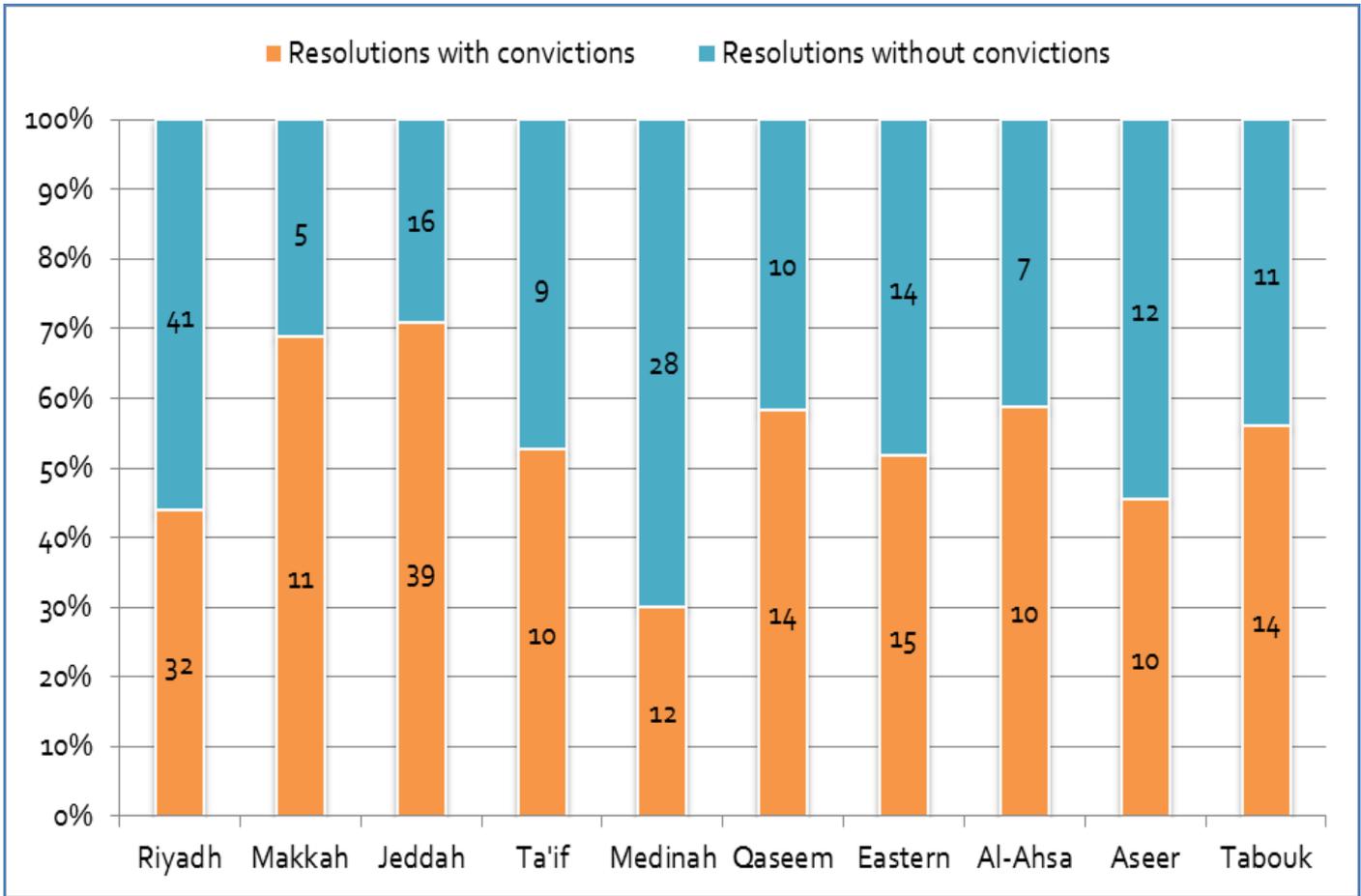


Figure 28.4: Distribution of resolutions of medical malpractice death cases issued by the Medico Legal committees according to conviction and by region, 2013

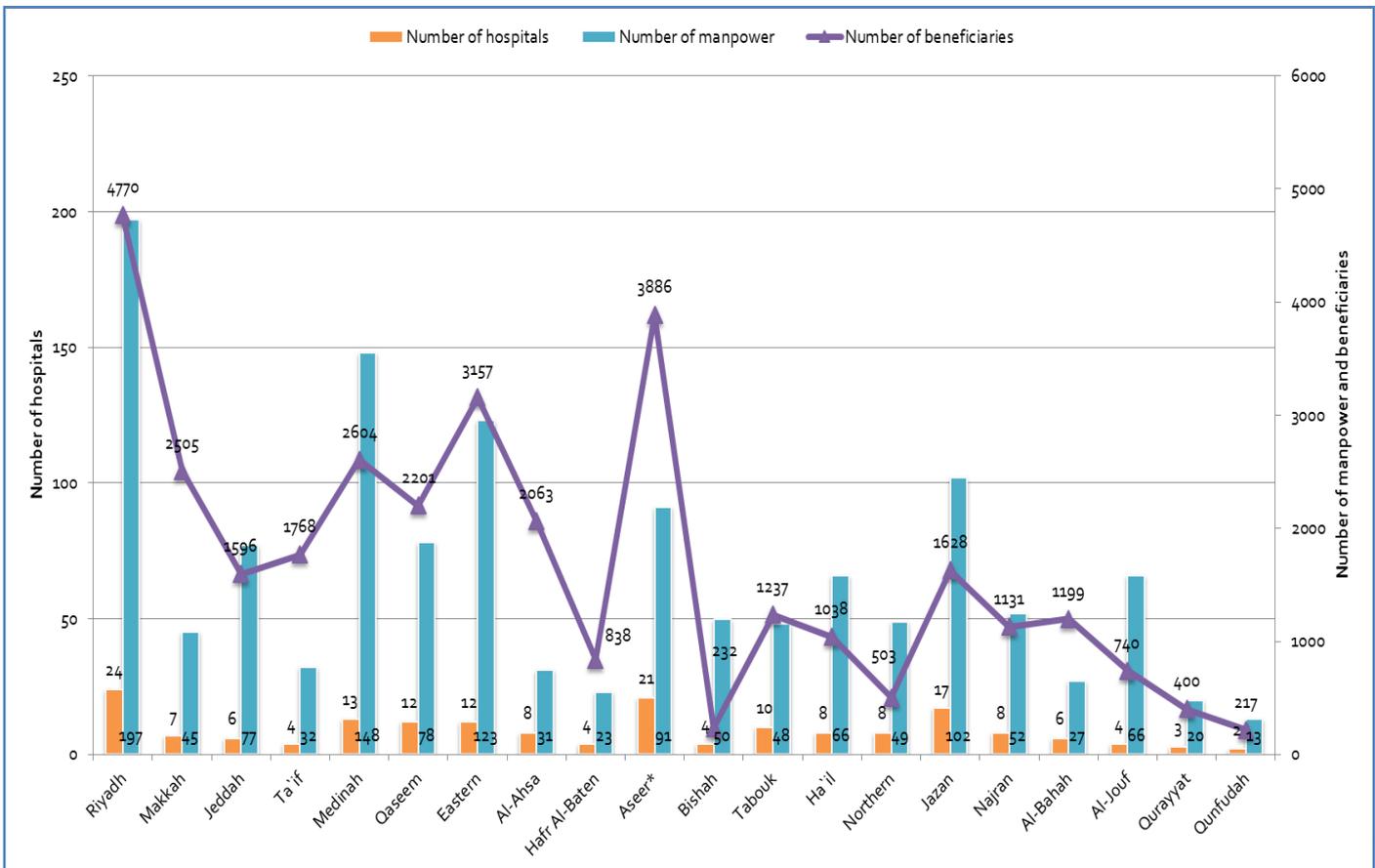


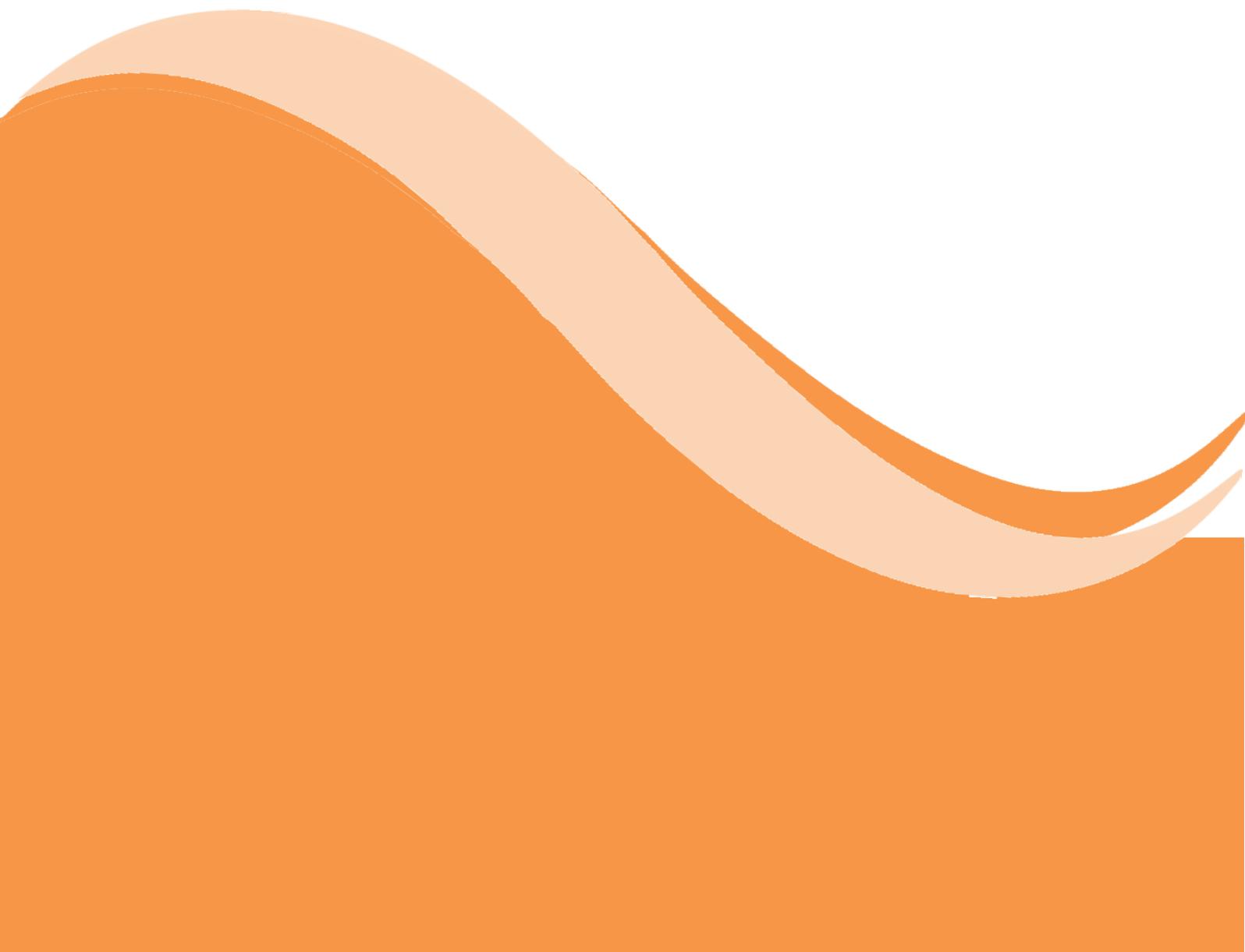
Figure 28.5: Number of MOH hospitals implementing the Home Health Care Program (showing number of manpower and beneficiaries) by region, 2013

SECTION IV.

HEALTH SERVICES AND ACTIVITIES



Chapter 29: Deaths registered at MOH hospitals



29.

DEATHS REGISTERED AT
MOH HOSPITALS

The national death registry operates based on a comprehensive surveying of all deaths occurring inside the MOH hospitals, in addition to those occurring outside the hospitals. The death statistics are then notified to the Statistics Department at the MOH, where they are coded in accordance with the International Classification of Diseases (ICD)-10. In total, 49,103 deaths were registered in the MOH in the year 2012, of which 31,116 are Saudi nationals (63.4%) and 17,987 are Non-Saudis (36.6%).

Figure 29.1 shows the distribution of deaths registered among Saudis in the hospitals of the MOH according to different disease groups and gender for the year 2012. The total number of deaths among Saudi nationals is 31,116, of which 19,236 are males (61.8%) and 11,880 are females (38.2%). Among the disease groups, the highest number of deaths registered is under the group of 'ill-defined symptoms and conditions' (7,968 deaths), which represents 25.6% of total deaths registered for Saudi nationals.

Figure 29.2 shows the distribution of deaths registered among Non-Saudis in the hospitals of the MOH according to different disease groups and gender for the year 2012. The total number of deaths among Non-Saudis is 17,987, of which 12,938 are males (71.9%) and 5,049 are females (28.1%). Among the disease groups, the highest number of deaths registered is under the group of 'ill-defined symptoms and conditions' (6,642 deaths), which represents 36.9% of total deaths registered for Non-Saudis.

Table 29.1 displays the trend in number of deaths by disease groups during the time period of 2008-2012.

TREND OVER TIME...

Between the years 2008 and 2012, the total number of deaths registered at the MOH hospitals decreased by 5.1% (46,720 to 49,103 deaths).



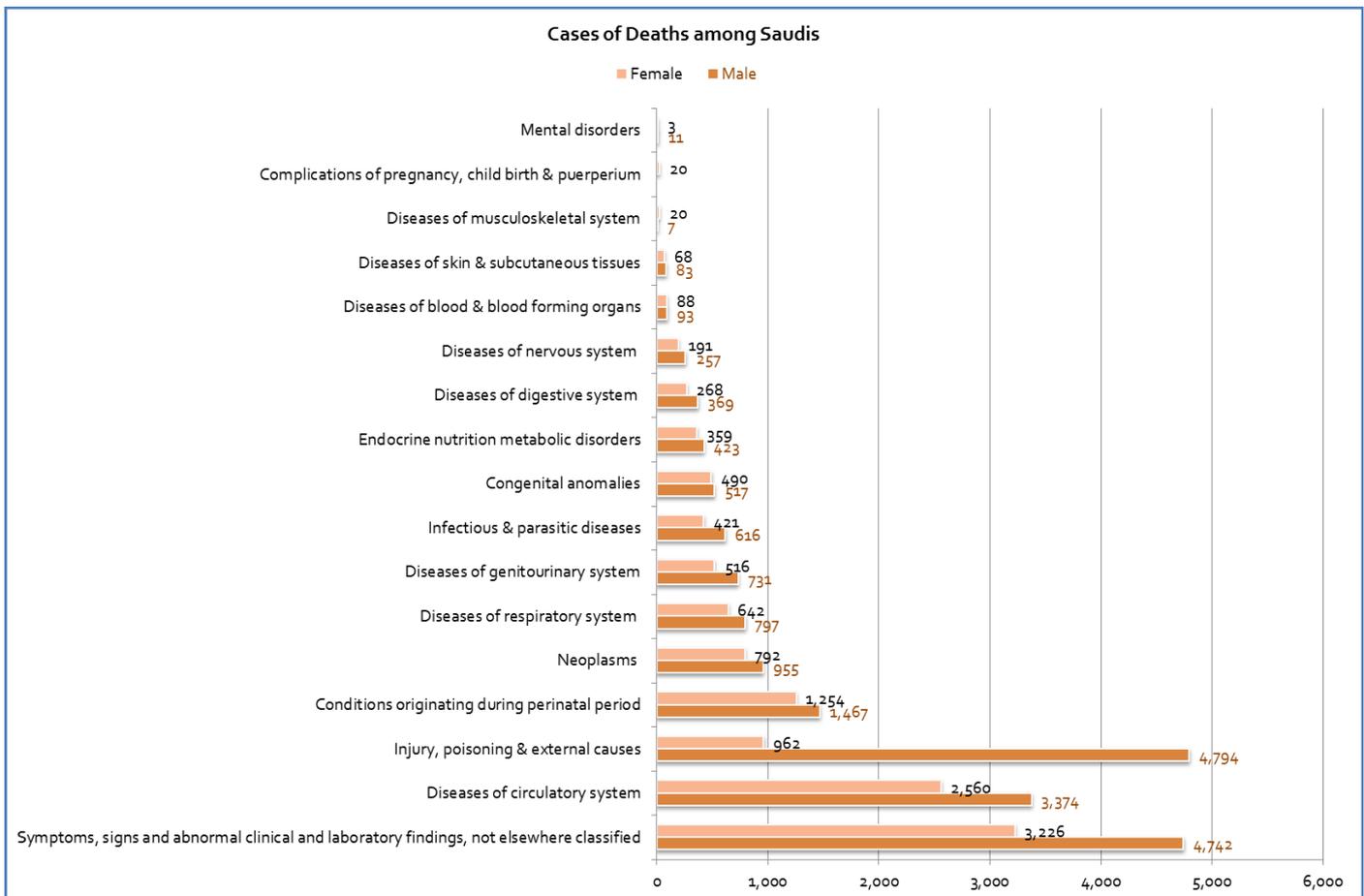


Figure 29.1: Deaths among Saudis registered at the MOH hospitals by disease group and gender, 2012*

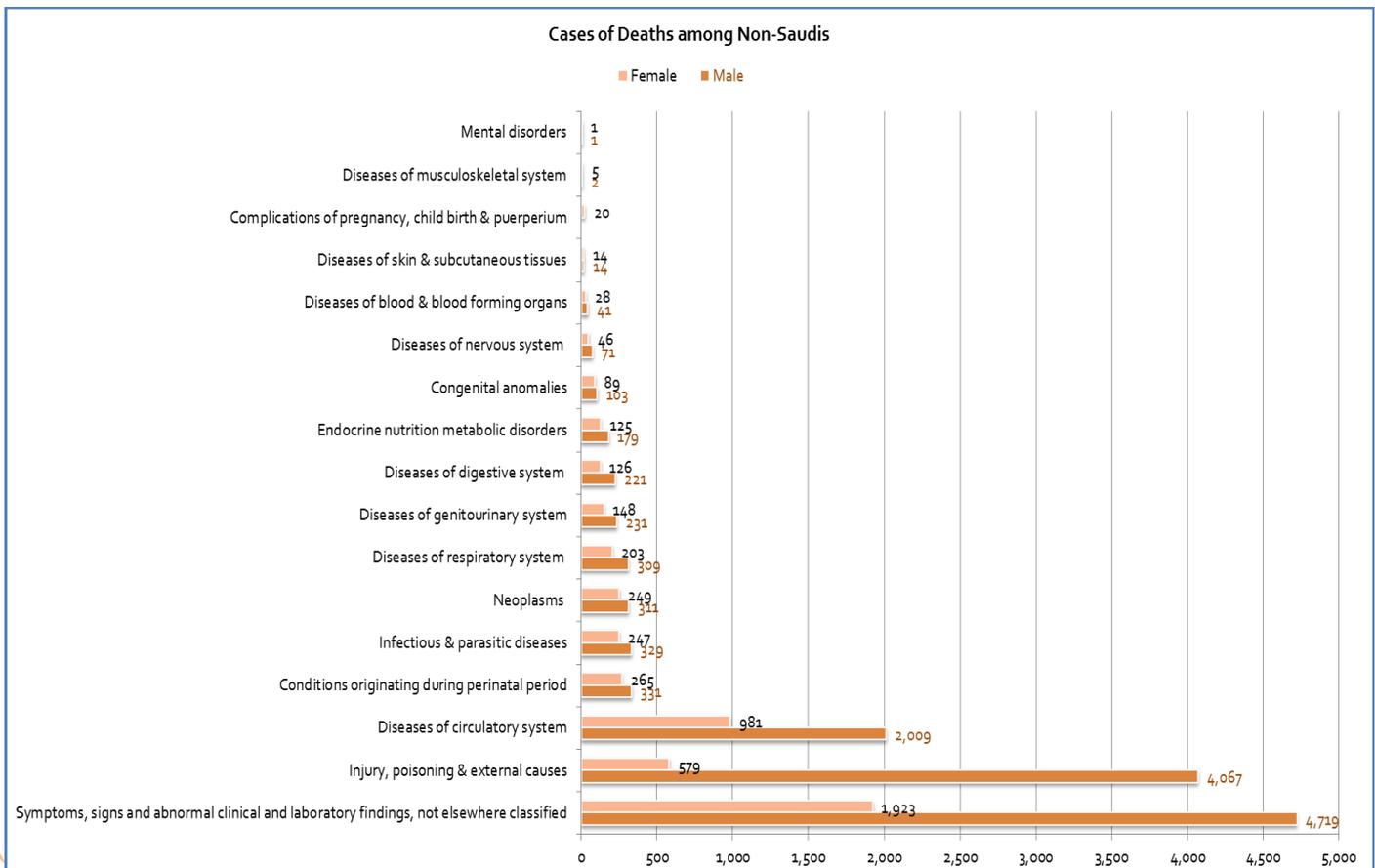


Figure 29.2: Deaths among non-Saudis registered at the MOH hospitals by disease group and gender, 2012*

* 2013 data not available

Table 29.1: Mortality trends by diseases groups, 2008-2012*

Disease group	ICD-10	2008		2009		2010		2011		2012	
		Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Ill-defined symptoms & conditions	(R00-R99)	13,452	28.8%	13,693	30.9%	14,622	31.6%	13,640	30.5%	14,610	29.8%
Diseases of circulatory system	(I00-I99)	8,403	18.0%	7,705	17.4%	7,748	16.7%	8,607	19.2%	8,924	18.2%
Injury, poisoning & external causes	(S00-Y89)	8,761	18.8%	8,130	18.3%	8,355	18.0%	7,702	17.2%	10,402	21.2%
Conditions originating during perinatal period	(P00-P96)	4,486	9.6%	3,773	8.5%	4,190	9.1%	3,729	8.3%	3,317	6.8%
Neoplasms	(C00-D48)	2,254	4.8%	2,034	4.6%	2,198	4.7%	2,028	4.5%	2,307	4.7%
Diseases of respiratory system	(J00-J99)	1,854	4.0%	2,068	4.7%	1,892	4.1%	1,824	4.1%	1,951	4.0%
Congenital anomalies	(Q00-Q99)	1,216	2.6%	1,095	2.5%	1,233	2.7%	1,214	2.7%	1,199	2.4%
Endocrine nutrition metabolic disorders	(E00-E90)	1,021	2.2%	1,012	2.3%	1,140	2.5%	1,193	2.7%	1,086	2.2%
Infectious & parasitic diseases	(A00-B99)	1,624	3.5%	1,446	3.3%	1,533	3.3%	1,427	3.2%	1,613	3.3%
Diseases of digestive system	(K00-K93)	996	2.1%	853	1.9%	892	1.9%	833	1.9%	984	2.0%
Diseases of genitourinary system	(N00-N99)	1,468	3.1%	1,437	3.2%	1,430	3.1%	1,559	3.5%	1,626	3.3%
Diseases of nervous system	(G00-G99)	614	1.3%	504	1.1%	525	1.1%	514	1.1%	565	1.2%
Diseases of skin & subcutaneous tissues	(L00-L99)	269	0.6%	223	0.5%	231	0.5%	181	0.4%	179	0.4%
Diseases of blood & blood forming organs	(D50-D89)	205	0.4%	244	0.6%	223	0.5%	268	0.6%	250	0.5%
Diseases of musculoskeletal system	(M00-M99)	41	0.1%	32	0.1%	24	0.1%	24	0.1%	34	0.1%
Complications of pregnancy, child birth & puerperium	(O00-O99)	49	0.1%	57	0.1%	52	0.1%	47	0.1%	40	0.1%
Mental & behavior disorders	(F06.9)	7	0.0%	2	0.0%	4	0.0%	3	0.0%	16	0.0%
Total		46,720	100.0%	44,308	100.0%	46,292	100.0%	44,793	100.0%	44,670	100.0%

* 560 death cases were uncategorized and were not included in the table; 2013 data not available

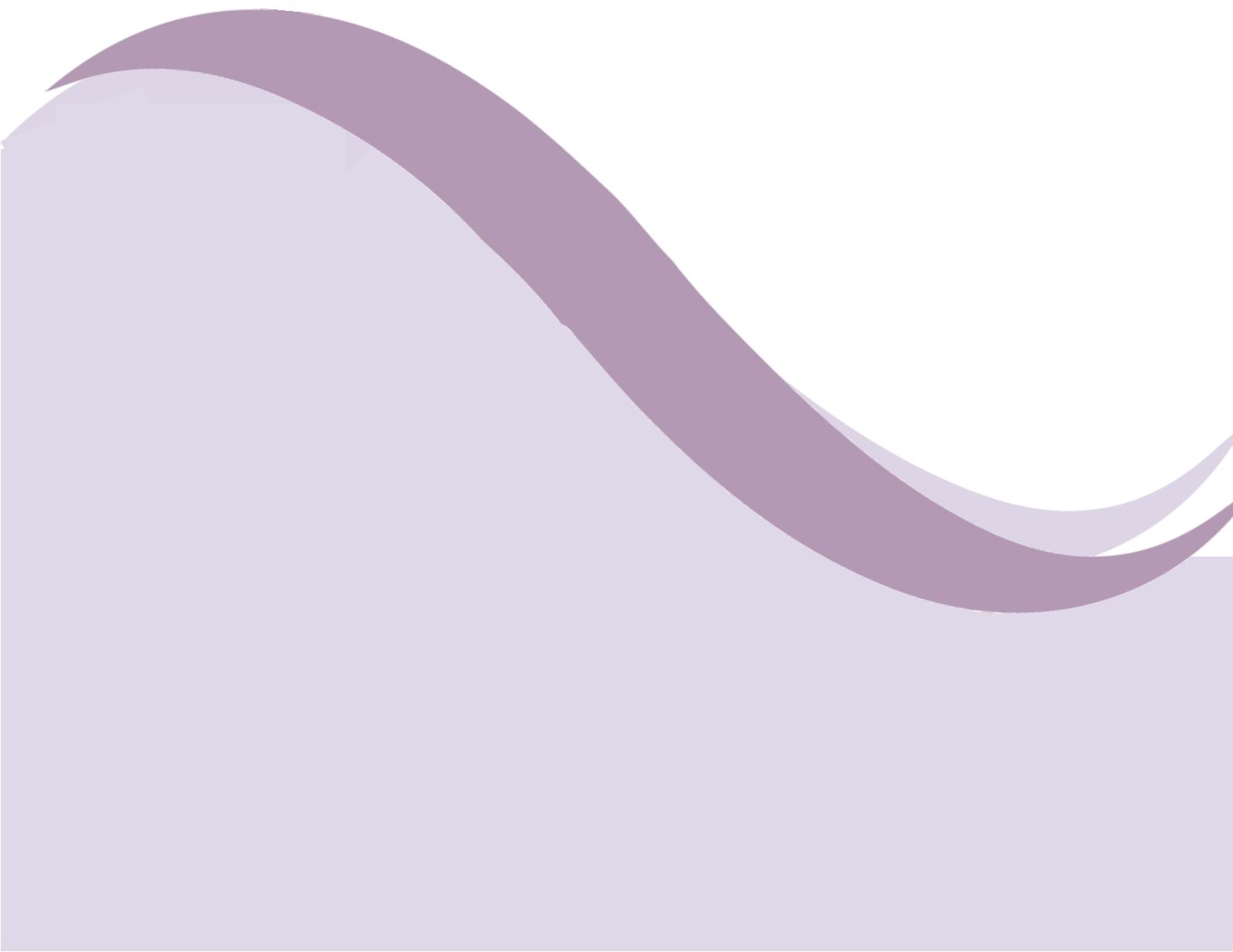
SECTION V.



HEALTH SERVICES DURING HAJJ SEASON



Chapter 30: Health Services During Hajj Season



30.

HEALTH SERVICES DURING HAJJ SEASON



The MOH in the Kingdom is honored to provide all the necessary health preventive and curative services to pilgrims. There are special requirements for visitors to the Hajj concerning vaccinations against selected diseases such as meningococcal meningitis, polio and yellow fever. This chapter displays the services provided to pilgrims by the MOH in that regards.

1. Pilgrims numbers

As shown in Figure 30.1, the number of pilgrims during the year 1434H was 1,980,249, with around 70% of those coming from outside the Kingdom.

2. Health facilities and beds

Table 30.1 shows the following: the MOH equipped 23 hospitals to serve the pilgrims of which 8 hospitals were seasonal. A total of 4,326 hospital beds were available, representing a rate of one bed per 458 pilgrims. Additionally, there were 110 emergency beds. The MOH, as well, provided 154 health centers for the pilgrims of which 112 were seasonal. On average, each health center served 12,858 pilgrims.

3. Manpower

Figure 30.2 shows the number and distribution of manpower recruited to work in the pilgrimage season of 1434H. The total number of personnel was 21,732, of which 79% were physicians, nurses and allied health professionals. On average, each physician served 474 pilgrims, each nurse 290 pilgrims, and each allied health professional 316 pilgrims.

4. Activities of Quarantines

The number of health control centers at entry points was 25 distributed at airport, seaports and land ports; 15 centers of which are serving the pilgrims. As displayed in Table 30.2, the total number of pilgrims coming from outside and who were registered at points of entry was 1,344,004. Chemoprophylaxis was provided to 286,548 pilgrims as a preventive measure for some infectious diseases. Vaccination against poliomyelitis was given to 430,490 pilgrims.

TREND OVER TIME...

The total number of pilgrims during the Hajj season has increased by 55% during the time period of 1423-1433H before it witnessed a decrease in 1434H

5. Outpatients and Inpatients

The total number of outpatient visits to hospitals and health centers in this year was 659,146, representing a decrease of 20.9% from the previous year. Furthermore, the rate of outpatients' visits to health centers and hospitals in relation to pilgrims' number was around 33 visits/ 100 pilgrims. The total number of hospital emergency visits in this year was 31,218. On average, the rate of first aid cases/100 pilgrims was found to be 1.5 cases/100 pilgrims. The total number of hospital inpatient visits during this season was 3,502, representing a rate of 18/10,000 pilgrims.

6. Sun Stroke and Heat Exhaustion

No cases of sun stroke have been recorded in year 1434H. However, 127 cases of heat exhaustion were recorded in total.

7. Deaths

The total number of deaths among pilgrims registered in the hospitals of MOH, during this pilgrim season 1434H in Makkah, sacred places and Medinah, was 311. Additionally, 63.7% of deaths occurred outside hospitals. Table 30.5 and Figure 30.6 show the number of cases of death by region, place and nationality; 90.9% of deaths have been registered in Makkah hospitals and 99% of deaths occurred among pilgrims were recorded among Non-Saudis. Table 30.6 displays the distribution of occurred deaths among pilgrims by cause and region.

KEY ACHIEVEMENTS ...

The number of deaths among pilgrims during the pilgrim season of 1434H was almost half the number recorded the year before. Furthermore, during the time period of 1433-1434H, the rate of deaths decreased from 2.33/1,000 pilgrim to 1.57/1,000 pilgrim (32.6%).

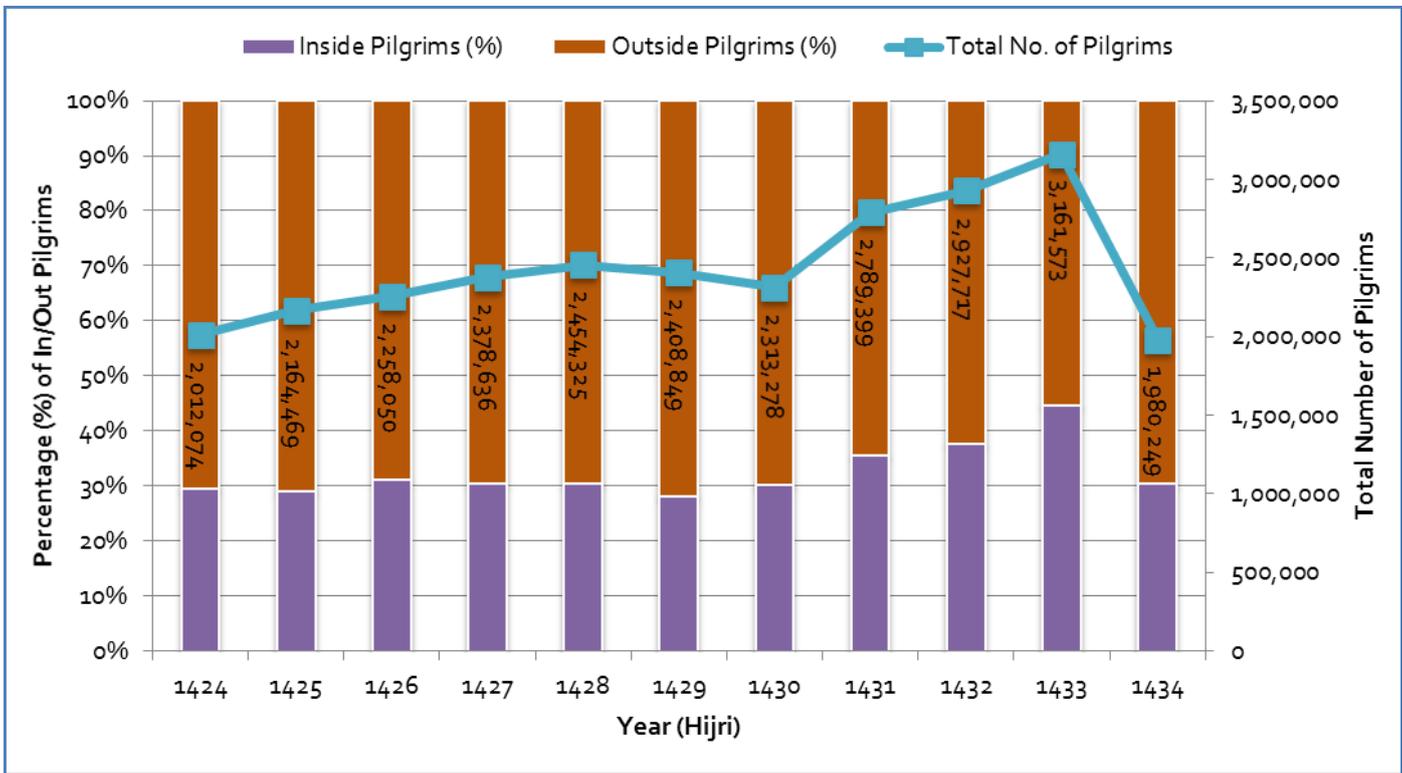


Figure 30.1: Pilgrims from inside and outside of the Kingdom, 1424-1434H

Table 30.1: Permanent and seasonal health facilities by region in Hajj season, 1434H

Data	Makkah	Sacred places	Medinah	Total
Permanent hospitals	8	0	7	15
Seasonal hospitals	0	8	0	8
Permanent Health Centers	31	0	11	42
Seasonal Health Centers	12	96	4	112
Hospital beds	2,068	1,447	811	4,326
Emergency beds	0	0	110	110
Heat exhaustion beds	0	0	12	12
Cooling units	0	2	10	12

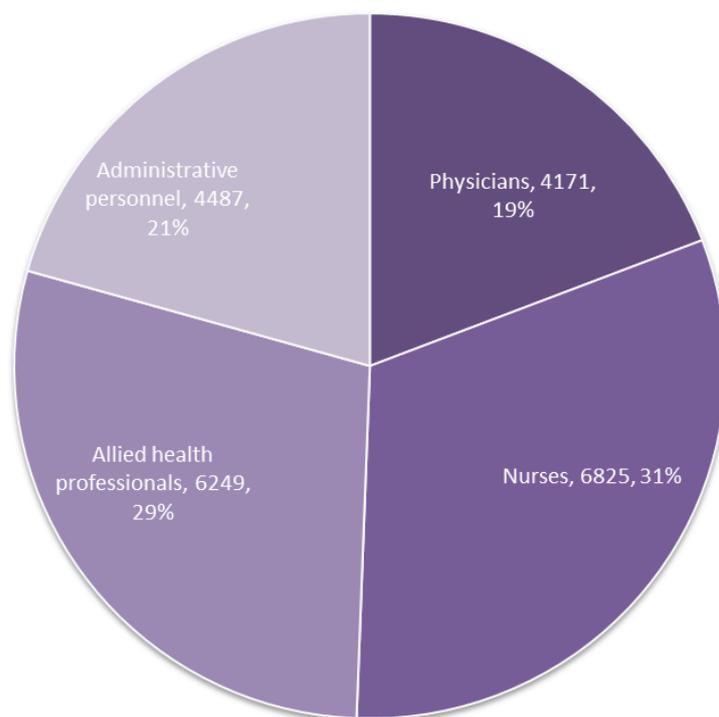


Figure 30.2: MOH health manpower devoted to Hajj season, 1434H

Table 30.2: Activities of health centers control at entry points (preventive care) during Hajj season, 1434H

Health quarantines	Registered Pilgrims	Prophylactic	Poliomyelitis vaccine*
Airports	1,265,356	246,296	430,333
Seaports	14,819	14,819	0
Land ports	63,829	25,433	157
Total	1,344,004	286,548	430,490

* Given to children and pilgrims coming from endemic areas

Table 30.3: Outpatient visits and admissions to permanent and seasonal hospitals and health centers during the period 1-15/12 in Makkah and Sacred places and during the period 15/11-15/12 in Medinah, in seasons, 1433&1434H

Data	Region	Makkah		Sacred places		Medinah		Total	
		1433	1434	1433	1434	1433	1434	1433	1434
Outpatients visits	Health Centers	105,867	101,1158	319,035	244,484	212,328	165,433	637,230	511,075
	Hospitals	21,753	42,151	147,233	81,536	26,820	24,384	195,806	148,071
Hospital Emergency visits		36,845	16,624	16,486	8,556	9,927	6,038	63,258	31,218
Total		164,465	159,933	482,754	334,576	249,075	195,855	896,294	690,364
Inpatients		1,630	1,368	2,735	1,722	313	412	4,678	3,502

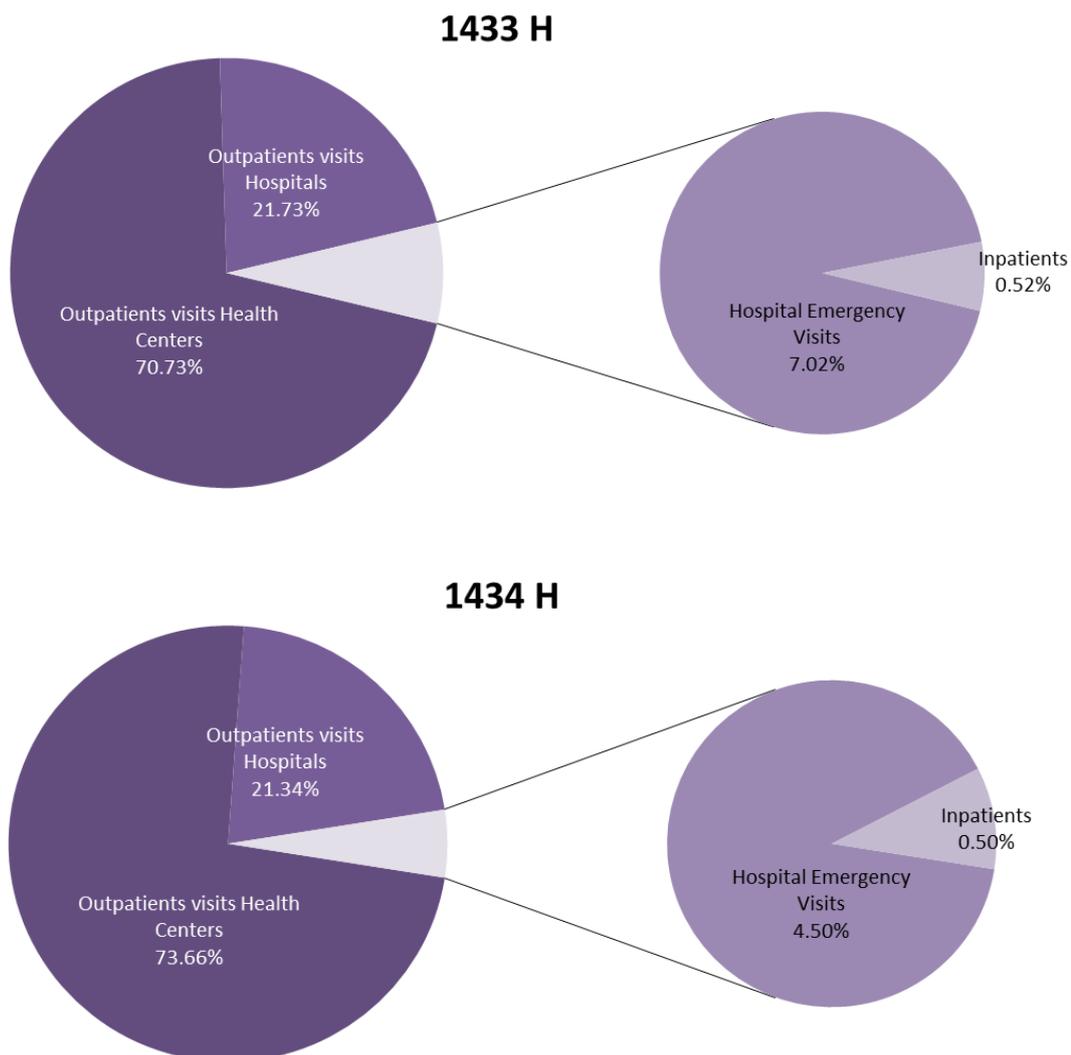


Figure 30.3: Outpatient visits, hospital emergency visits and inpatients during Hajj season, 1433&1434H

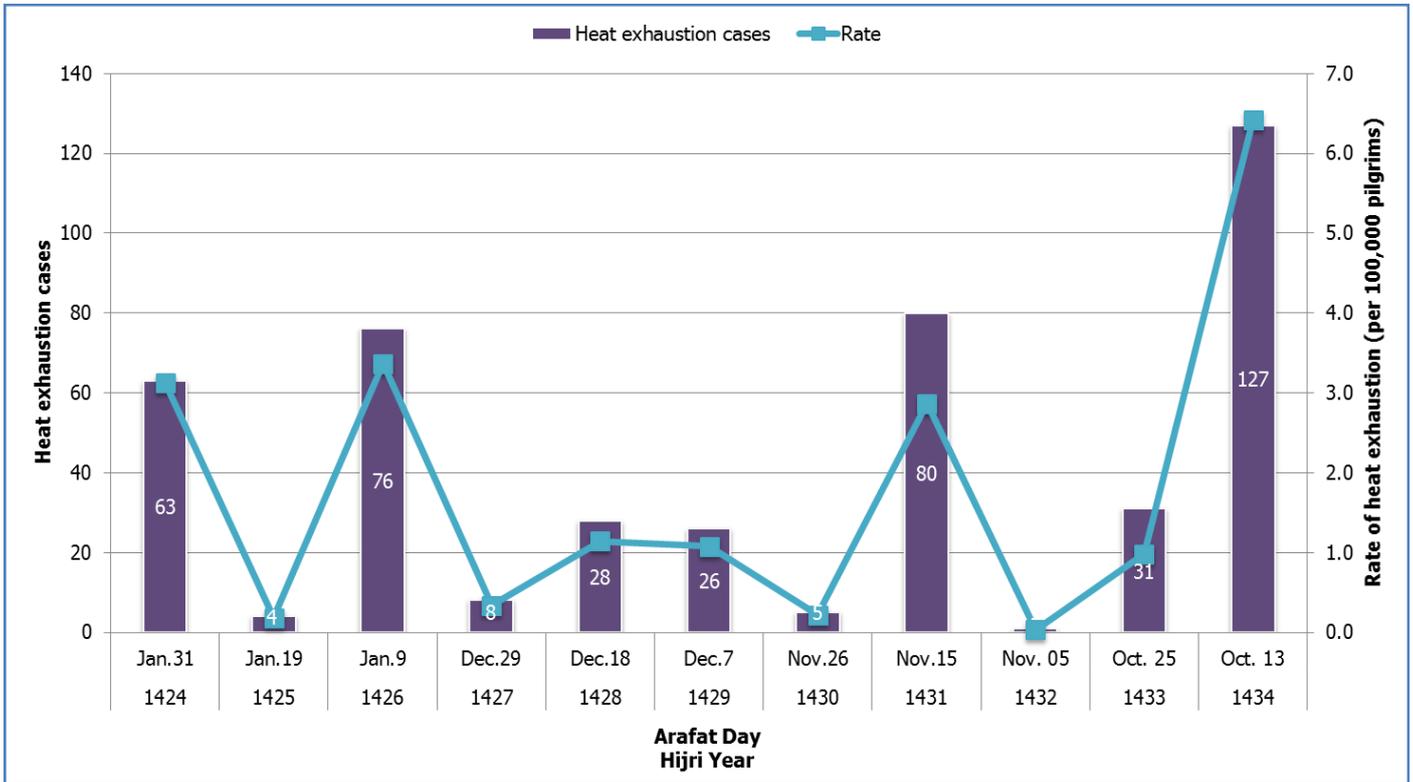


Figure 30.4: Cases and incidence rates of heat exhaustion (per 100,000 pilgrims) during the period 1-15/12 , 1424-1434H

Table 30.4: Total deaths inside & outside hospitals by place of death during the period 1-15/12, Hajj Seasons 1432-1434H

Place of Death	Makkah & sacred places			Medinah*		
	1432	1433	1434	1432	1433	1434
Inside hospital	155	192	92	32	40	21
Outside hospital	506	441	163	68	66	35
Total	661	633	255	100	106	56
% Deaths inside hospital	23.4	30.3	36.1	32.0	37.7	37.5

* In 1432-1434 H, the period is during 15/11 –15/12

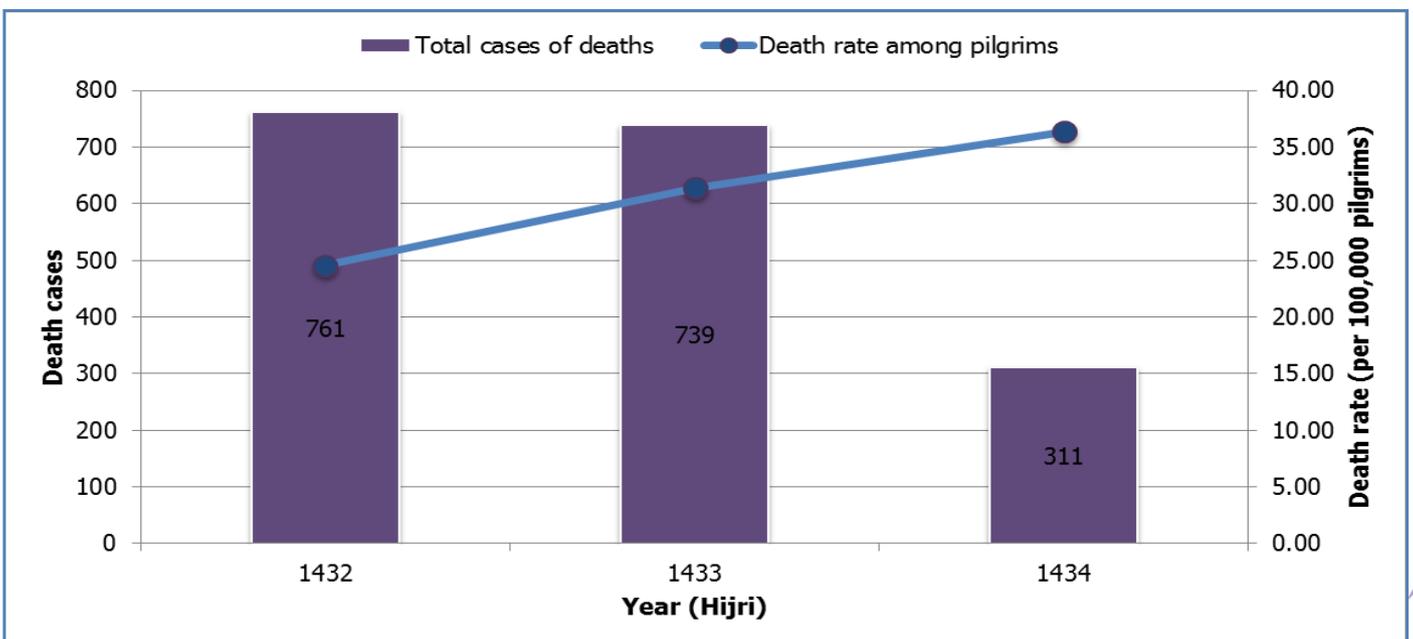


Figure 30.5: Total deaths inside & outside hospitals during the period 1-15/12, Hajj Seasons 1432-1434H

Table 30.5: Cases of death by place of death and nationality during the period 1-15/12 in Makkah and Sacred places and during the period 15/11-15/12 in Medinah, 1433H*

Place of death	Makkah			Sacred places			Medinah			Total		
	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total	Saudi	Non-Saudi	Total
Inside hospital	0	86	86	0	59	59	0	20	20	0	165	165
Outside hospital	0	290	290	5	101	106	0	24	24	5	415	420
Total	0	376	376	5	160	165	0	44	44	5	580	585
% Deaths of Pilgrims	0	100	64.3	3	97	28.2	0	100	7.5	0.85	99.15	100

* 1434H data are not available

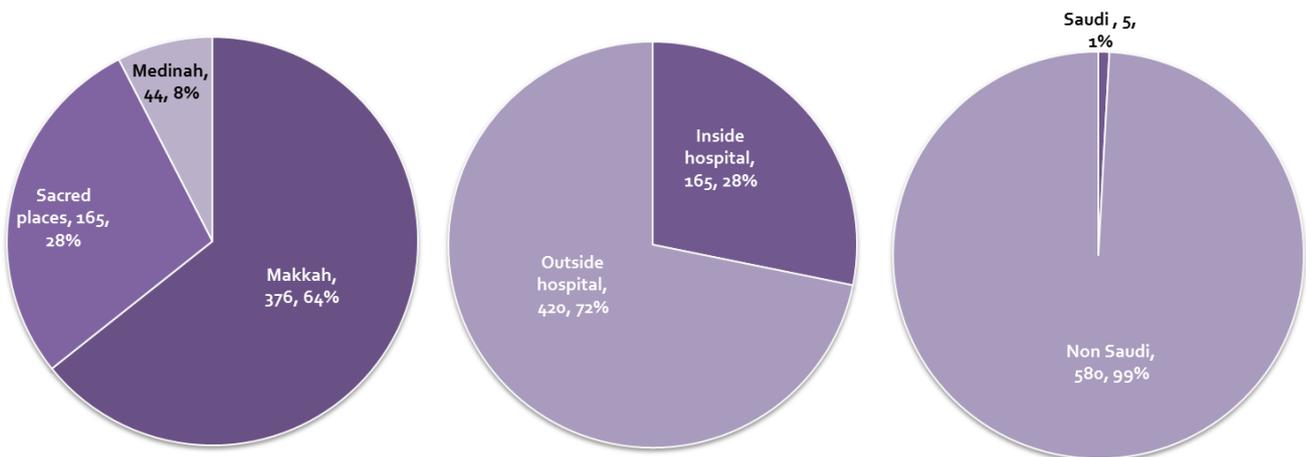


Figure 30.6: Total death by region (right), place of death (middle) and nationality (left), 1433H*

* 1434H data are not available

Table 30.6: Pilgrims deaths by cause and region during 1-15/12 in Makkah and Sacred places and during the period 15/11-15/12 in Medinah, 1434H

Cause of deaths	Makkah & Sa- cred places	Medinah	Total	Percentage of total deaths (%)
Diarrhea & gastroenteritis	0	0	0	0.00
Infectious & Parasitic Dis.	2	0	2	0.64
Septicemia	6	3	9	2.89
Pulmonary T.B.	2	0	2	0.64
Diabetes mellitus	7	0	7	2.25
Heart & BL. Vessels Dis.	121	12	133	42.77
Hypertension	9	2	11	3.54
Cerebrovascular Dis.	5	5	10	3.22
Pneumonia, Asthma & Bronchitis	17	5	22	7.07
Other dis. of Respiratory Syst.	7	0	7	2.25
Dis. of Digestive System	9	3	12	3.86
Renal failure	11	2	13	4.18
Cardiorespiratory failure	0	0	0	0.00
Senility	1	1	2	0.64
Fractures, Injuries, Falls, Poisoning and Burns	6	1	7	2.25
Traffic accidents	8	1	9	2.89
Sun stroke	2	0	2	0.64
Ill-Defined Cause	16	19	35	11.25
Other causes	26	2	28	9.00
Total	255	56	311	100.00

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