



الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties

Report of the Incidence and Prevalence of Diseases and other Health Related Issues in Saudi Arabia

A study for the SMLE Blueprint Project

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Overview and Purpose of the Review

Presently, the Saudi Medical Licensure Examination (SMLE) must be passed as part of the process leading to practice in Saudi Arabia. The intent of the SMLE is to assess the medical knowledge and clinical decision-making ability of a candidate at an entry-level general practitioner whom are expected to provide safe and effective patient care for the Saudi Nation.

The **primary** purpose of this report is to review and summarize the frequency of most responsible diagnoses as seen in the Saudi context by using existing data. This includes data from Ministry of Health (MOH) statistical book. The data includes common cases, and operations witnessed in MOH hospitals during 2015-2016. Another source is a Global Burden of Disease study that includes lists of the top conditions/diseases with the greatest burden on the population health in Saudi Arabia reported by the Institute of Health Metrics and Evaluation. The inclusion of these prevalent conditions in medical licensure examinations would help ensure that doctors are adequately prepared to treat today's Saudi population's major health concerns.

As a **secondary** purpose, this report includes a review of certain areas of importance for the practice of medicine which may not be well represented by patient presentations/diagnoses, such as population health (in Hajj seasons), Patient Safety issues and Medical Malpractice issues.



A Snapshot of Health Care in Saudi Arabia

In 2016, the population of Saudi Arabia was over 31 million individuals, all of whom require health care services in some capacity. In 2016, children and youth under 15 years of age represent (30.35%) of the Saudi population; adults 15 to 64 years of age represent 65.46%; whereas seniors over the age of 65 comprise 4.17% of the population. In 2016, Ministry of Health Statistical yearbook reported the total number of visits to the primary health care centers, private, general and polyclinics in 2016 was nearly 138 Million visits; 3451377 cases represented the total number of inpatients in the hospitals of all health sectors: 49.4% of them were in MOH hospitals. The statistical yearbook also reported 49,817,811 visits to Health centers and 64,346,910 visits to Outpatients of MOH hospitals.

In 2016, the MOH published its annual statistical book detailing health activities and services provided across Saudi Arabia. The report outlines cases related to complications of pregnancy, children, and gynecology, MOH hospitals, injury cases by type of injury, gynecology operations in MOH hospitals by type of operations, deliveries in MOH hospitals by type of delivery, operations in MOH hospitals by hospital sections and cases of malignant tumors registered in KFSHRC Riyadh & Jeddah. The report, also, includes lists of most common causes of premature mortality and conditions with the highest burden. Findings from this report will contribute to our knowledge of incidence and prevalence of disease in Saudi Arabia.

Studying statistics of such cases and conditions will contribute to the drafting of a framework that outlines what should be included and assessed by establishing the grounds of our knowledge of incidence and prevalence of disease in Saudi Arabia. SMLE will focus on such cases and conditions which will be seen frequently by future doctors. (See Tables 1-8 in Appendix 1).



Health of the Population (Hajj Season)

Public health refers to a population-health based approach. The public health aims to monitor health status, promote health, and prevent diseases and injuries through various activities including population health assessment, health protection, and emergency preparedness.

Health practitioners practicing in Saudi Arabia have great opportunities to be exposed to public health in the field of Hajj as there is a high chance to be recruited among Hajj healthcare programs. Thus, physicians must possess a strong knowledge base in the domain of public health in a way that enables them to meet the needs of hajj public health system.

It is noteworthy that MOH pursues its program “Safe Surgery Saves Lives” (SSSL), which features providing free specialized healthcare services, including open-heart surgeries, cardiac catheterization, kidney blood and peritoneal dialysis, alimentary endoscopy, obstetrical cases, in addition to other specialized services needed by pilgrim patients.

In 2017, More than 29,000 health practitioners - including various medical, technical and administrative groups - were commissioned under Hajj Manpower Program. Physicians, nurses and allied health personnel constituted 76% of the assigned manpower. In average, a physician served 425 pilgrims.

Nevertheless, there are many steps being taken to enhance public health practice in Saudi Arabia. The future vision is that “all physicians graduating from Saudi medical schools should be able to practice medicine with the concepts of public health as key elements in their day-to-day activities, as well as seeing themselves as a key component of the public health system”.



Patient Safety

To provide safe care to patients, it is important for physicians to have clear understanding of safety issues and patient safety concepts. The Canadian Patient Safety Institute (CPSI) has developed a safety competencies framework to help health professionals to improve the health of their patients. Six overarching competencies have been developed to enhance safe practices: (1) contribute to a culture of patient safety, (2) work in teams for patient safety, (3) communicate effectively for patient safety, (4) manage safety risks, (5) optimize human and environmental factors, and (6) recognize, respond to and disclose adverse events. The competencies describe the knowledge, skills, and behavior necessary for the safe care of patients.

Recently, the American College of Physicians has published patient safety strategies which the authors strongly recommend be adopted. Although these strategies are proposed for an American patient population, they are in keeping with prior research from the CPSI.

The Saudi Patient Safety Center (SPSC) is a national body that aims to raise awareness and knowledge of patient, strengthen and improve the culture of best practices in patient safety in all health institutions, study and research to improve the quality of health facilities.

SPSC will frequently issues patient safety alerts with recommendation action items. SMLE will include common patient safety issues, as familiarity with published strategies are required to further improve the health of their patients.



Medical Malpractice

In an effort to reduce medical malpractice, the General Directorate of Forensic Medicine Centers at MOH has issued a statistical report about the Medical Malpractice in Saudi Arabia. The report tackled the specialties of the convicted practitioners concluded by the forensic health centers during the years 1434 H – 1437 H.

The data manifested that the practitioners specialized in OB/GYN were the most likely to be convicted of malpractice during the last four years. Following them were practitioners specialized in general surgery in the years 1434 H - 01436 H. Internal Medical practitioners came in third place in the years 1434 and 1436.

By shedding light on the most common medical malpractices in Saudi Arabia, the SMLE may play a vital role in addressing the systemic malfunctions in order to ensure the safe practice of general practitioners.

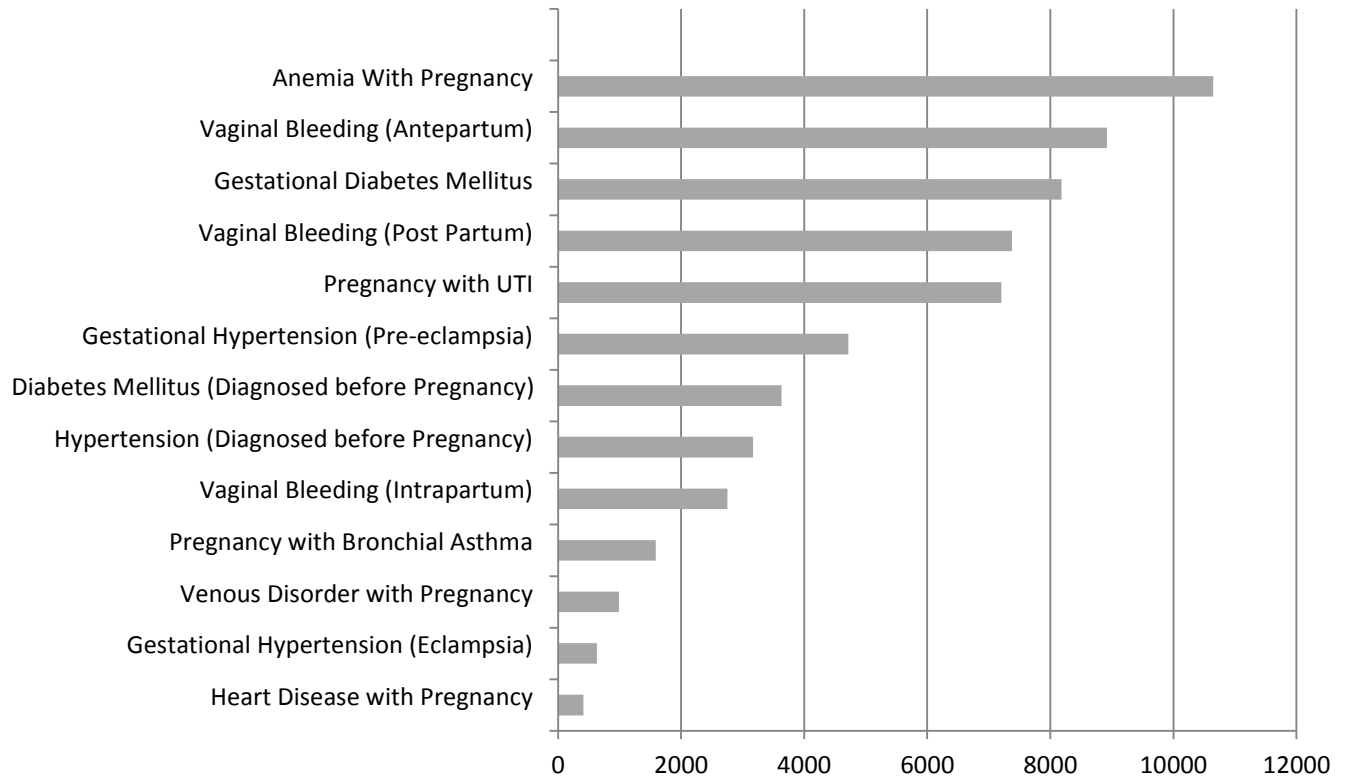
Summary

The intent of the SMLE is to assess the medical knowledge and clinical decision-making ability of a candidate at an entry-level general practitioner. This review outlines the most common cases and conditions in the Saudi population. It also provides information about other health related issues that are necessary for the improvement of Saudis' health and establishing the SMLE blueprint.



Appendix 1

Table 1: Cases related to complications of pregnancy and childbirth, MOH Hospitals



SMLE: EVI



Table 2: Total Injury Cases in the Kingdom by type of injury (1436 H)

Type of Injury	# Cases
Fracture in lower limbs	21585
Fracture in upper limbs	19976
Bruises	19476
Head injury	16991
Fracture in spine	13272
Chest injury	5536
Deep wounds	2198
Abdominal injury	1964
Asphyxia	467
First degree burn	395
Second degree burn	250
Third degree burn	134



Table 3: Some Gynecology Operations in MOH Hospitals by Type of Operations (1437 H)

Type of Operation	# Cases
Evacuation	20052
D&C	6848
Hysterectomy	628
Removal of Ovarian Tumours	370
Correction of prolapse	135
Anal fistulae	34
Urinary fistulae	34



Table 4: Deliveries in MOH Hospitals by Type of Delivery

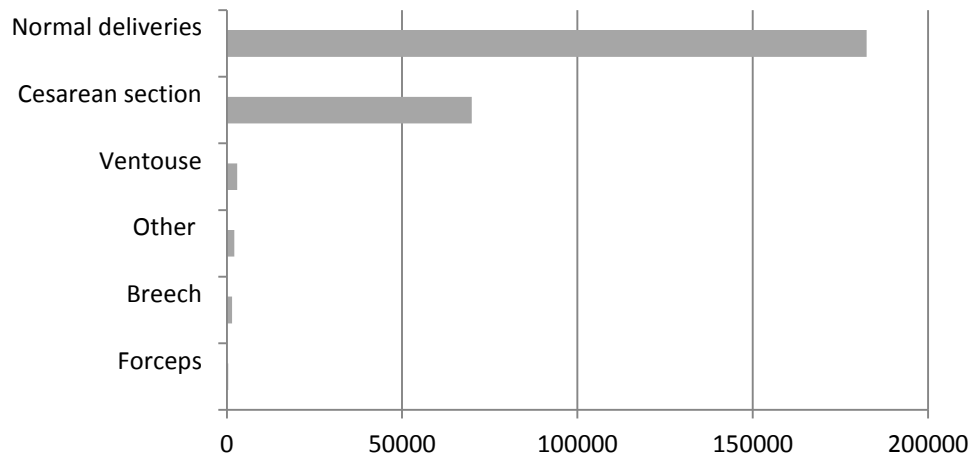


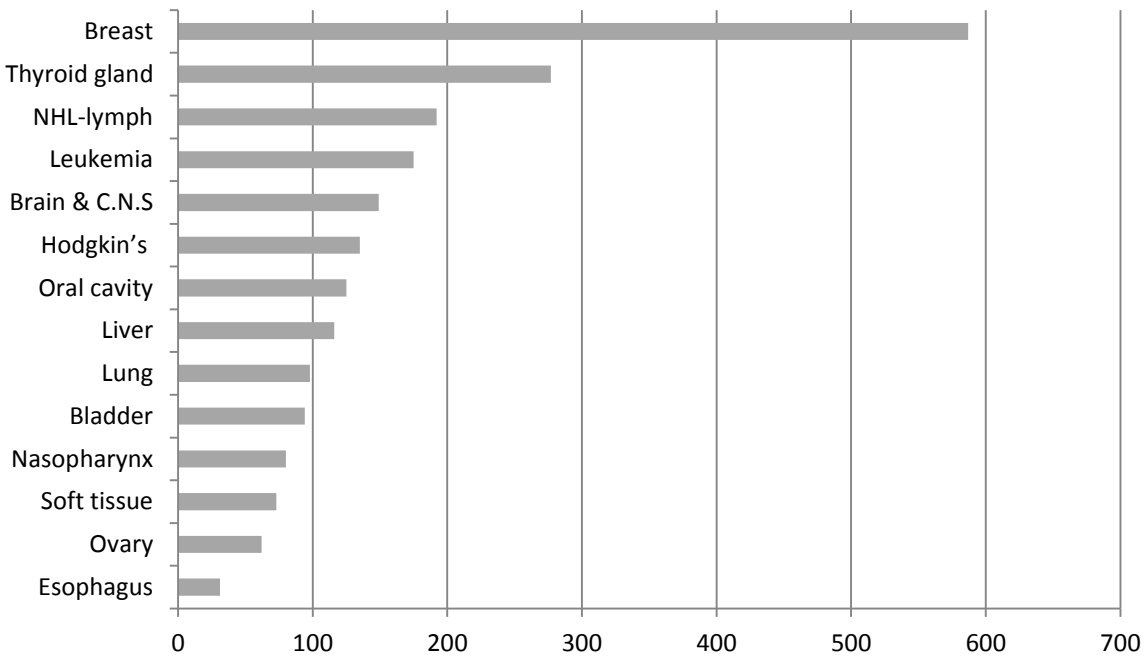


Table 5: Operations in MOH Hospitals by Hospital Sections (1436 H)

Sections	# Cases
General	119981
OBS\GYN	116123
Ophthalmology	82345
Orthopedics	55472
ENT	28452
Plastic	20974
Urology	18400
Pediatrics	18291
Others	13768
Faciodental	13085
Cardiac, Chest & vascular	9442
Neurology	7901



Table 6: Cases of Malignant Tumors Registered in KFSHRC Riyadh & Jeddah



SMLE: Evidence



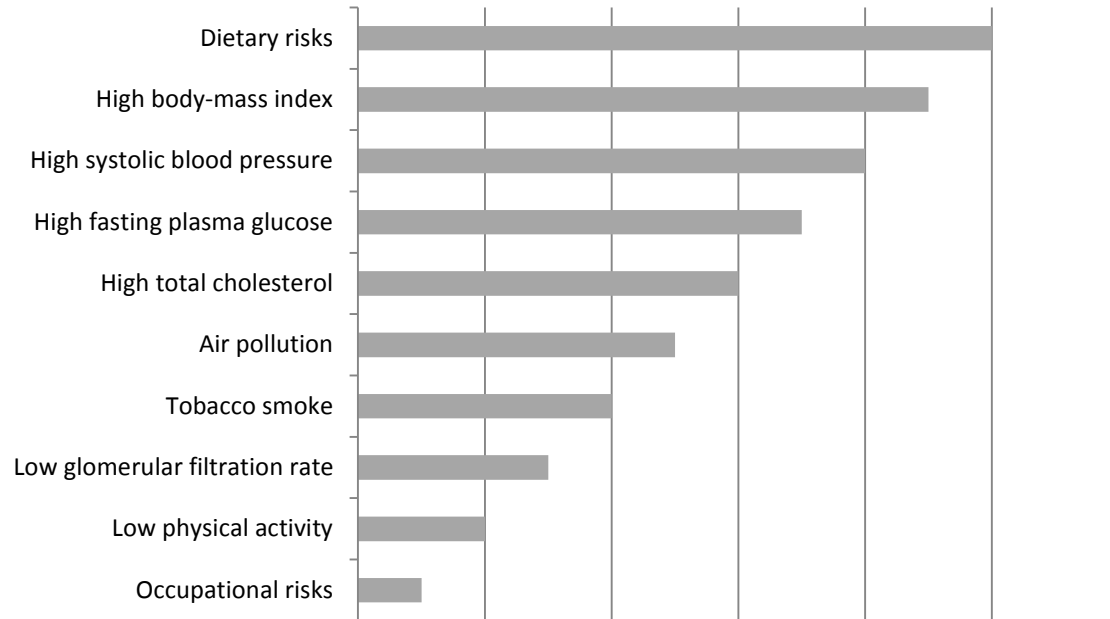
Table 7: Top 10 causes of premature mortality

Rank	Disease	YLLs per 100,000
1	Ischemic heart disease	2,172.10
2	Road injuries	1,103.40
3	Cerebrovascular disease	964.7
4	Congenital defects	766
5	Lower respiratory infection	560.2
6	Chronic kidney disease	504.2
7	Neonatal preterm birth	461.5
8	Alzheimer disease	394
9	Neonatal sepsis	218.4
10	Diabetes	200.9

* YLL: Years of Life Lost (years lost due to premature mortality).



Table 8: Top 10 risk factors contributing to DALY*



*DALY (disability-adjusted life year): summary measure used to give an indication of the burden of disease



Table 9: Specialties of convicted malpractice practitioners concluded by the Forensic Health Centers (MOH) during The Years 1434 H – 1437 H

Specialty	1434 H	1435 H	1436 H	1437 H
OB/GYN	167	153	155	189
General Surgery	85	64	73	66
Orthopedic Surgery	32	23	37	34
Neurosurgery	18	8	14	7
Urology	13	14	12	8
ENT	10	4	8	14
Plastic Surgery	3	7	7	7
Ophthalmology	17	12	11	21
Other Surgeries	8	12	12	12
INT Medicine	64	44	72	69
Cardiology	9	3	8	13
Dermatology	6	8	5	1
Anesthesia & critical Care	32	26	27	19
Pediatrics	41	44	59	45
Dental Surgery	30	46	44	71
Oral Maxillofacial Surgery	1	4	0	3
Radiology	12	8	5	5
Hematology	2	2	7	4
Midwifery	51	46	39	77
Other Specialties	43	28	60	32
Total	644	555	655	697

