

Abu Dhabi Health Workforce Plan

Abu Dhabi's Future Healthcare Workforce

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1 – Overview

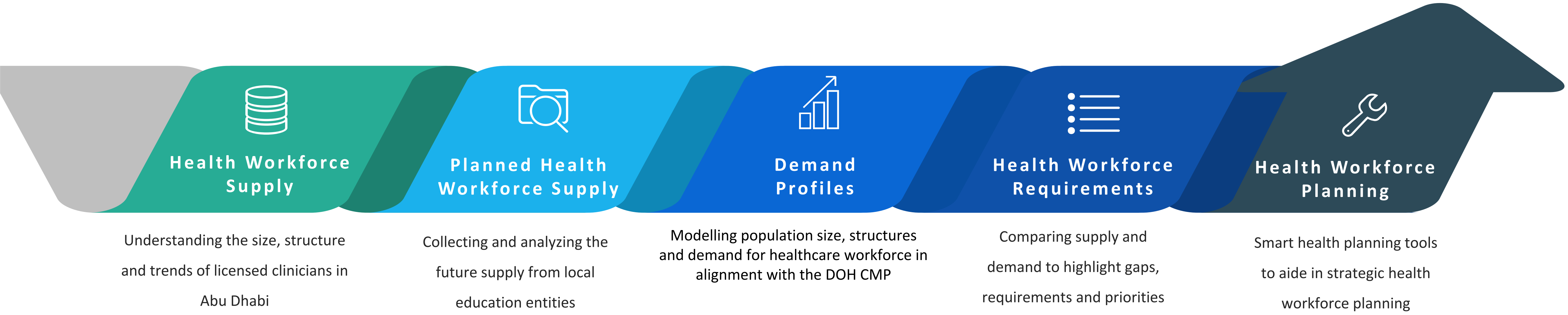
Executive Summary, Objectives & Sources

Abu Dhabi Health Workforce Plan has been developed to provide an in-depth, Emirate-wide review to assist strategies to meet health workforce shortages into the future. Its methodology, and the tools and initiatives contained within it, identify priority areas of workforce investment, Emiratization gaps within the health workforce and workforce planning opportunities to place the DOH and its partners in the best position to make strategic decisions concerning improvements of the changing healthcare sector and the health workforce requirements of Abu Dhabi population.

Work on the **Abu Dhabi Health Workforce Plan** involved:

1. A comparison of the supply and population-driven demand to identify priority areas or gaps in the market and compare it to the international rates.
2. Review of the DOH Health Workforce data bank and Academic institutions Data.
3. Analysis of each health workforce category.
4. Development of the Health Workforce Planning Solution software, named the Intelligence Portal, to move towards an automated supply, demand and gap profile of the health workforce of Abu Dhabi.

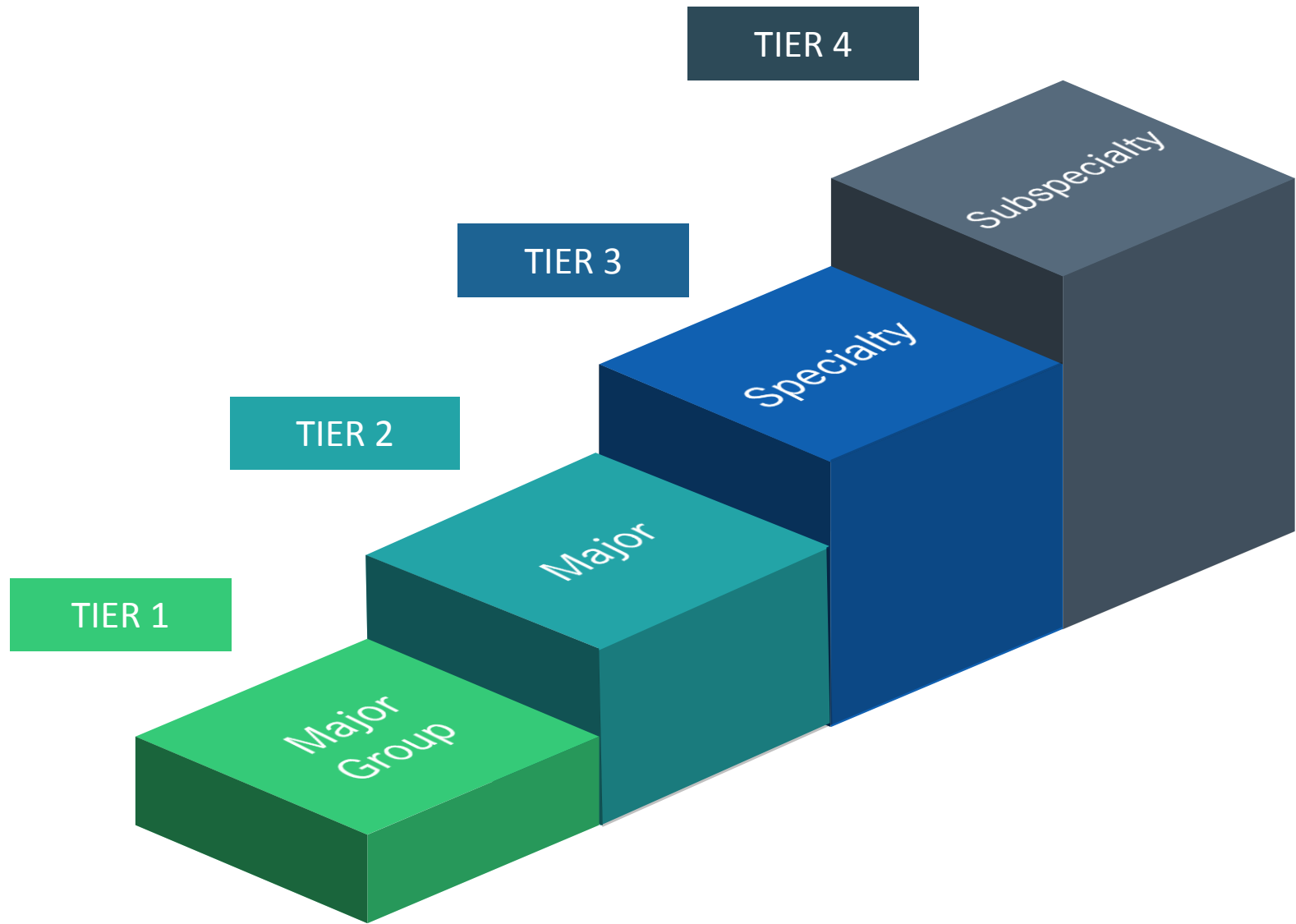
This is considered the first issue of Abu Dhabi Health Workforce Plan, which will be further enhanced and developed in the future cycles to cover a wider specialties supply and demand modeling.



Overview | Definitions & Concepts

This report uses the following concepts and abbreviations

- **DOH data bank:** DOH Healthcare Professionals Licensing Database
- The **DOH Health Workforce data bank classification** tiering structure, which consists of Major Group, Major, Specialty and Subspecialty, as shown in the adjacent table.
- **PQR:** Unified Healthcare Professional Qualification Requirements
- Number of licensed workforce indicates a **headcount** and not full-time equivalents (FTE)
- **CAGR** = Compound Annual Growth Rate = $(\text{Ending Balance} / \text{Beginning Balance})^{(1/\text{years})} - 1$
- **Supply:** What is available currently and previously
- **Planned supply:** What is expected to be available in the future
- **Demand:** What is *required* currently and into the future
- **Gap:** The difference between Demand and Supply
- **Local Utilization:** Tailoring international reference rates to the local health market
- **Status Quo Model:** Future projections based on current proportions and rates
- **Inbound:** Those flowing into Abu Dhabi
- **Outbound:** Those flowing out of Abu Dhabi
- **Secondary:** High School
- **Tertiary:** Universities / Colleges
- **ISCED:** International Standard Classification of Education
- **Enrolments:** The number of students officially enrolled to a course
- **Graduates:** Students that successfully complete a course they are enrolled in
- **Gross Graduation Ratio:** Number of graduates as a proportion of number of students enrolled in that program of a similar age. An indicator of drop-out rates
- **Crude rate:** A rate per capita which is no age or gender specific but uses total population figures
- **Comparable Countries:** Used for benchmarking purposes and include Australia, Canada, Singapore and the USA

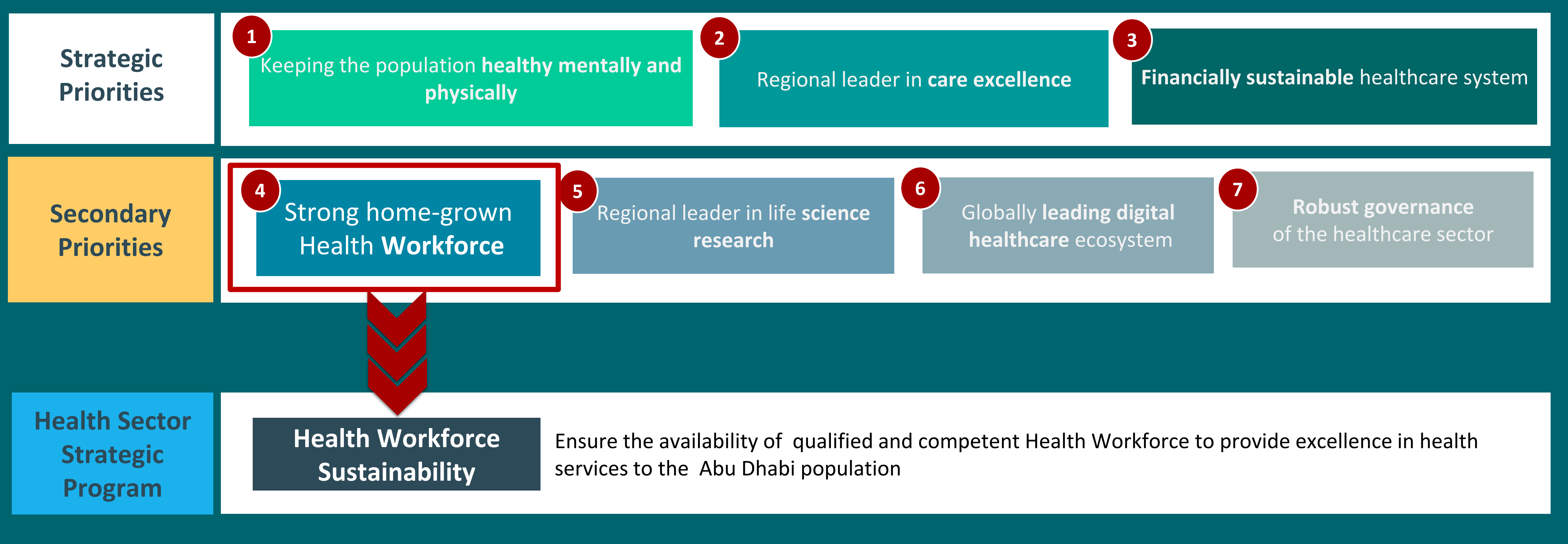


Major Group (Tier 1)	Major (Tier 2)	Number of Specialties (Tier 3)	Number of Subspecialties (Tier 4)
Allied Health	Clinical Support	54	170
Alternative Medicine	Alternative Medicine	2	13
Dentistry	Consultant Dentist	9	9
	General Dentist	1	1
	GP Dentist	1	2
	Specialist Dentist	2	10
Nursing / Midwifery	Nursing & Midwifery	9	34
Pharmacy	Pharmacy	1	10
Physicians	Consultant Physician	27	161
	General Practitioner ¹	2	5
	Specialist Physician	30	104
	Specialist/Fellow	2	4

1) Medical Practitioner is another term for General Practitioner, both are used in slide 18 because of the term-changing in DOH DOH Health Workforce data bank

Alignment| DOH Seven Strategic Priorities & Objectives

Seven Priorities were articulated to tackle Abu Dhabi's Health Sector Challenges from which the Health Workforce Strategic Objectives where cascaded



Overview | Purpose

The objectives of this Workforce Plan are:

- To help DOH and all stakeholders navigate the complex workforce analysis and planning processes.
- To place DOH and all stakeholders in the best position to set priorities to meet the changing models of care and the health workforce & medical education requirements of the Abu Dhabi population.

This Plan will help answer:

What is the **size & demographics** of the current Abu Dhabi Health Workforce?

What is the aggregate **Supply, Demand and Gap** in healthcare workforce currently?

What is the workforce pipeline from local **educational institutions**?

What specialised workforce is required to **reduce patients traveling abroad**?

How much workforce is required to meet **2025 population medical needs**?

What are the workforce requirements to meet **changing models of care**?

What are the Emaratization priorities?

What are the Emaratization gaps ?

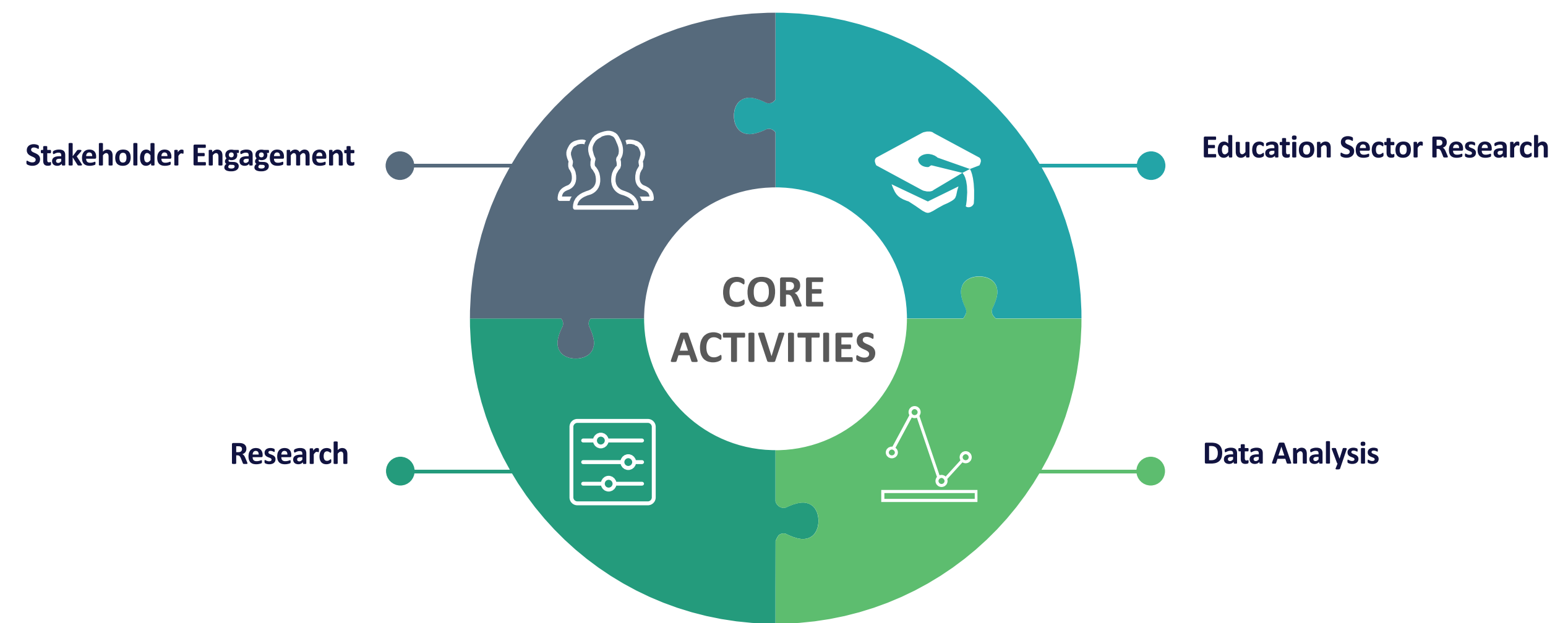
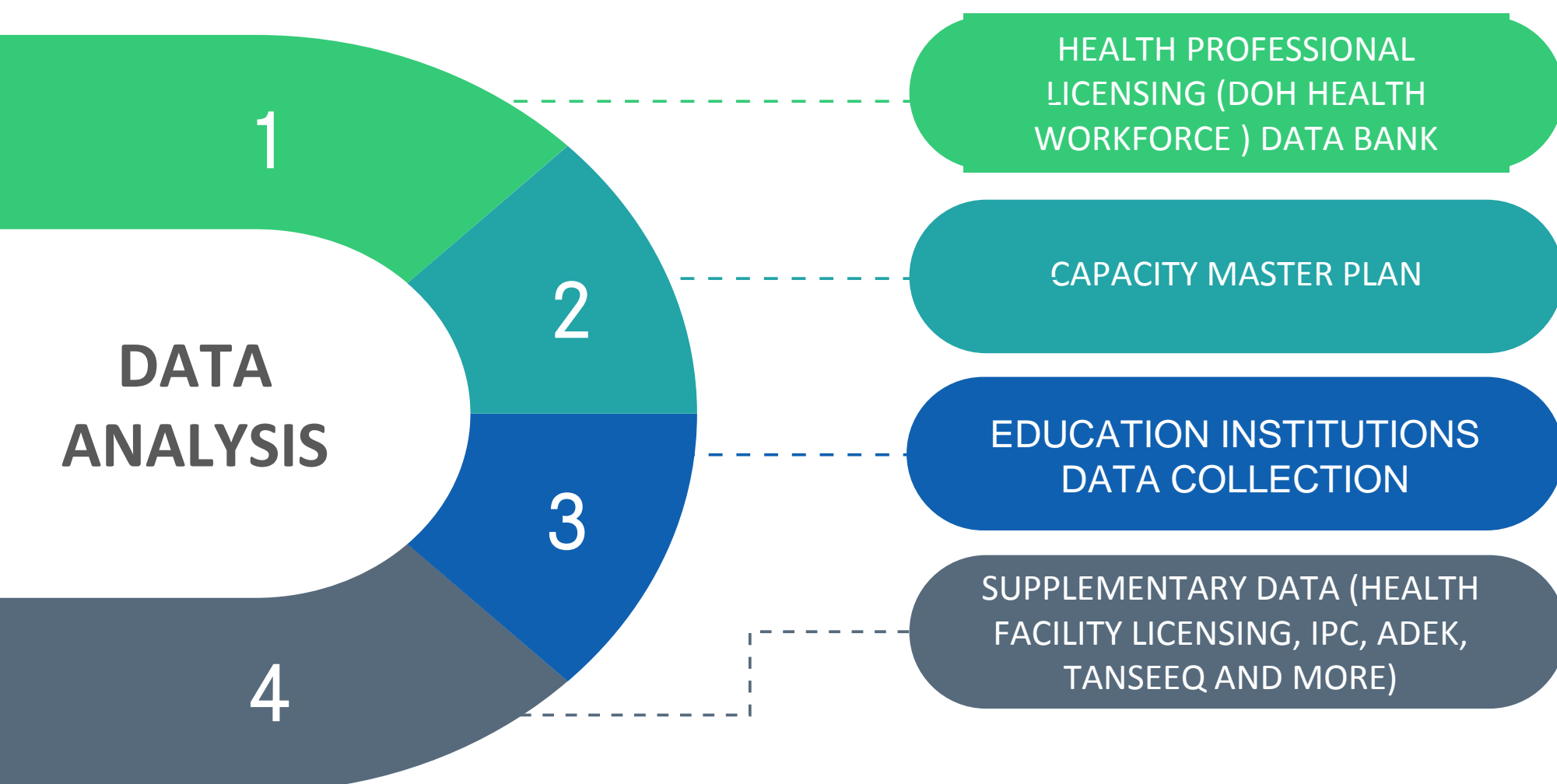
Which **medical & health science programs** are not provided locally?
What **opportunities** exist?

Overview | Data Sources & Core Activities

The Data Sources used in this analysis has included:

1. DOH Healthcare Workforce Data Bank, from 2014 to 2019 inclusive
2. DOH Capacity Master Plan¹
3. DOH Healthcare Facility Licensing Data bank
4. Abu Dhabi Medical Residency Program
5. DOH Data Collection Tool: Collecting local supply of future workforce

The Core Activities in the development of the plan involved stakeholder engagement with government and private stakeholders, primary research through data collection working sessions and interviews, as well as the collection, aggregation and analysis of existing and newly formed datasets



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2 – Workforce Size and Demographics

Analysing the current and historical workforce size, distribution and demographic



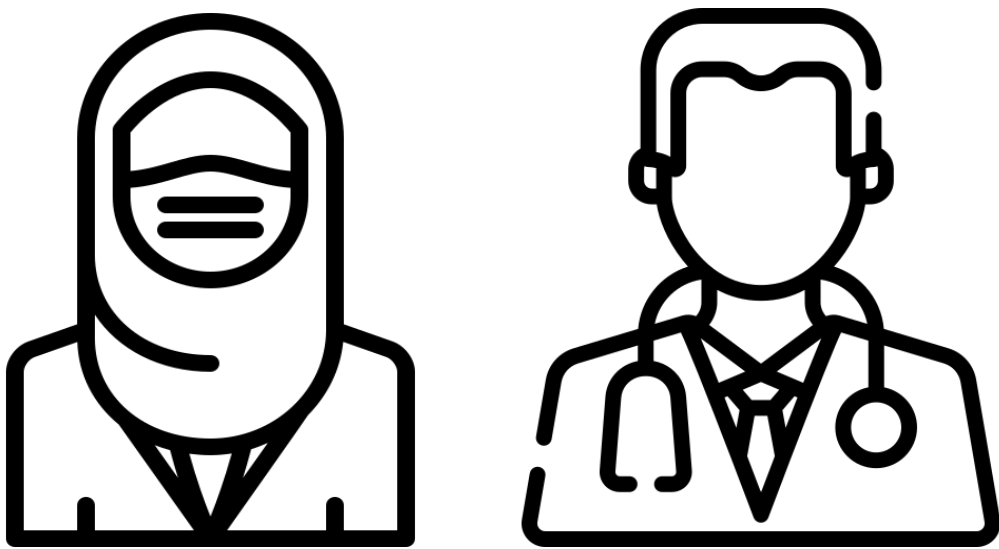
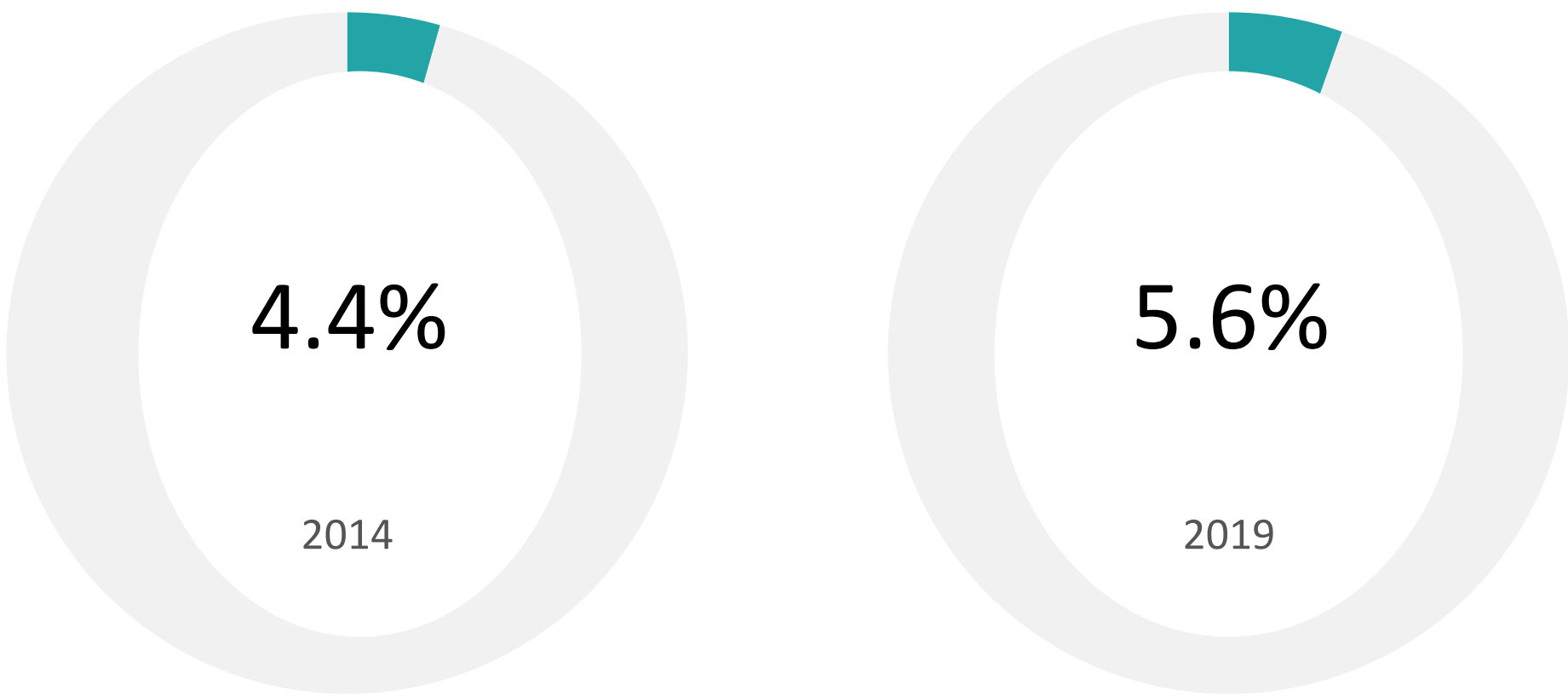
Workforce Size and Demographics | Health Workforce Size and Nationality

The **number of licensed clinicians** in Abu Dhabi has grown from 33,914 in 2014 to 54,231 in 2019. Growth between 2018 and 2019 has been 2.4%, compared to 5-year growth of 11.7%. This is likely due to a combination of internal and external factors. The formalization of the DOH Health Workforce data bank in 2014 has meant that there has been a period of stabilization for data warehousing. Over this period there has been an increase in the number of officially licensed facility and workforce types, which has also inflated the number of licensed clinicians. External factors include lower than anticipated population growth figures, large growth in healthcare capacity and historically low occupancy rates, which may have seen a period of growth and then equilibrium in the latter years.

The **National Health Workforce to Total Health Workforce proportion** has increased from 4.4% in 2014 to 5.6% in 2019, a figure which is still well below optimal Emiratization targets.

Over the last 3 years, there was on average 2,058 Non-Nationals and 425 Nationals joining the health workforce annually. Despite Physicians making up a much lower proportion of total workforce than Nurses, they experience twice as many Nationals joining the workforce per year.

Proportion of workforce that are National



Workforce Size and Demographics | Demographics



1

Age

- Average age: 38 years (2019) vs 37 years (2014)
- Proportion over the age of 50: 11% (2019)
- Fastest growing cohort: Female 31-35 years

2

Gender

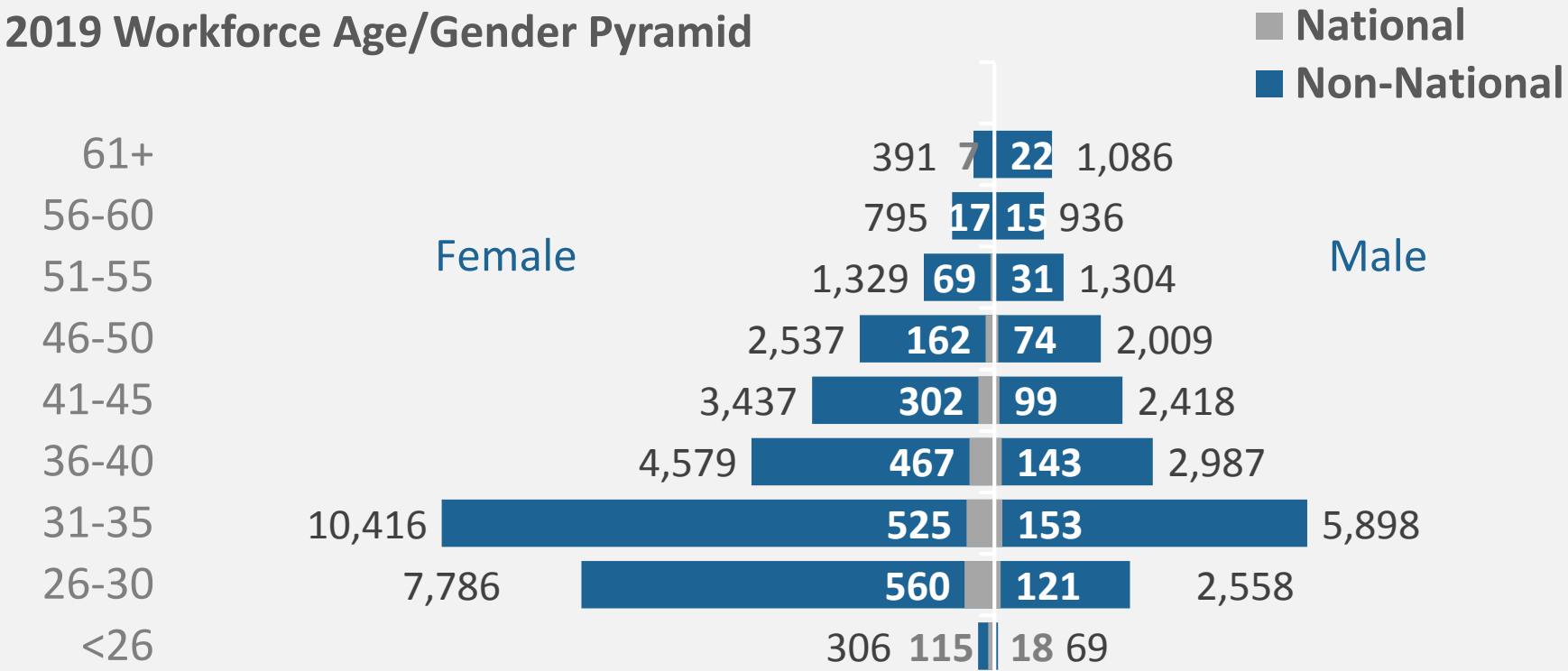
- Proportion of Workforce 2019: 37% Male, 63% Female
- Proportion of Workforce 2014: 41% Male, 59% Female

3

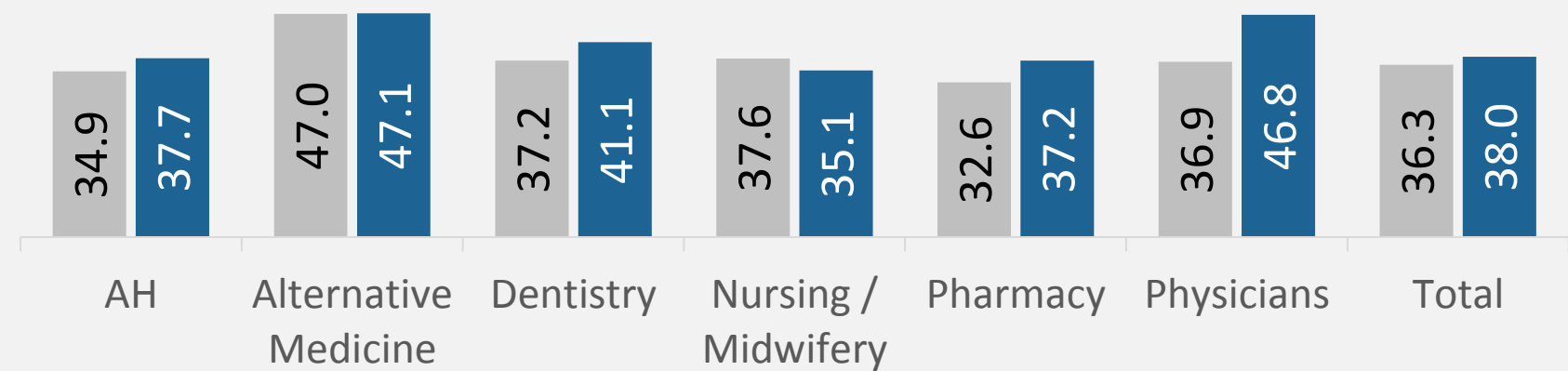
Nationality

- Proportion of Workforce in 2019: 5.6% Nationals
- Proportion of Workforce in 2014: 4.4% Nationals

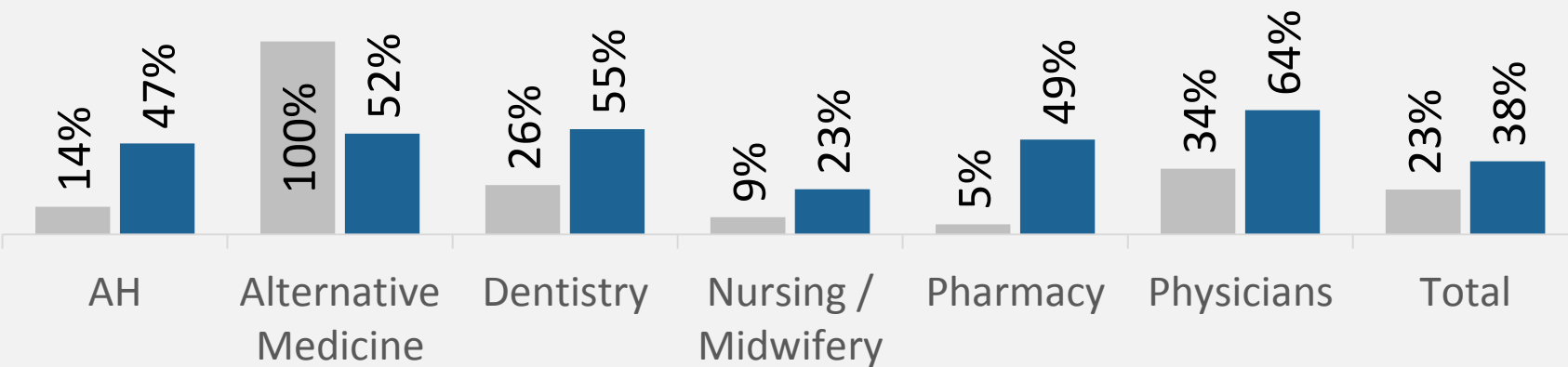
2019 Workforce Age/Gender Pyramid



Average age, by Nationality in 2019



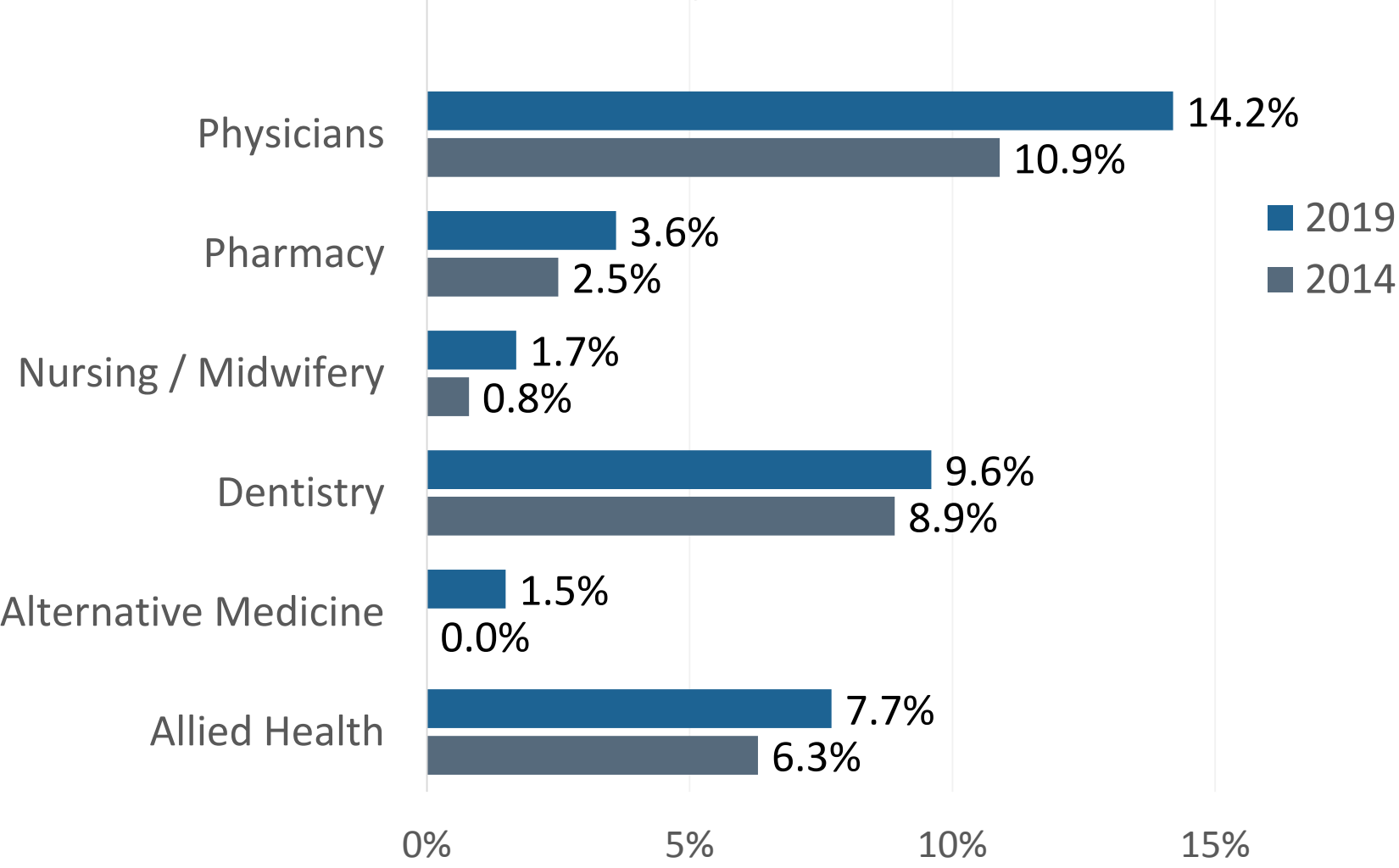
Percentage of 2019 Workforce that are Male, by Nationality



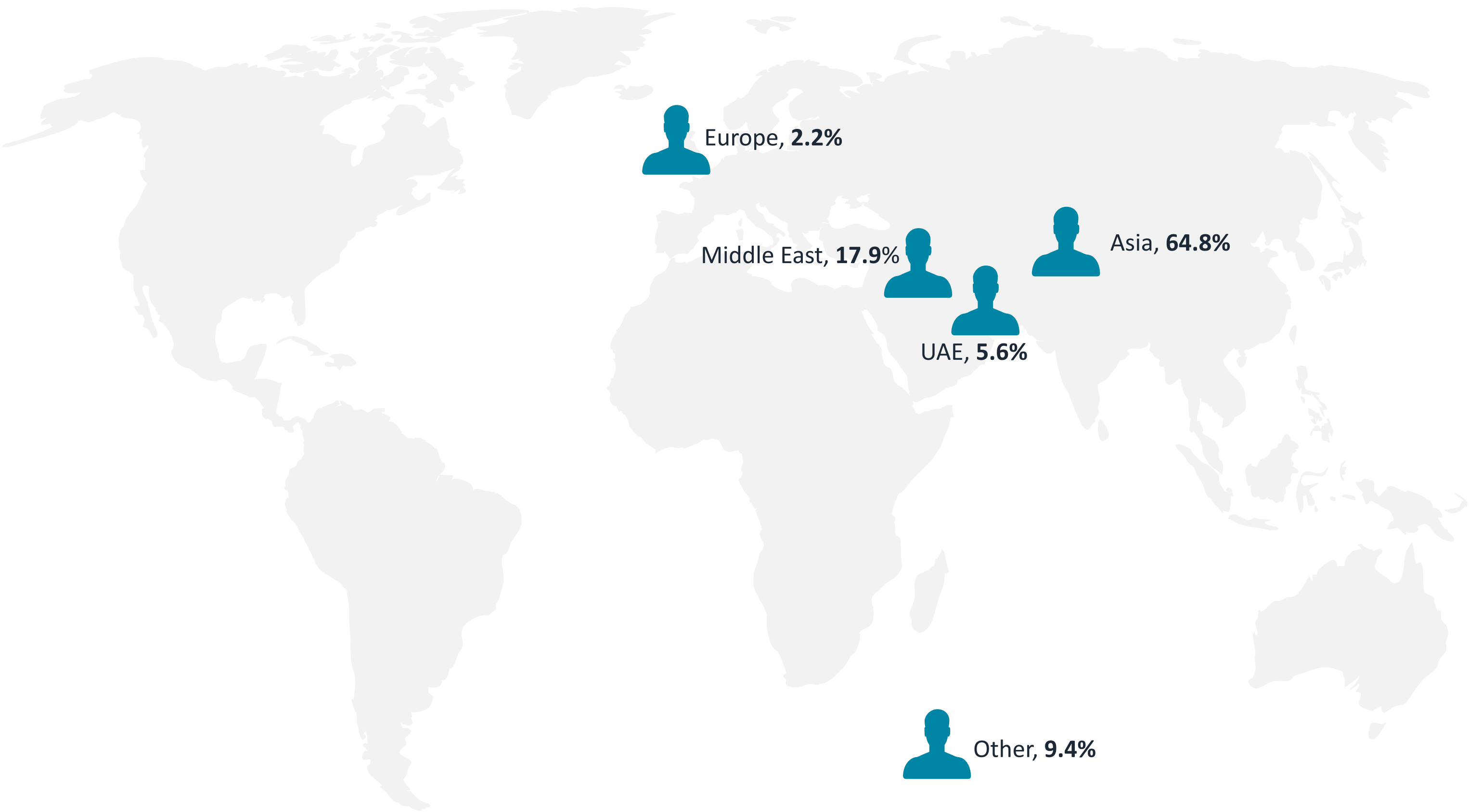
Workforce Size and Demographics | Demographics

Abu Dhabi Health Workforce has a significant reliance on international clinicians, with 94.4% of the workforce coming from abroad, decreasing from 95.6% in 2014.

Percentage of Workforce that are Nationals, 2014 and 2019, by Major Group



International Health Workforce in Abu Dhabi's Healthcare Sector



Workforce Size and Demographics | Major Clinical Groups

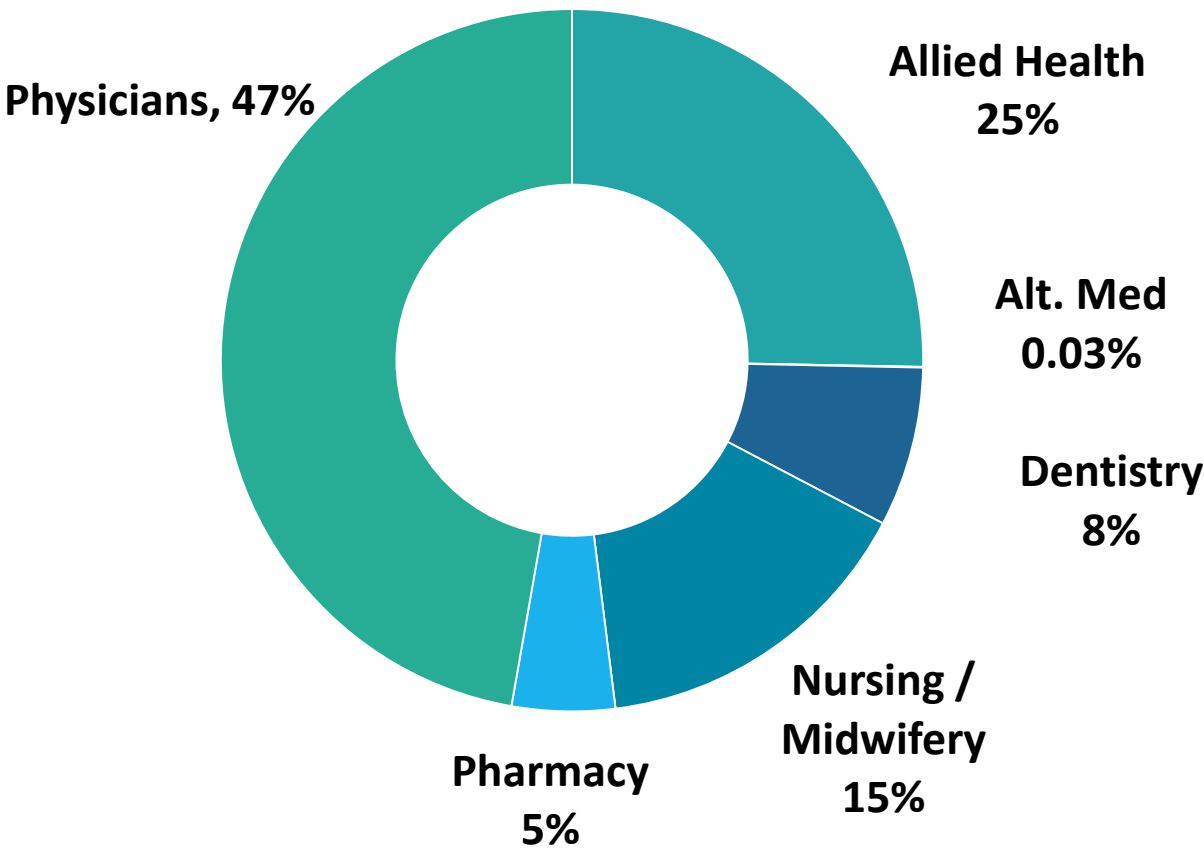
Of the 54,231 clinicians licensed in 2019, 50.7% are in the Nursing Major and 18.7% are in the Physicians Major.

The majority of **Nationals** within the workforce are Physicians (47%), followed by Allied Health (25%) and then Nursing (14%).

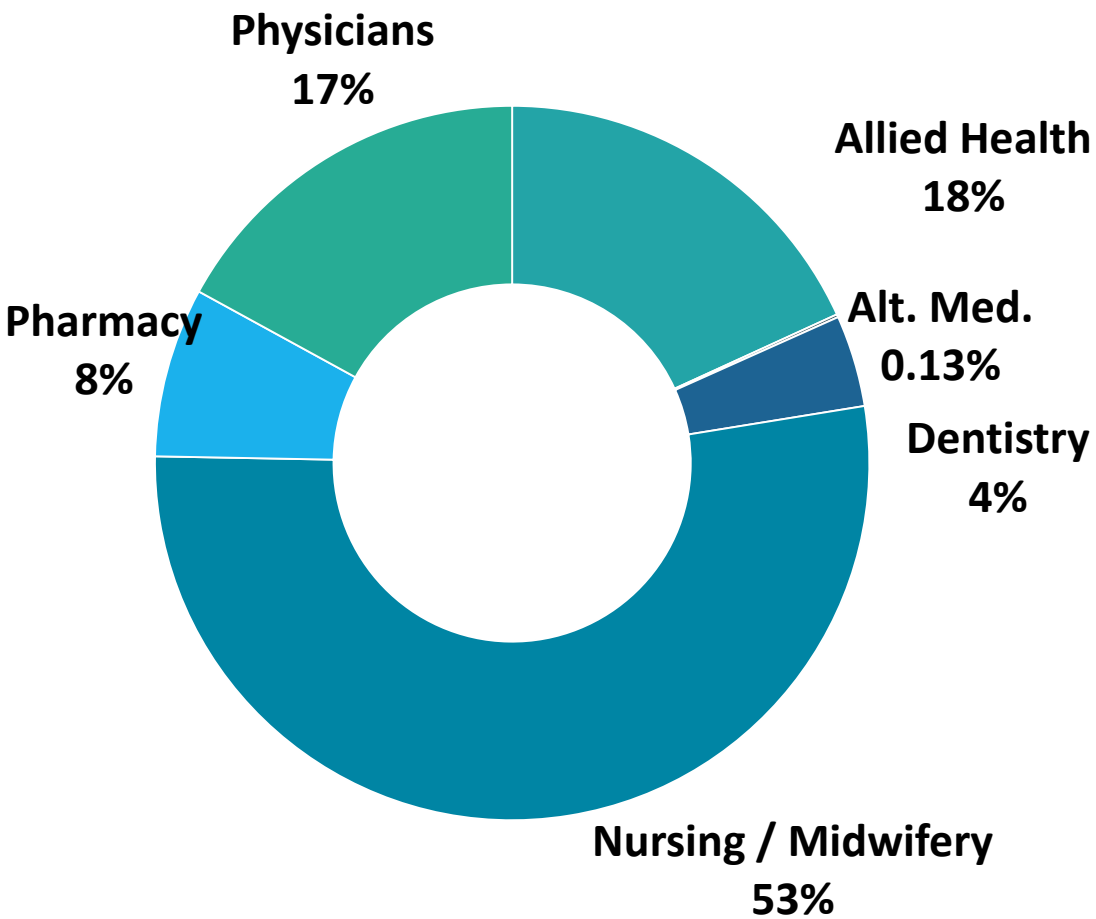
The large majority of **Non-Nationals** within the workforce are in Nursing (53%), followed by Allied Health (18%) and Physicians (17%). This mismatch is highlighted by the fact that only **1.7% of the Nursing major group are made up of Nationals**.

Workforce Major	2019 Proportion of Entire Workforce
Nursing	50.7%
Physicians	18.7%
Allied Health	18.6%
Pharmacy	7.5%
Dentistry	4.3%
Alternative Medicine	0.1%

Nationals by Major Group, 2019



Non-Nationals by Major Group, 2019

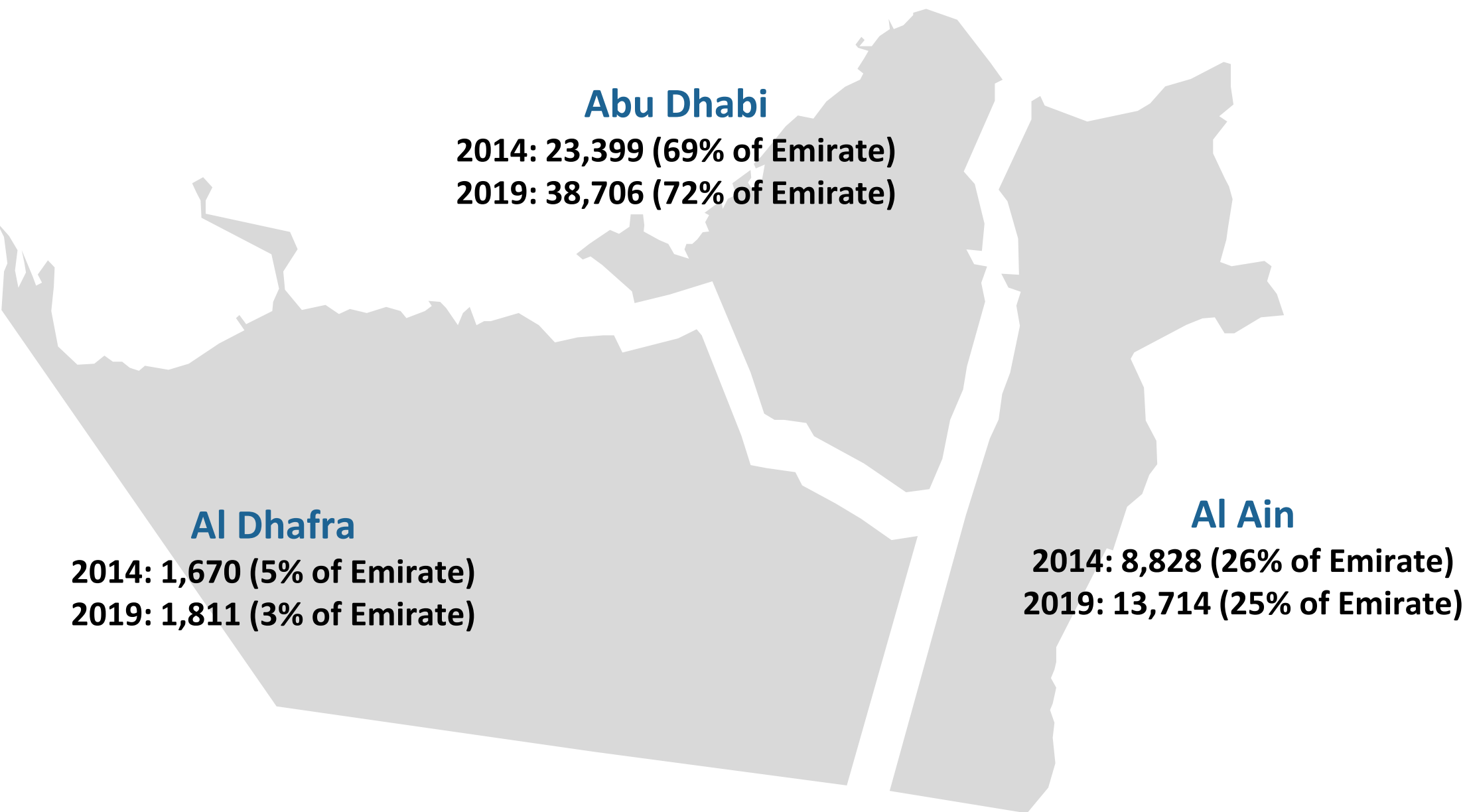


Workforce Size and Demographics | Region

In 2019, **72% of the total Health Workforce in the Emirate of Abu Dhabi was in the Abu Dhabi Region**, which contains 60% of the total Abu Dhabi Emirate population. This higher proportion may be attributed to the inflow of healthcare requirements from other regions as well as inbound international medical tourism. The historical trends suggest Abu Dhabi Region is experiencing a larger growth than other regions, increasing its total Emirate proportion from 69% in 2014 to 72% in 2019.

For Nationals in the healthcare workforce, a higher proportion work in Abu Dhabi (6% of total workforce) compared to Al Ain (5%) and Al Dhafra (2%). Between 2014 and 2019, the proportion of Nationals to Total Workforce has increased in Abu Dhabi (4.2% to 5.8%) and Al Dhafra (4.4% to 5.4%) but decreased in Al Ain (5.5% to 4.6%).

There was a 3% increase in proportion of the total workforce working in Abu Dhabi Region between 2014 and 2019



Total Workforce by Region and Major Group, 2014 and 2019

Major Group	2014			2019		
	Abu Dhabi	Al Ain	Al Dhafra	Abu Dhabi	Al Ain	Al Dhafra
Allied Health	72%	23%	5%	77%	20%	3%
Alternative Medicine	87%	13%	0%	85%	15%	0%
Dentistry	70%	27%	3%	68%	29%	3%
Nursing / Midwifery	68%	27%	5%	71%	26%	3%
Pharmacy	69%	26%	5%	70%	26%	5%
Physicians	68%	27%	5%	71%	25%	5%
Grand Total	69%	26%	5%	72%	25%	3%

Workforce Size and Demographics | Physicians Overview

Over the last 3 years, the number of Physicians has grown by 394 each year, at a CAGR of 4.2%. Of the 10,159 Physicians in 2019, 71% are licensed in a facility within Abu Dhabi Region, with only 5% in Al Dhafra.

Abu Dhabi has a rate of 3.4 Physicians per 1,000 capita¹, a figure that is higher than most of the high-income countries. Within Abu Dhabi, a comparison of this rate shows that Abu Dhabi has 3 times the rate than that of Al Dhafra. This reflects the high proportion of healthcare facility investment within Abu Dhabi region, providing healthcare for not only its local catchment but also for those travelling from Al Ain and Al Dhafra or for inbound Medical Tourism. This concentration of the medical healthcare workforce can drive efficiencies in specialist care but may also result in insufficient local coverage for general medical services for those in regional areas. Future investment strategies highlighted in Abu Dhabi’s DOH Capacity Master Plan aims to highlight these capacity gaps for each Region and specialty, which in turn will improve the medical coverage for the population.

14% of the Physician Workforce are Nationals, with 30% of this cohort being Medical Residents and 23% being Specialist Physicians. Nationals are typically licensed in Family Medicine or General Medicine, with the majority of sub-specialists being Non-Nationals. Incentives for Nationals to continue specialist training, as well as improving the capacity at hospitals and education institutions to cater for this, will ensure that there is less reliance on Non-National specialists.

Top Specialties 2019

Specialties
Medical Practitioner
Internal Medicine
Family Medicine
Pediatrics
Surgery
Dermatology
Emergency Medicine
Ophthalmology
Psychiatry
Radiology
Obstetrics & Gynecology
Pathology
Aviation and aerospace Medicine
Physical Medicine and Rehabilitation
Public Health Medicine
Diagnostic Radiology
Forensic Medicine
Occupational Medicine
Neurology
Anesthesia
Critical Care Medicine. – Intensive Care
Medical Genetics



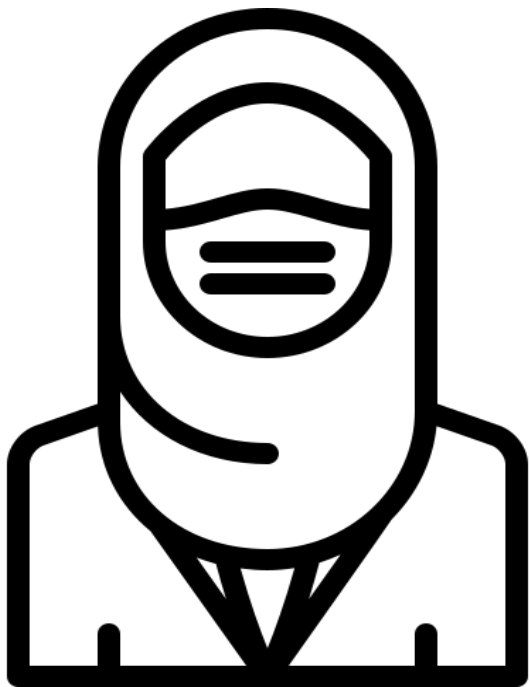
1) Per Capita rates are a calculation of workforce per population of that region = Workforce/Population/1000

Workforce Size and Demographics | Nursing Overview

The Nursing workforce is the largest component of the healthcare workforce, making up over 50% of all licensed clinicians. Of the 27,515 Nurses licensed in 2019, 91% were licensed as Registered Nurses. The Nurses per 1,000 capita within in Abu Dhabi is 7.9 . The allocation of these Nurses is heavily weighted towards Abu Dhabi Region, with 71% working within the Region compared to 3% for Al Dhafra.

The Nursing workforce is experiencing a change not only in size but also in its structure. The Nursing profession is seeing a shift towards greater autonomy, with Nursing Practitioners becoming recently licensed, improving prescribing rights and greater influence in patient case management and community care. With Primary Care model of care moving forward in Abu Dhabi, there will be greater influence in healthcare within this segment, ensuring that avoidable admissions are minimized, and chronic disease is managed closer to home and not in acute care.

Nursing Workforce (by Specialty)
Registered Nurse
Practical/Assistant Nurse
Speciality Nurse
Registered Midwife
Practical/Assistant Midwife
School Nurse



Workforce Size and Demographics | Dental Overview

The Dental Workforce is made up of Specialist, Consultant and General Dentists. Over the last 3 years, there are on average 205 new dentists being licensed annually. Over 60% of the Dental Workforce are licensed as General or GP Dentists.

There is a high proportion of Dentists within the Abu Dhabi Region, accounting for nearly 70% of the dental workforce. This equates to 0.87 Dentists per 1,000 capita, and a figure that decreases the rate of Dentists in Al Dhafra (0.16 Dentists per 1,000). This disproportionate allocation is not only because of the higher density of healthcare facilities in the region, but also because of the high number of cosmetic dental services that draw inflows from not only Al Ain and Al Dhafra but also inbound medical tourism.

Of the 2,346 licensed dentists, only 225 (9.6%) are Nationals, of which 3 are located in Al Dhafra Region. There is a strong need to increase coverage of dental services outside of Abu Dhabi and to improve the self-sufficiency of Al Ain and Al Dhafra Region in particular.

Top Specialties in 2019

Non-National
GP Dentist
Specialist Dentist
General Dentist
Orthodontics
Periodontics
Prosthodontics
Oral and Maxillofacial Surgery
Pediatric Dentistry
Dental Specialties
Oral Surgery
Restorative Dentistry (Includes Endodontics/ Periodontics/Prosthodontics)
Endodontics



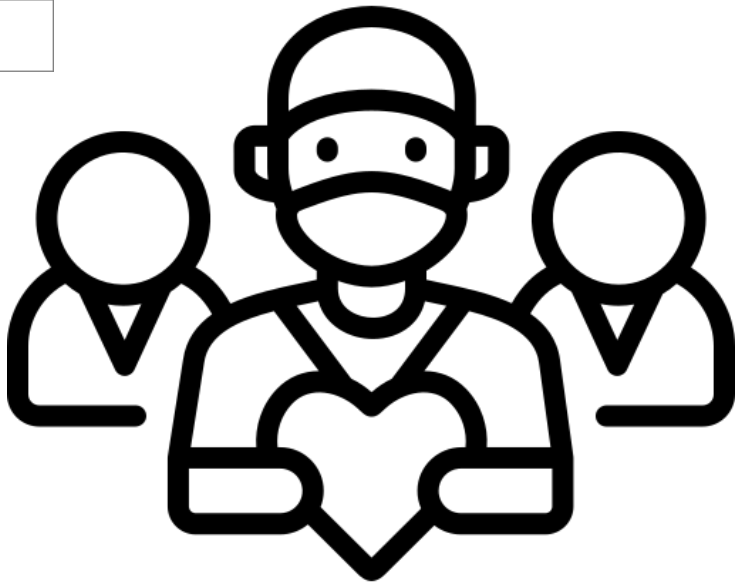
Workforce Size and Demographics | Allied Health Overview

Allied Health continues to be a fast-growing group in healthcare, driven by the greater increase in multi-disciplinary care, case management, community care and the greater autonomy of allied health clinicians. The requirements for Allied Health clinicians are continuing to rise as the population shifts towards an aging population structure and Abu Dhabi experiences increased rates of chronic diseases.

Over the last 3 years, there has been on average an increase of 769 licensed allied health clinicians. This growth however may be inflated by the changing allied health classification and the introduction of new specialties being captured in the licensing database. Current supply is skewed heavily towards the Abu Dhabi Region, (4.2 clinicians per 1,000 compared to 2.4 and 0.8 in Al Ain and Al Dhafra respectively). Nationals make up 7.7% of the allied health workforce, with the majority licensed in Laboratory, Nutritionist and Medical Imaging specialties.

Top Specialties in 2019

Specialities
Medical Laboratory
Emergency Medical Technician/ Paramedics
Physiotherapy
Medical Imaging
Dental Clinical Support
Respiratory Therapy
Ophthalmic Positions
Anesthesia
Central Sterile Service
Occupational Therapy
Clinical Dietetics - Nutritionist
Speech therapy
Cardiovascular Technologists
Audiology
Electro - neurodiagnostic
Clinical Psychology
Emergency Medical Services
Pharmacy
IN-Vitro Fertilization
Radiotherapy



Workforce Size and Demographics | Pharmacy Overview

Abu Dhabi currently has over 4,000 Pharmacists licensed in the workforce, equating to 1.4 Pharmacists per 1,000 capita. This rate sits higher than most other comparable countries and is skewed towards the Abu Dhabi Region, which holds 70% of the Pharmacy workforce. This results in a low supply of Pharmacists in the Al Dhafra Region, with only 189 (5%) of the workforce licensed in the area which equates to 0.5 per 1,000 capita which sits well below international comparators.

The Pharmacy workforce is made up of only 3.8% Nationals. Similar to other workforce groups, the concentration of healthcare facility supply and Medical Tourism in the Abu Dhabi Region results in a greater proportion of Pharmacists to support this service activity. Pharmacy will likely experience a growth in service scope, following international trends in becoming Primary care providers with heightened prescribing rights and greater autonomy to provide routine services such as vaccinations to reduce the burden on the Physician Primary care model.

Top Specialties in 2019

Specialities
Pharmacist 1
Pharmacy Technician
Clinical Pharmacist
Pharmacist 2
Drug Store Pharmacist
Senior Pharmacist
Senior Clinical Pharmacist

Workforce Size and Demographics | Alternative Medicine Overview

The Alternative Medicine Workforce is made up of Alternative Medicine Professionals . Over the last 3 years, there are on average 6 new Alternative Medicine Professionals being licensed annually. Over 28% of the Alternative Medicine Workforce are licensed as Homeopathy Practitioners.

There is a high proportion of Alternative Medicine health workers within the Abu Dhabi Region, accounting for nearly 82% of the Alternative Medicine workforce which equates to 3 professionals per 100,000 capita. This disproportionate allocation is largely due to the higher density of health facilities, inflow of patients from other regions and also the high number of wellness offerings in adjunct to medical tourism services.

Of the licensed Alternative Medicine Professionals, only one (1.5%) professional is National, who is working in the Abu Dhabi Region.

Top Specialties in 2019

Specialities
Homeopathy Practitioner
Chiropractic Practitioner
Ayurvedic Practitioner
Hijama Therapist
Acupuncture Practitioner
Homeopathic Therapist
Chinese Medicine Practitioner
Unani Practitioner
Naturopathic Practitioner
Chiropractor Practitioner
Osteopathy Practitioner
Acupuncture Therapist
Hijama Practitioner

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3 – Healthcare Facilities

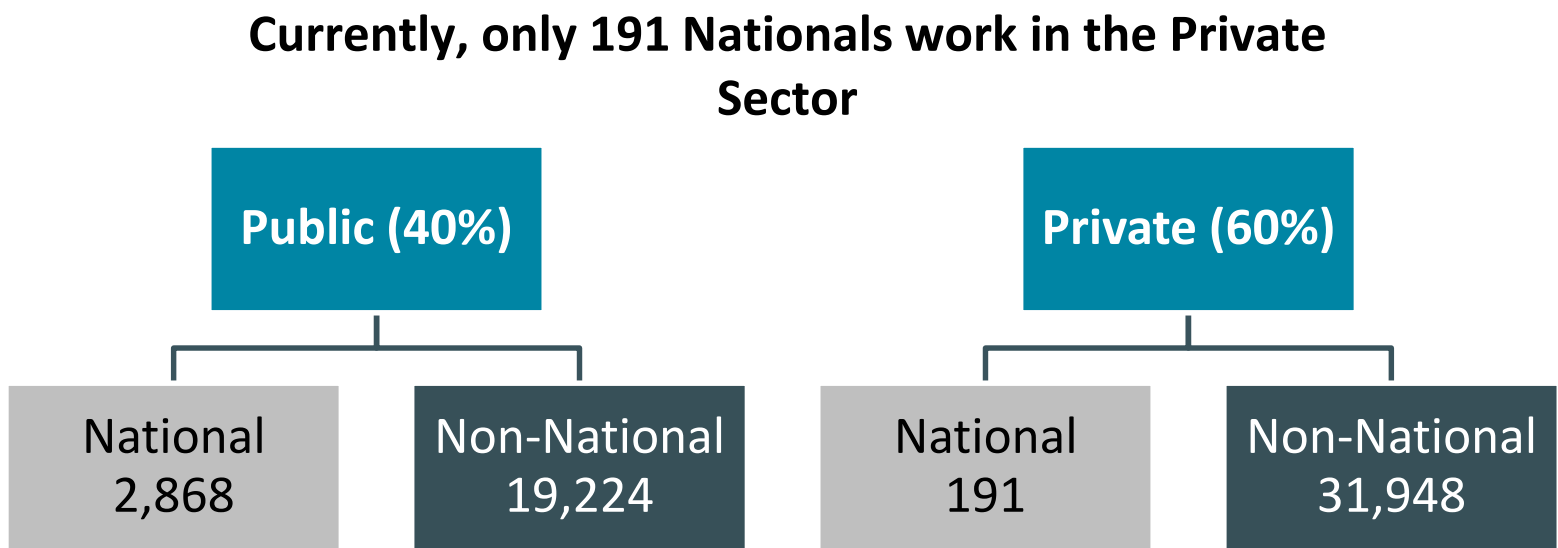
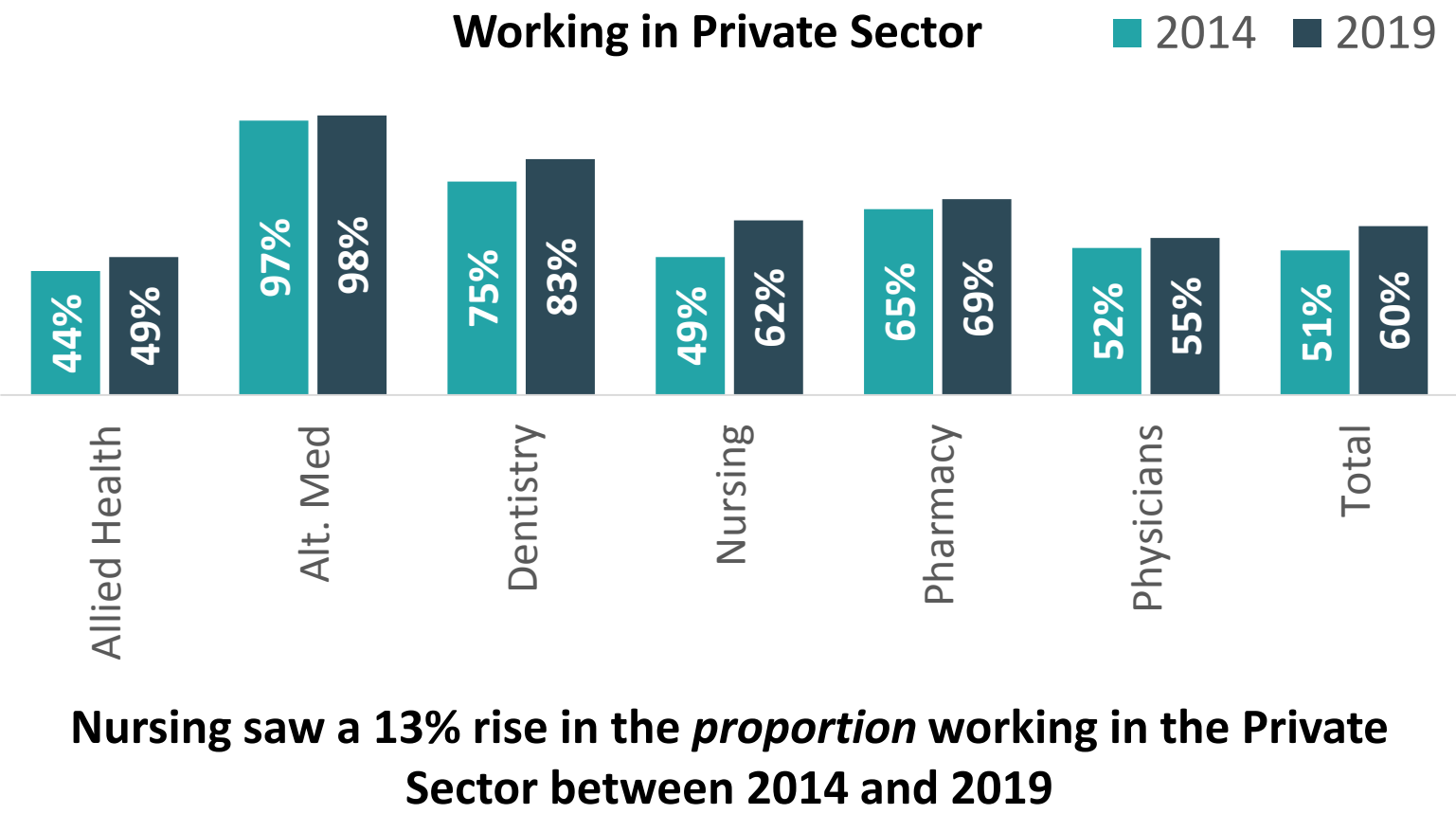
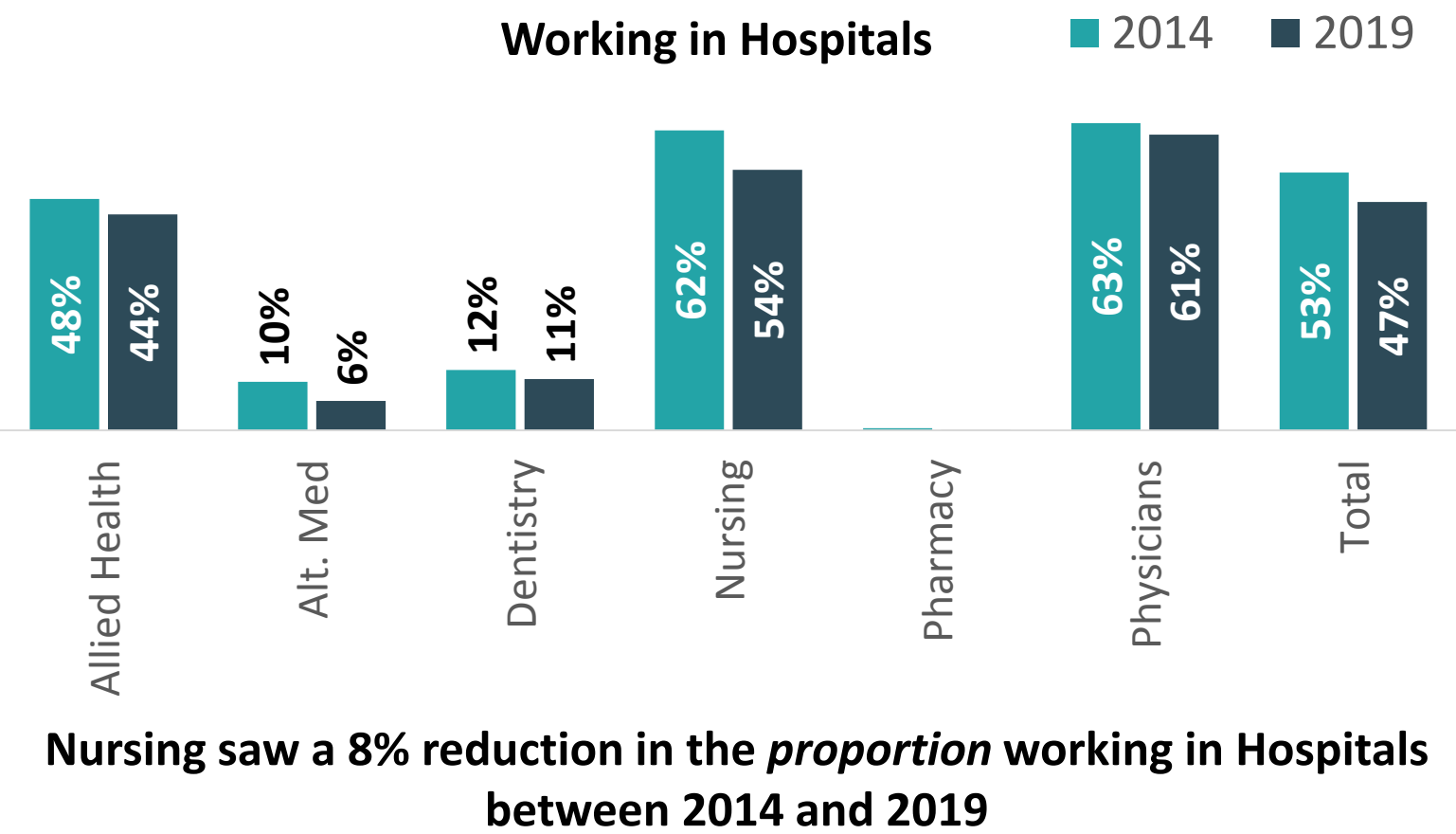
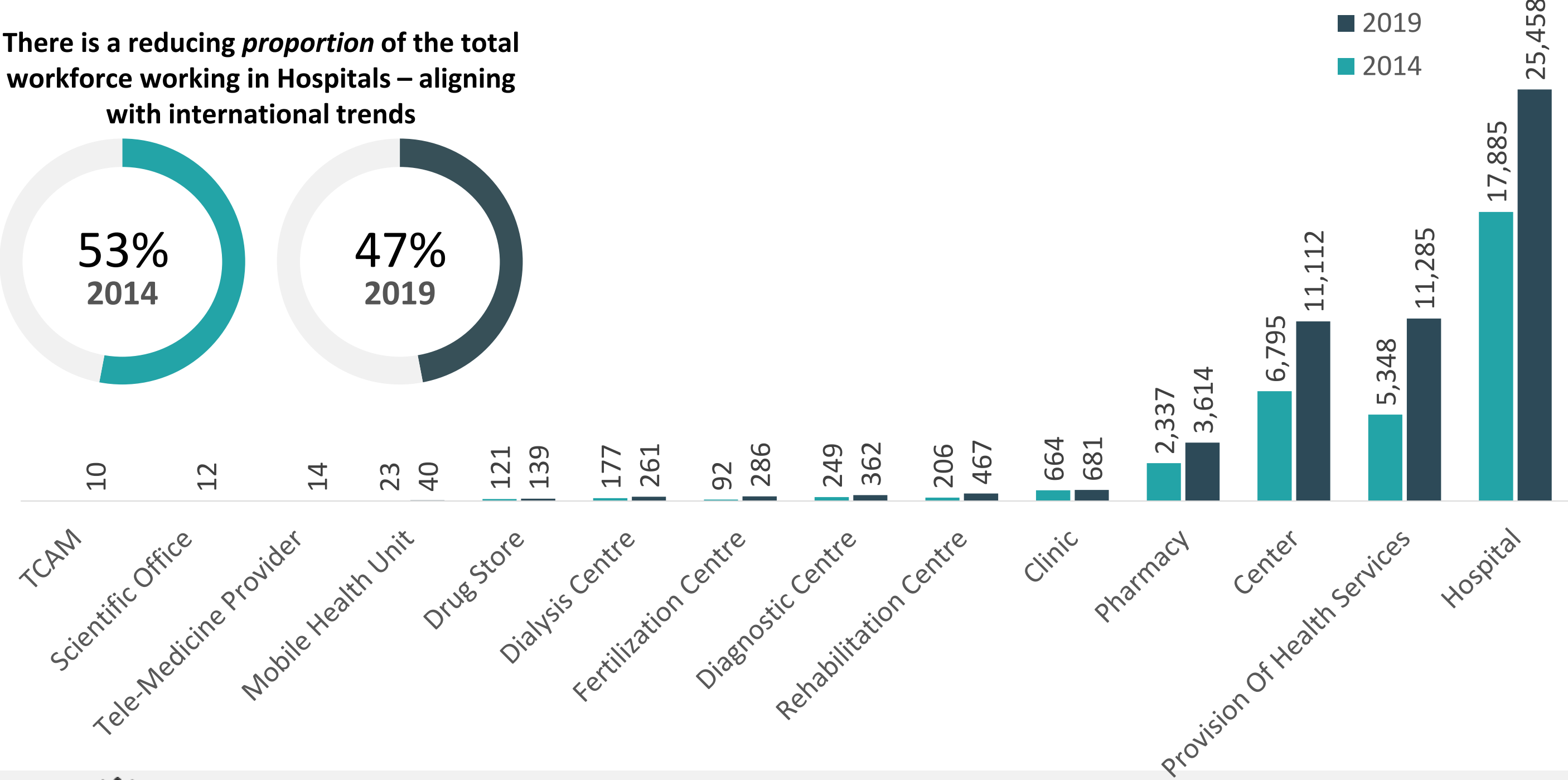
Analysing the link between the workforce and health facility licensing figures

Facilities | Type and Ownership

There is a growing proportion of the workforce licensed at non-hospital facilities, such as clinics and centres. The number of those licensed at a hospital has dropped from 53% in 2014 to 47% in 2019, with Nursing reducing 8% over the same period. This is in line with the changing models of care witness globally and locally, with a greater number of services being provided in the ambulatory care setting such as primary care.

The proportion of those working in the private sector grew from 51% to 60% over the same period, with the greatest change in Nursing, with a 13% increase. This distribution of the workforce highlights the fact that only 191 Nationals work in the Private Sector.

Workforce by Facility Type, 2014 to 2019



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4 – Education and Planned Supply

Analysing the educational system and the number of planned graduates entering the workforce

Education | Education Data Collection Process

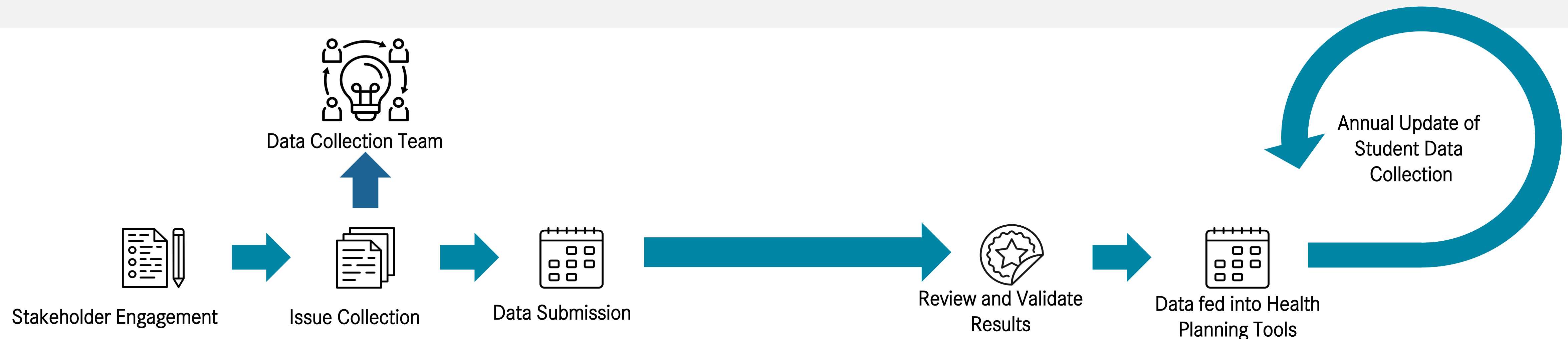
Overview: The DOH Data Collection Tool is a web-based toolkit for capturing health workforce in Abu Dhabi, to which DOH held several introductory meetings with key education stakeholders. Each entity was requested to nominate a manager for their data to be provided to DOH on an annual basis. When the tool was launched, each Data Collection manager for academic educational institutions and scholarship bodies were required to complete an individual data collection form (see next slide) for their facility. Ultimately, this provides insight into the number of local graduates that may enter the workforce.

Data capture included:

- Institution information: Profile and services of each institution
- Course Information: Current and future course offerings and course profile
- Student Information: Number of students in each medical and health sciences course, dropout rates, demographics and graduation rates

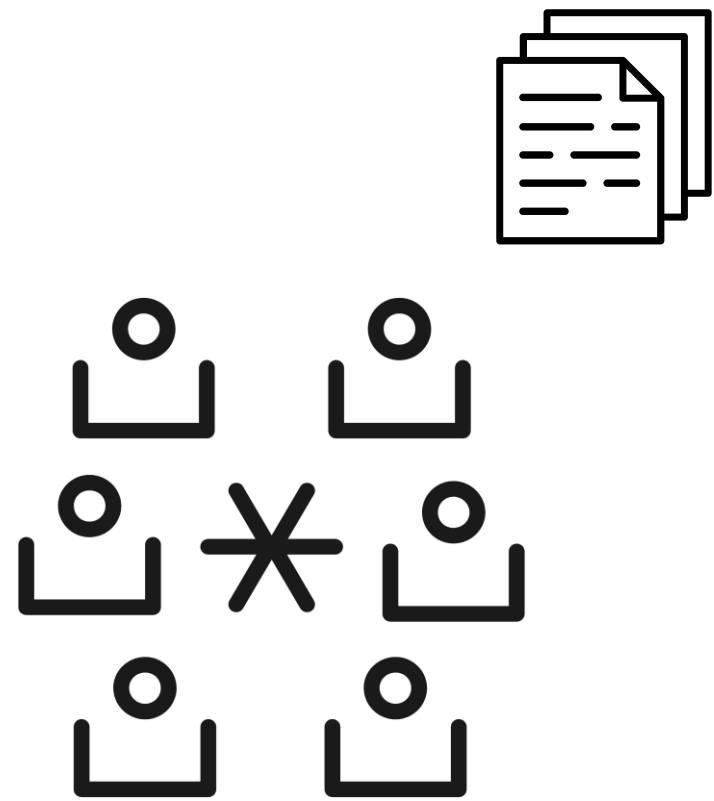
Outputs include:

- Identification of planned workforce: total applicants, enrolments, graduates, and dropout rate by Nationality and gender
- Current course offerings and alignment with PQR
- SWOT analysis of current educational institutions
- Gap analysis to understand future medical and health science student priorities and how it links to current health market needs (see page 68-70)



Education | Engaged Stakeholders

This project involved analysis of the data collected from the following key stakeholders



Education | Medical Residency Program Capacity

Medical Residency Program Capacity (TANSEEQ) has the **capacity** to provide a total of **191 seats in 2020**. It would need to **expand substantially** to cater to the Emiratization plans and targets required in Abu Dhabi.

For example, for Abu Dhabi to meet the 20% Emiratization target at present, a total of **626 additional** National Physicians are required.

To achieve these targets, **long term planning must commence to boost** the local supply of clinicians through the **expansion of medical residency program seats and positions**, especially from key undersupplied specialties.

2020 Medical Residency program available Seats by Facility

Facility	Seats
Al Ain Hospital	15
Ambulatory Health Services (Al Ain)	20
Cleveland Clinic Abu Dhabi	22
Corniche Hospital	3
Sheikh Khalifa Medical City	52
Sheikh Shakhboub Medical City	25
Tawam Hospital	40
Zayed Military Hospital	14
Total	191



2020 Medical Residency program available Seats by Specialty

Specialty	Seats
Anesthesia and Critical Care	6
Dermatology	2
Emergency Medicine	23
ENT	5
Family Medicine	34
General Surgery	10
Internal Medicine	54
Obstetrics & Gynecology	7
Ophthalmology	4
Pediatrics	32
Psychiatry	8
Radiology	4
Urology	2
Total	191

Education | Current Supply of Education Programs

The **Data Collection Tool** involved capturing information about students enrolled in the currently offered Health and Sciences programs, which have been aligned to the DOH Health Workforce major groups to result in the table below

Health Workforce Group	Undergraduate Programs		Postgraduate Programs
Physicians	B. MBBS		Residency Programs / Fellowships
Allied Health	B. Science (Nutrition) B. Science (Physiotherapy) B. Science (Psychology) B. Science (Respiratory Care) B. Science (Anesthesia & Surgical Technology) B. Social Work B. Science (Medical Diagnostic Imaging)	B. Science (Medical Laboratory) B. Science (Biomedical) B. Science (Biotechnology) B. Public Health and Nutrition B. Radiography and Medical Imaging B. Paramedics (EMS)	M. Science (Medical Laboratory) M. Science (Molecular Medicine) M. Science (Physiotherapy) M. Toxicology M. Science (Biotechnology) M. Medical Science PhD (Biomedical Sciences) PhD (Molecular Medicine)
Pharmacy	B. Pharmacy		M. Pharmaceutical Sciences
Nursing ¹	Bridging in Nursing B. Science (Nursing)		M. Science in Adult Critical Care Nursing M. Science Adult Health & Gerontology Nursing M. Science Pediatric Nursing M. Science Cardiovascular Nursing M. Science Psychiatric Mental Health M. Science Community Health Nursing
Dentistry	B. Dental Surgery		M. Dental Surgery (Endodontics) M. Dental Surgery (Oral Surgery) M. Dental Surgery (Periodontology) M. Dental Surgery (Prosthodontics)
Midwifery ²	None		Bachelor of Applied Science in Midwifery
Non-Clinical	B. Science (Environmental Health) B. Science (Health Information Management) B. Adminis (Health Services Administration) B. Health Management		PhD (Public Health and Occupational Health) M. Public Health M. Science (Leadership)

Abbreviations:
B. = Bachelor's Degree Program
M. = Master's Degree Program
D. = Doctor of Medicine

Education | Supply and Gaps of Local Education Offerings

Based on the information provided by local academic institutions that participated in the Data Collection Tool launched in January 2020 (see slide 30), a comparison has been made between the specialties licensed within DOH Health Workforce and those Medical and Health education programs offered by those academic institutions. Resulting in the adjacent tables of both the available Health and Medical Programs and those which are not offered locally.

The identification of these gaps in study programs provides a key step in enabling greater success in reaching Emiratization targets.

By providing these identified study program gaps locally, Abu Dhabi will be in a better position to reduce outflow of students, improve inflow of Non-Nationals and ensure that the Emirate is self-sufficient in health workforce recruitment.

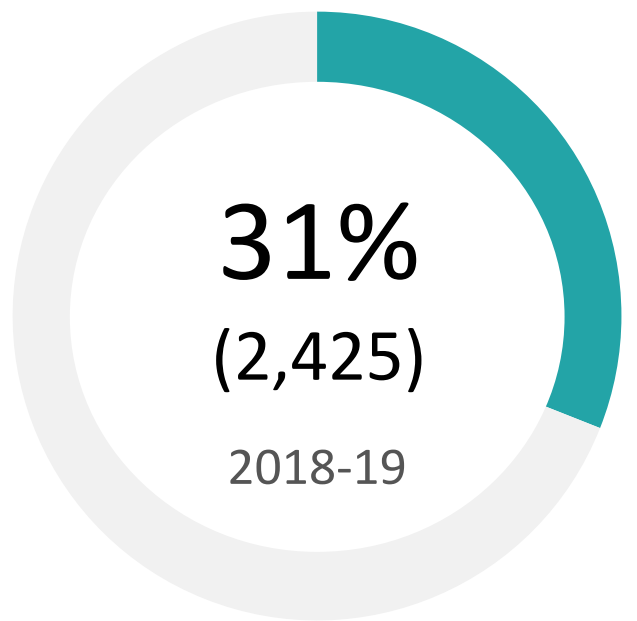
Programs that are offered locally	
Major	Specialty
Allied Health	Social Worker
	Respiratory Therapy
	Public Health
	Psychology
	Physiotherapy
	Operation Theatre Technician
	Medical Physics
	Medical Laboratory
	Medical Imaging
	Health Information
	Health Educator
	EMT / Paramedics
	Electro- Neurodiagnostic Technologist
	Clinical Psychology
	Clinical Dietetics and Nutrition
Dentistry*	Anesthesia
	Specialist Dentist
	Prosthodontics
	Periodontics
	Pediatric Dentistry
	Orthodontics
	Oral Surgery
	GP Dentist
Nursing	Endontics
	Registered Nurse
Pharmacy	Practical Nurse
	Pharmacy
Physicians	Medical Practitioner

Programs that are NOT offered locally	
Major	Specialty
Allied Health	Speech therapy
	Renal Dialysis
	Radiotherapy
	Prosthetics and Orthotics
	Podiatry
	Physician Assistant
	Perfusionist
	Orthoptic
	Optometry
	Ophthalmic Positions
	Occupational Therapy
	Nuclear Medicine
	IN-Vitro Fertilization
	Genetic Counsellor
	Cast Technician
	Cardiovascular Technology
	Cardiac Perfusion
Dentistry	Audiology
	Allied Health Technician
Nursing	Oral and Maxillofacial Surgery
	Forensic Dentistry
Midwifery	Specialty Nurse
	Nurse Practitioner
Midwifery	Registered Midwife
	Practical Midwife

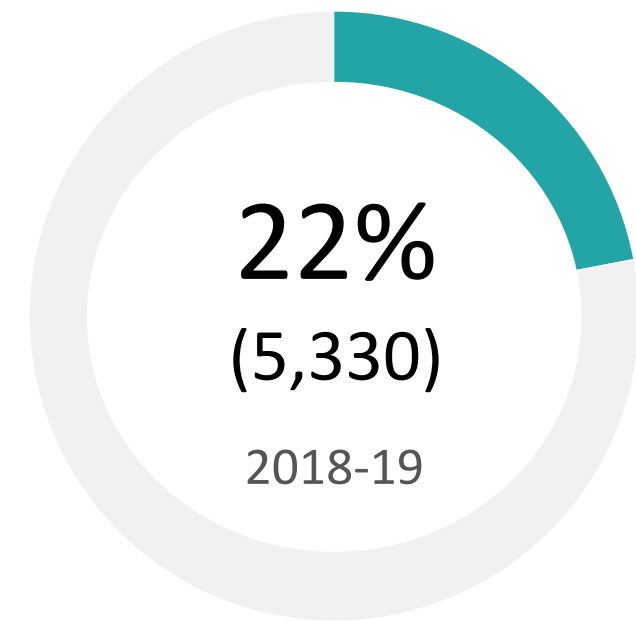
Education | Summary of Results

The existing education course offering is concentrated in Dental, Medicine and Pharmacy graduates. A greater investment should be made to boost the number of National graduates (only 2 in 10) but also widen the offering of Nursing and Allied Health courses

Enrolments
Proportion that are National

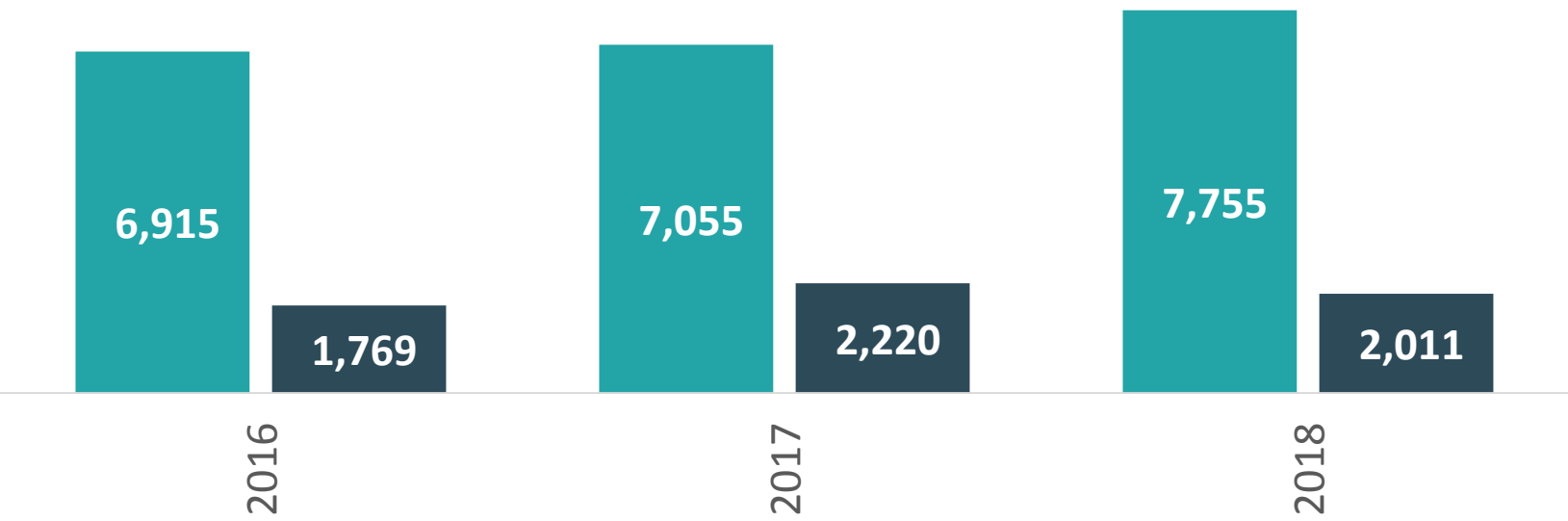


Graduates
Proportion that are National



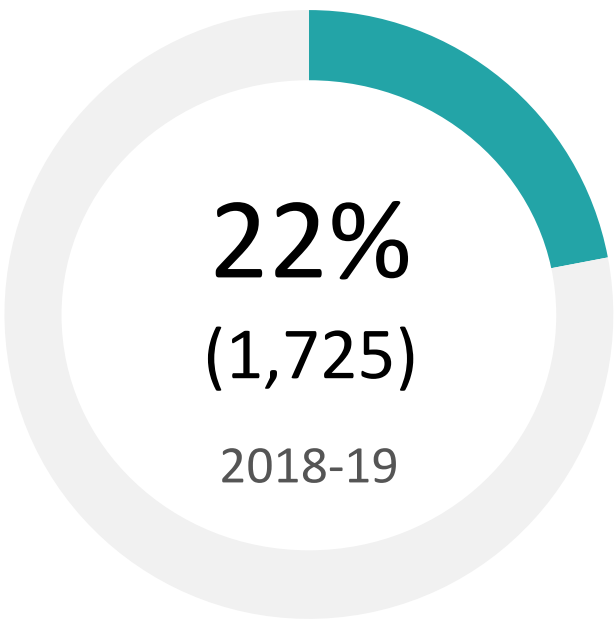
2 out of 10 graduates in Medical and Health Sciences are National

Enrollments Graduates



Enrolments have steadily increased from 2016 to 2018.
Graduates peaked in 2017 and declined 9% in 2018

Proportion of Male to Female enrolees

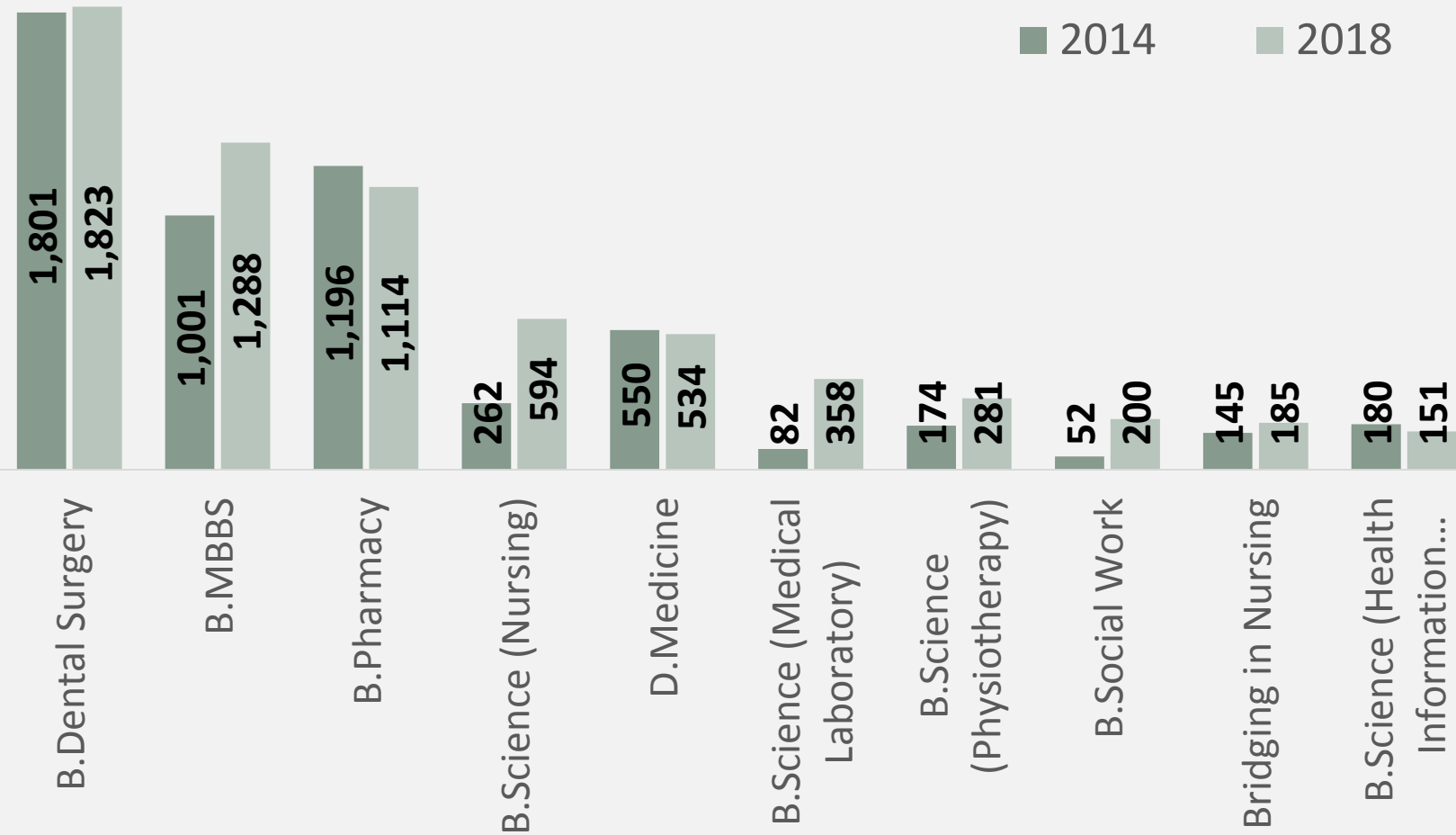


8 out of 10 enrolees in Medical and Health Sciences are Female

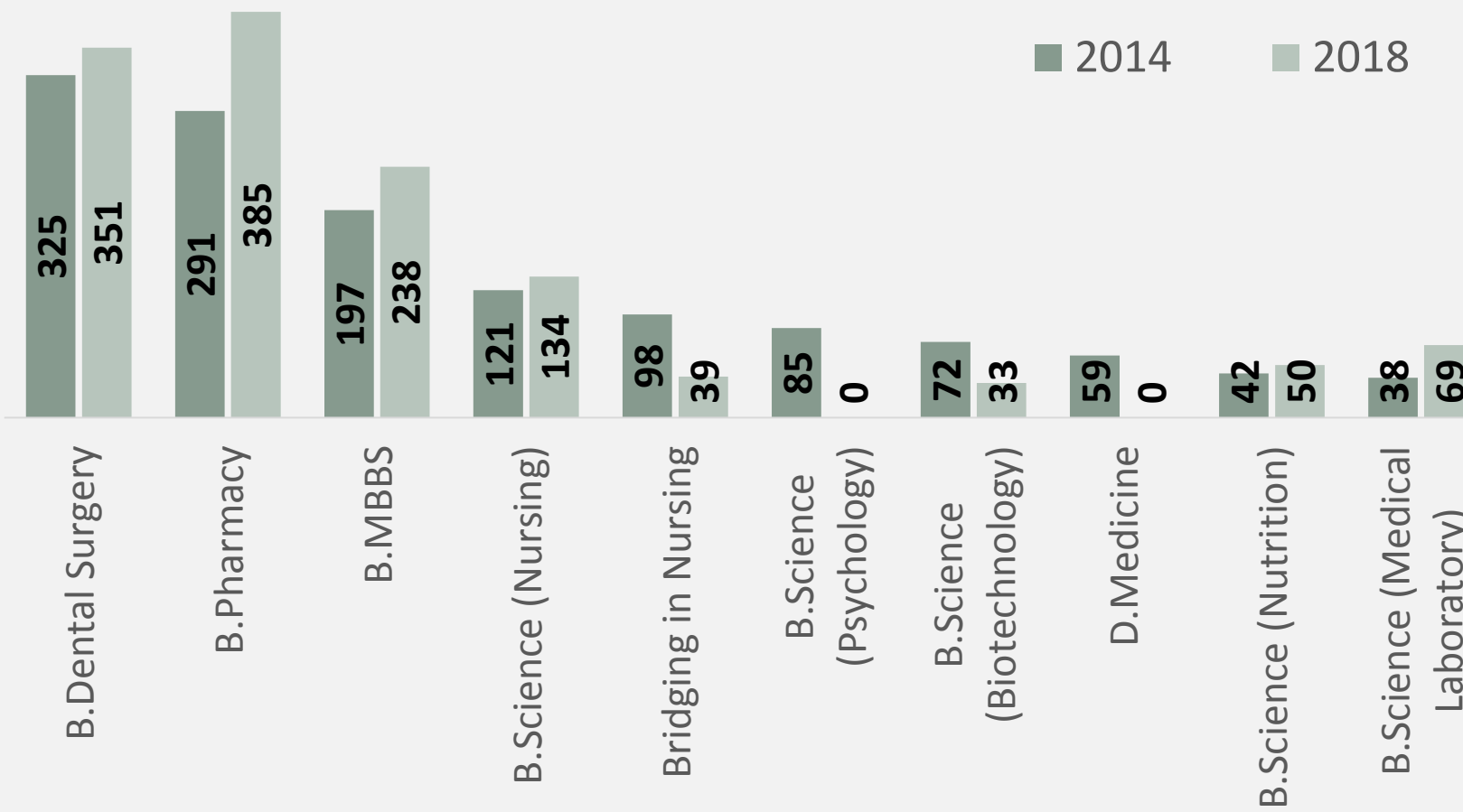
Dropouts



Top 10 course enrolments, 2014 and 2018



Top 10 course graduates, 2014 and 2018



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5 – Future Needs and Emiratization

Understanding gaps in the health workforce market and identifying priorities and strategies to address these requirements

Future Needs | Balancing Supply and Demand

Health Workforce Planning to achieve equilibrium between Supply and Demand

SUPPLY

Supply represents what workforce is currently licensed and what is planned into the future

- 1. **Current Supply** (DOH Health Workforce data bank)
- 2. **Planned Supply** (Local Education Entities)
- 3. **International Supply** (Inflow trends)
- 4. **Reversal of Outbound Supply** (Reducing outflow of National clinicians)
- 5. **Emiratization Priorities**

DEMAND

Demand represents what is required by the serviceable population currently and into the future

- 1. **Population Drivers** (size, structure, burden of disease etc.)
- 2. **International Benchmarking** (age and gender specific workforce demand)
- 3. **Reversal of IPC**
- 4. **Models of Care** Implementation



Future Needs | Demand Methodology

The difference between supply (current and planned) and the demand projected for the health professionals based on the healthcare needs of the population, are indicators of where there is a mismatch of workforce required and the supply availability for the health workforce. This provides a quantitative gap and further insights as to where there is any potential over or under supply of specialties in the geographic locations of a population. The demand profile for Abu Dhabi incorporates the Burden of Disease, Population Structure and activity utilization as outlined in the DOH Capacity Master Plan.

The aim for healthcare planning is to move towards more contemporary, equitable and efficient models of care – however this takes time and this transition must be built into planning to allow for realistic and achievable goals.



Supply Analysis

Supply represents what workforce is currently licensed and what is planned into the future.

Current Supply of Healthcare Professionals is analysed through Health Professional Licensing

Planned Supply of Healthcare Professionals is analysed through the capture of information in the Data Collection Tool

Demand Modelling

Demand represents what is required by the serviceable population currently and into the future.

The demand represents what the population size and age/gender structure would require based on International Reference countries.

Requirements (Gaps)

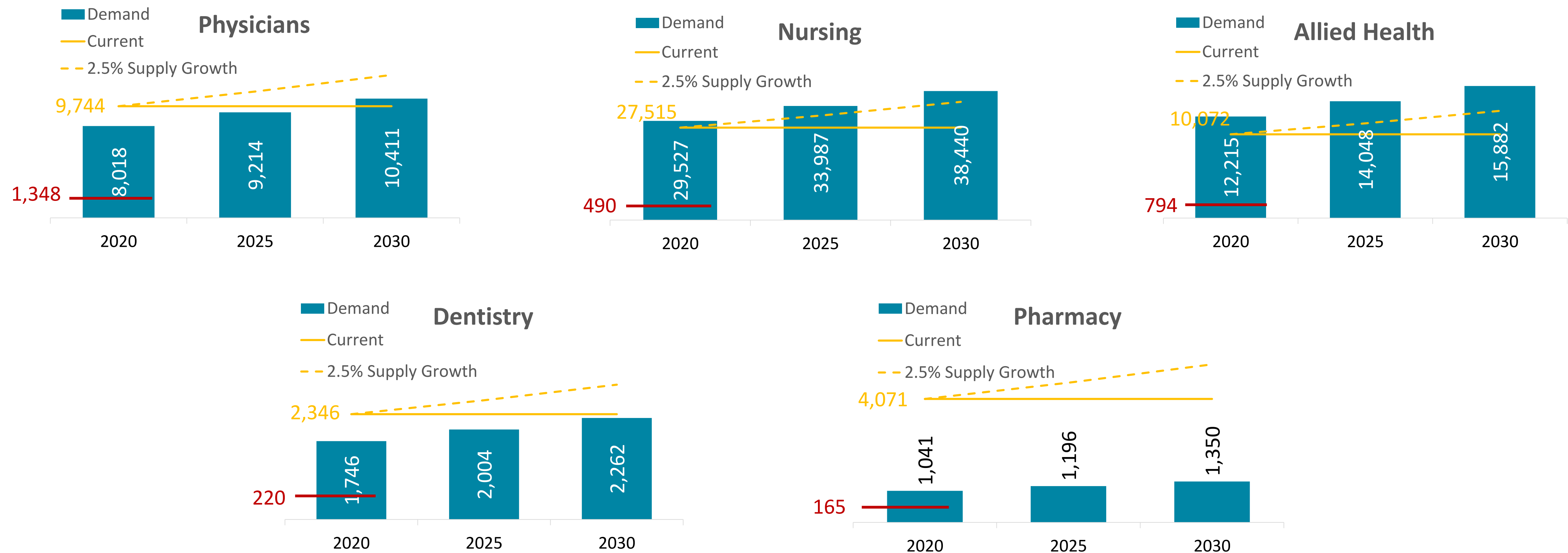
Gap represent what differences occur between demand and supply.

A gap represents an undersupply, where demand exceeds supply for a given year.

A gap takes in to consideration the current supply as well as the planned supply of those analysed in the Education Data Collection Tool.

Findings| Gap Analysis for the Entire Population

Comparing **current supply** with **demand** for the Abu Dhabi population up to the year 2030. **Current Nationals supply** is shown in Red.



Future Needs | Overall Healthcare Sector Requirements

Requirement (demand) for whole of market was conducted using international reference rates, which allowed DOH Workforce Planning to map supply of currently licensed clinicians, both Nationals and Non-nationals, to international references.

This approach compares majors on **specialty level** rather than **subspecialty**, since the subspecialty naming does not always align with international naming conventions.

This demand is used in the DOH’s intelligence portal, and it takes into account the utilisation rates based off the DOH’s Capacity Master Plan (i.e. if Psychiatry is less utilised then a down-adjustment is applied to Psychiatrists).

Requirement Area 1 – High Priority
Requirement Area 2 - Medium Priority
Requirement Area 3 – Low Priority

Physicians	Physicians
Psychiatry	Endocrinologist
Emergency Medicine	Cardiothoracic Surgeon
Radiation Oncology	Nephrologist
Intensive Care	Plastic Surgeon
Orthopedic Surgery	Urologist
Nuclear Medicine	Neurology
Interventional Cardiology	Anaesthesia
Haematologist	Clinical Pharmacology
Immunologist	Clinical Physiology
Hospice and Palliative Medicine	Vascular Surgery
Clinical Genetics	Clinical Pathologist
Pain Medicine	Cardiologist
Sexual and Reproductive Health	ENT Surgeon
Geriatric Medicine	General Surgery
Medical Oncology	Radiologist
Neurological Surgery	Dermatologist
Peadiatric Surgery	Ophthalmologist
Physical Medicine and Rehabilitation	Obstetric and Gynaecologist
Rheumatology	Pediatrician
Occupational Medicine	Respiratory Medicine
Neonatologist	Hepatologist
Gastroenterologist	General Physician

Dental
Dental Assistant
Dental Technician
Dental Hygienist

Nursing
Assistant Nurses and Midwives
Registered Nurse
Registered Midwife

Pharmacy
Pharmacist

Allied Health
Psychologist
Physiotherapy
Occupational Therapist
Medical Laboratory Technologist
Emergency Medical Technician/Paramedics*
Optometrist
Chiropractor
Speech therapy
Podiatrist
Radiographer
Radiotherapist
Nuclear Medical Technologist
Orthoptist
Orthoptist/Optician
Respiratory Therapist*
Central Sterile Service Technician*
Anesthesia Technologist
Dietician
Cardiovascular Technologist*
Clinical Scientist
Physician Assistant
Social Worker
Audiologist

Emiratization

Emiratization of the workforce in all sectors is a high priority on the National Agenda, specifically Emiratization of Health Workforce to help meet the growing demand for healthcare services and ensure a supply of specialized Emirati professionals that can become actively involved in the development of a sustainable healthcare sector.

The low number of Emiratis in the health workforce across the United Arab Emirates (UAE) potentially imposes a high reliance on international health workforce and may eventually impact the health sector's readiness.

Therefore, Emiratization of this vital sector can help ensure its continuity and sustainability.



Emiratization | Growing the National Workforce

Healthcare sustainability is of high priority for the DOH due to the importance of the sector and the services provided to all Nationals and Non-Nationals across the Emirate.

Classification of Emiratization Priorities

Low number of National Health Workforce in certain specialties does not necessarily classify those specialties as a high priority or strategic for the sector. However, Emiratization Priorities for Abu Dhabi's Health Workforce has been identified and classified based on multiple factors & criteria, such as:

- 1) Specialization's vitality to the business continuity in the healthcare sector of Abu Dhabi.
- 2) Specialization's criticality to sustain a vital and critical healthcare services in the sector.
- 3) Current limited supply of National health workforce in such specializations.
- 4) The challenging education programs and the reluctance of Nationals to join.
- 5) Current limited or non-existent supply of education programs supporting the demanded specializations.

Priority 1

Highly Critical & Vital Specialty
Severe shortage of National Health Workforce

Priority 2

Vital Specialty
High Shortage of National Health Workforce

Priority 3

Important Specialty
Medium Shortage of National Health Workforce

Emiratization | Physician Emiratization Priorities

The below chart shows the Emiratization Priorities of Abu Dhabi’s Healthcare sector’s physicians ranked strategically according to criticality and importance; to direct the pool of talented future supply of workforce into joining the highly needed specialties for Nationals.

Priority 1

- 1. Surgical Specialities
- 2. Anaesthesiology
- 3. Emergency Medicine
- 4. Intensive / Critical Care Medicine
- 5. Obstetrics & Gynaecology
- 6. Radiology
- 7. Pathology
- 8. Pediatrics
- 9. Orthopedics
- 10. Orthopedic Surgery
- 11. Neurology & Neurosurgery
- 12. Hematology
- 13. Oncology
- 14. Oral Maxillofacial
- 15. Urology
- 16. Otolaryngology
- 17. Audiology
- 18. Neonatology

Priority 2

- 1. Internal Medicine
- 2. Psychiatry
- 3. Cardiovascular Disease
- 4. Radiation Oncology
- 5. Diagnostic Radiology
- 6. Nuclear Medicine
- 7. Ophthalmology
- 8. Laboratory medicine
- 9. Gastroenterology
- 10. Physical Medicine
- 11. Rehabilitation
- 12. Dentistry Specialties
- 13. Immunology
- 14. Occupational Medicine
- 15. Anatomic and Clinical Pathology

Priority 3

- 1. Endocrinology
- 2. Allergy and Immunology
- 3. Medical Microbiology
- 4. Nephrology
- 5. Plastic Surgery
- 6. Family Medicine
- 7. General Practitioner
- 8. Dermatology
- 9. General Dentistry
- 10. Medical Genetics
- 11. Forensic Medicine

Emiratization | Allied Health Emiratization Priorities

The below chart shows the Emiratization Priorities for Allied Health Workforce of Abu Dhabi’s Healthcare sector ranked strategically according to criticality and importance; to direct the pool of talented future supply of workforce into joining the highly needed specialties for Nationals.

Priority 1	Priority 2	Priority 3
<div><div>1. Respiratory Therapy</div><div>2. Anesthesia Technology</div><div>3. Cardiovascular Technology</div><div>4. Perfusionist</div><div>5. Speech Therapy</div><div>6. Clinical Psychology</div><div>7. Audiology</div><div>8. Central Sterile Services</div><div>9. Emergency Medical Technicians (EMT)/Paramedics</div><div>10. Medical Imaging</div><div>11. Physiotherapy</div><div>12. Occupational Therapy</div><div>13. Renal Dialysis</div><div>14. Clinical Pharmacists</div></div>	<div><div>1. Electro-neurodiagnostic</div><div>2. IN-Vitro Fertilization</div><div>3. Nuclear Medicine</div><div>4. Medical Laboratory Sub Specialities</div><div>5. Neurodiagnostics</div><div>6. Radiology</div><div>7. Radiotherapy</div><div>8. Embryology</div><div>9. Podiatry</div><div>10. Prosthetics & Orthotics</div><div>11. Physician Assistant</div></div>	<div><div>1. Psychology</div><div>2. Medical Physics</div><div>3. Clinical Dietetics</div><div>4. Social Worker</div><div>5. Health Educator</div><div>6. Genetic Counselor</div><div>7. Cast Technician</div><div>8. Orthotics & Prosthetics</div><div>9. Orthoptic</div><div>10. Pharmacist</div><div>11. Dental Clinical Support</div><div>12. Transplant Coordinators</div><div>13. Ophthalmic Tech</div></div>

Emiratization | Nursing Emiratization Priorities

The below chart shows the Emiratization Priorities for Nursing Workforce of Abu Dhabi’s Healthcare sector ranked strategically according to criticality and importance; to direct the pool of talented future supply of workforce into joining the highly needed specialties for Nationals.

Priority 1	Priority 2
<div><div>1. Registered Nurse</div><div>2. Speciality Nurse</div><div>(a) Intensive Care</div><div>(b) Neonatal Intensive Care</div><div>(c) Operation Room</div><div>(d) Accident & Emergency</div><div>(f) Mental Health</div><div>(e) Infection Control</div><div>(g) Anesthesia Nurse</div><div>(h) Dialysis Nurse</div><div>(j) Cardiac Intensive Care</div><div>3. Registered Midwife</div></div>	<div><div>1. Home Health Care</div><div>2. School Nurse</div></div>

Current Workforce | Health Workforce Profiles

The following section have been developed to identify key healthcare workforce profile statistics, trends, projections and education requirements, including:

- Major and specialty framework for each profile
- Workforce-population projections
- Size of each category of health workforce in relation to all health workforce
- Proportion of the workforce profile over time
- Workforce per capita for Nationals & Non-Nationals
- Supply, demand and gap of workforce profile along with annual targets
- Education and training requirements by specialty

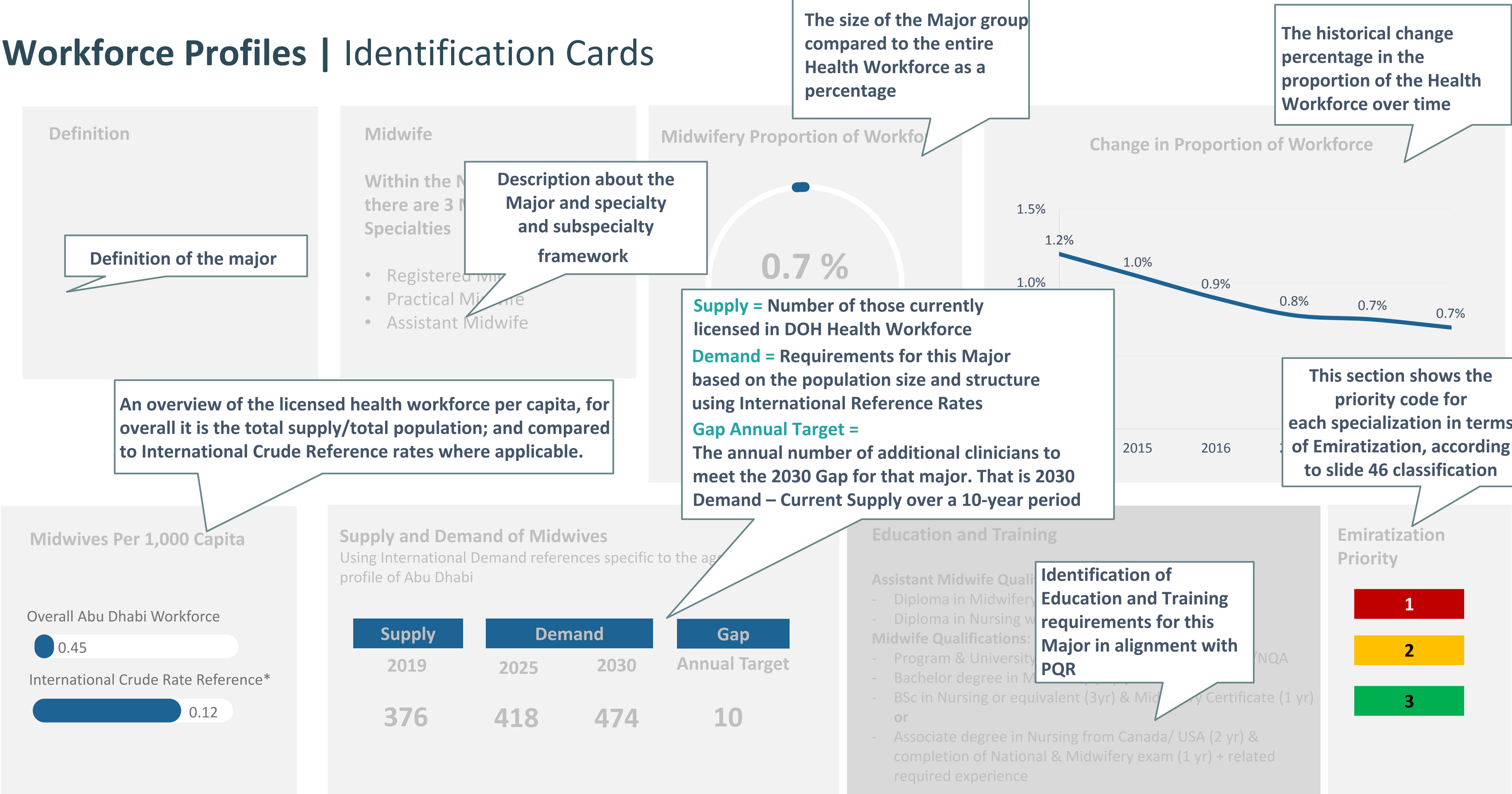
Workforce Profile identification cards have been developed for the following health workforce professionals:

- Midwives
- Nurses
- Physicians
- Allied Health Professionals
- Dentists
- Pharmacists

This provides a snapshot into key workforce requirements and provides further insight into where there is are any potential over or under supply of specialties in Abu Dhabi. This allows for strategic planning initiatives to achieve workforce targets and in achieving premium education and workforce excellence.



Workforce Profiles | Identification Cards



Midwifery | Profile

Midwife Definition

Midwifery encompasses care of women during pregnancy, labour, and the postpartum period, as well as care of the newborn.

Midwife



Within the Nursing Major, there are 2 Midwifery Specialties

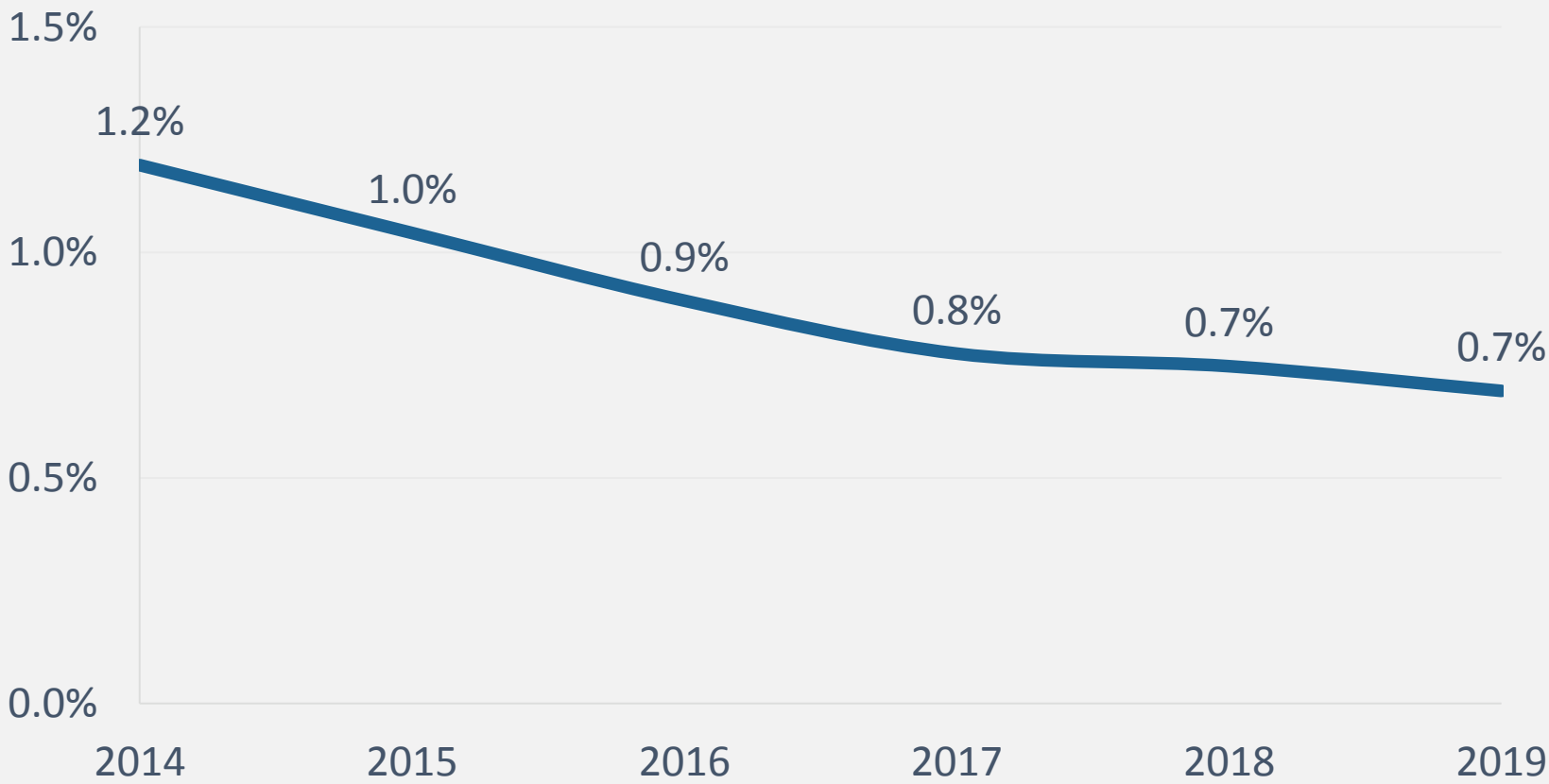
- Registered Midwife
- Practical Midwife

Midwifery Proportion of Health Workforce



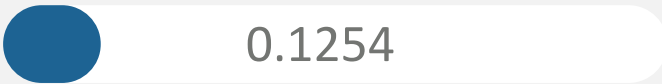
376 Midwives out of 54,231
(3 National, 373 Non-National)

Change in Proportion of Workforce



Midwives Per 1,000 Capita

Overall Abu Dhabi Midwives



International Crude Rate Reference*



Supply and Demand of Midwives

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
	2019	2025 2030	
376	580	762	38

Education and Training

Assistant Midwife Qualifications:

- Diploma in Midwifery (2 year) **or**
- Diploma in Nursing with 1 year Midwifery emphasis

Midwife Qualifications:

- Program & University must be accredited by the MOE/NQA
- Bachelor degree in Midwifery (3 year) **or**
- BSc in Nursing or equivalent (3 year) & Midwifery Certificate (1 year) **or**
- Associate degree in Nursing from Canada/ USA (2 year) & completion of National & Midwifery exam (1 year) + related required experience

Course available: Yes** – Fatima College for Health Sciences, Gulf Medical University, RAK Medical & Health Sciences University, Sharjah University

Emiratization Priority

1

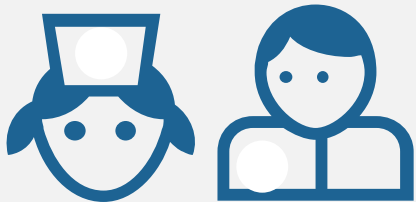
Nursing | Profile

Nursing Definition

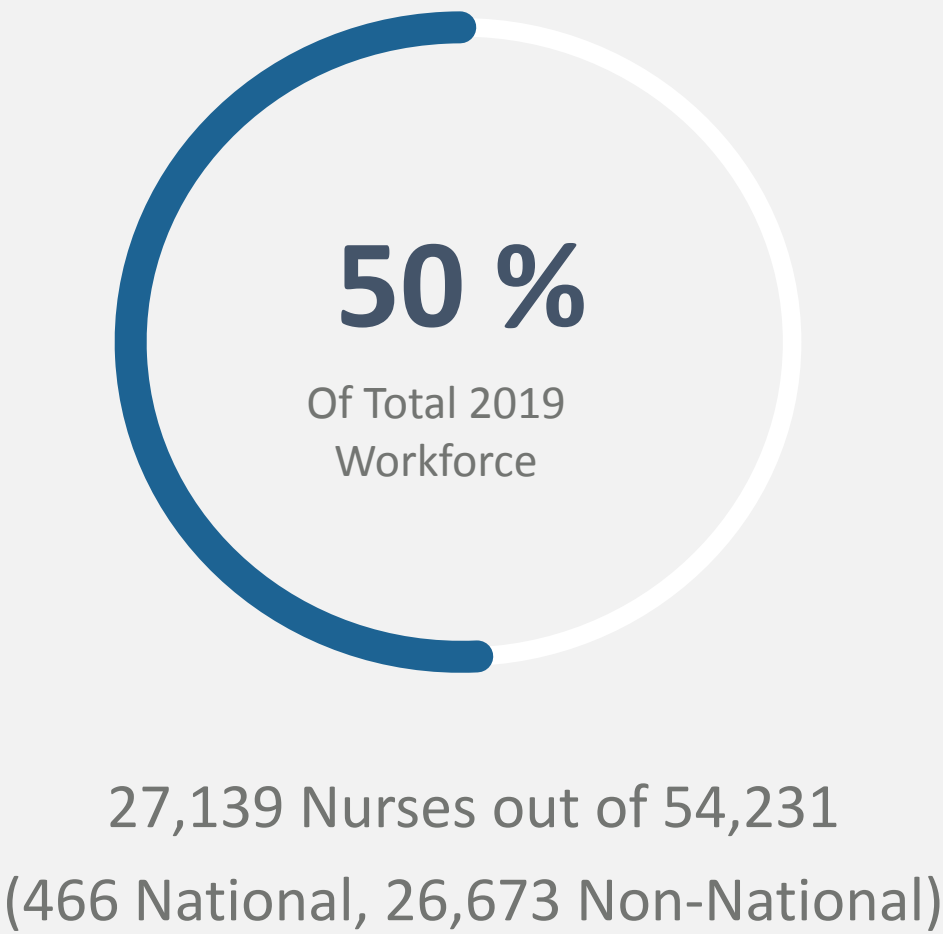
Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. It includes the promotion of health, the prevention of illness, and the care of ill, disabled and dying people.

The Nursing Major group is split into 5 Specialties

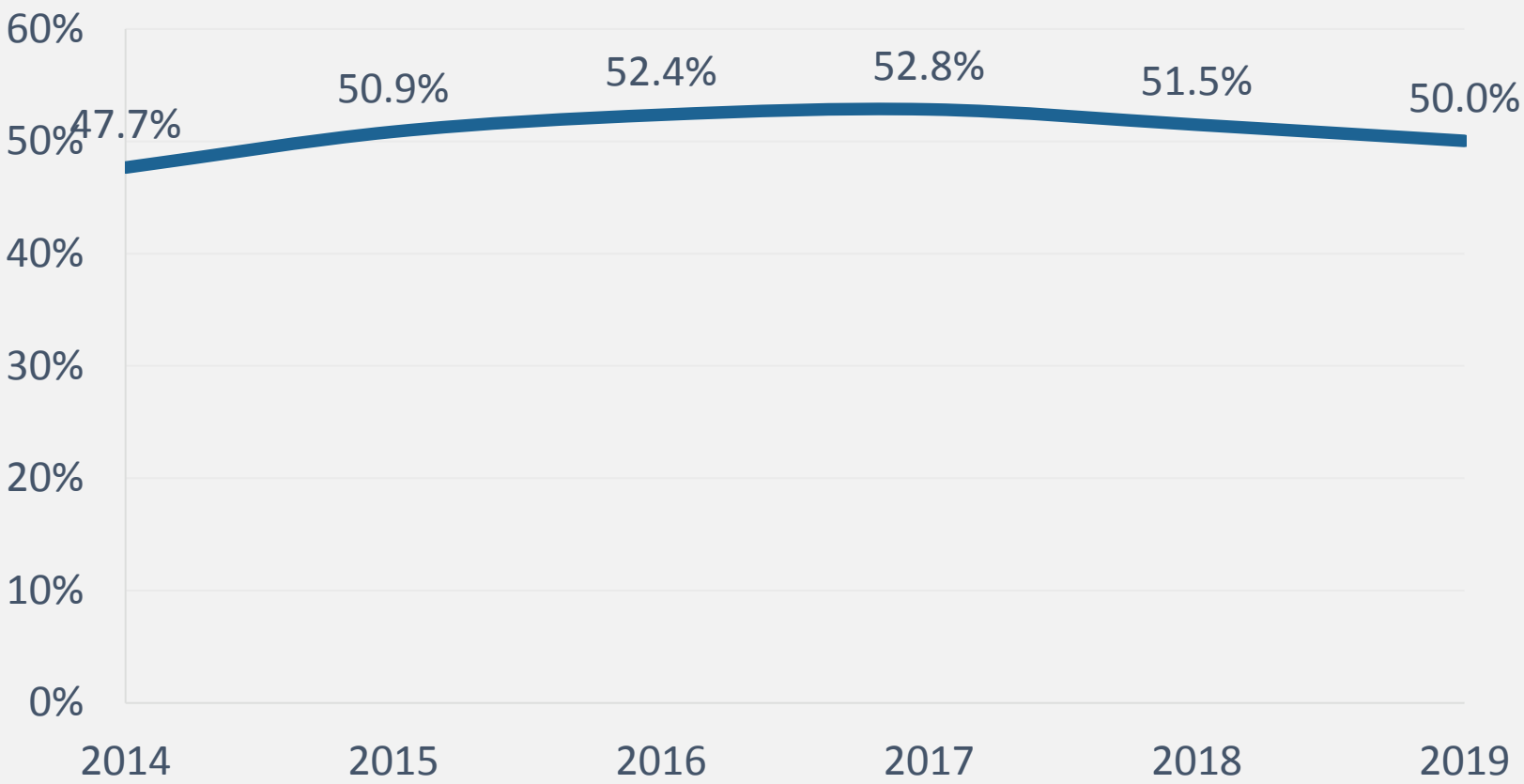
- 1) Registered Nurse
- 2) Practical Nurse
- 3) School Nurse
- 4) Nurse Practitioner
- 5) Specialty Nurse



Nursing Proportion of Health Workforce



Change in Proportion of Workforce



Nurses Per 1,000 Capita

Overall Abu Dhabi Nurses



International Crude Rate Reference*



Supply and Demand of Nurses

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
	2019	2025 2030	
27,139	33,569	37,966	1,082

Education and Training

Assistant Nurse Qualifications:

Diploma of Nursing (18m)

Registered/School Nurse qualifications:

- Bachelor degree in Nursing **or**
- BSc in Nursing or equivalent (3yr) & Midwifery Certificate (1 yr) **or**
- Associate degree in Nursing from Canada/ USA (2 yr) & completion of National exam
- + related required experience

Nurse Practitioner/Specialty Nurse qualifications:

- RN requirements **and** Clinical Master/ Doctoral degree in nursing **or**
- RN requirements **and** National Certification as a Nurse Practitioner
- + related required experience

Course available: Yes** – Fatima College for Health Sciences, Gulf Medical University, RAK Medical & Health Sciences University, Sharjah University

Emiratization Priority

1

Physicians | Profile

Physician Definition

An authorized practitioner of medicine, as one graduated from a college of medicine and licensed to practice by the appropriate body.

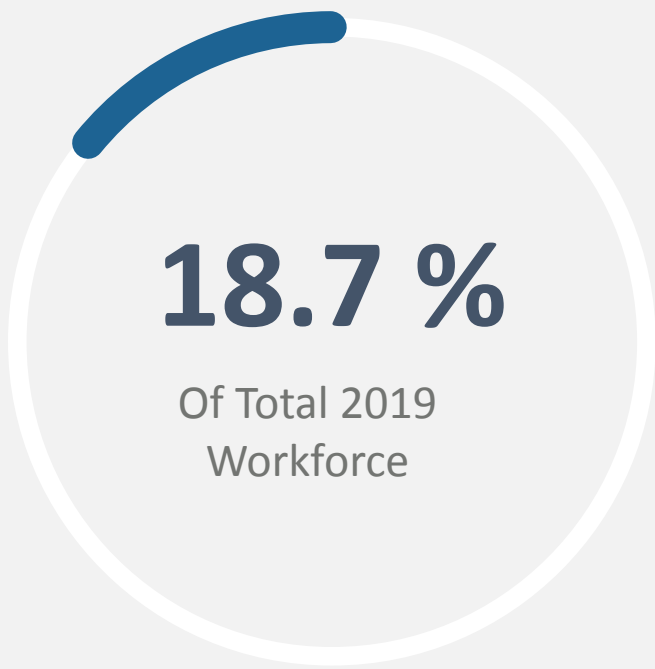
The Physician Major group is split into 3 Majors

- 1) Consultant Physician
- 2) Medical Practitioner (GP)
- 3) Specialist Physician

From this there are a further 38 Specialties and 218 Subspecialties licensed

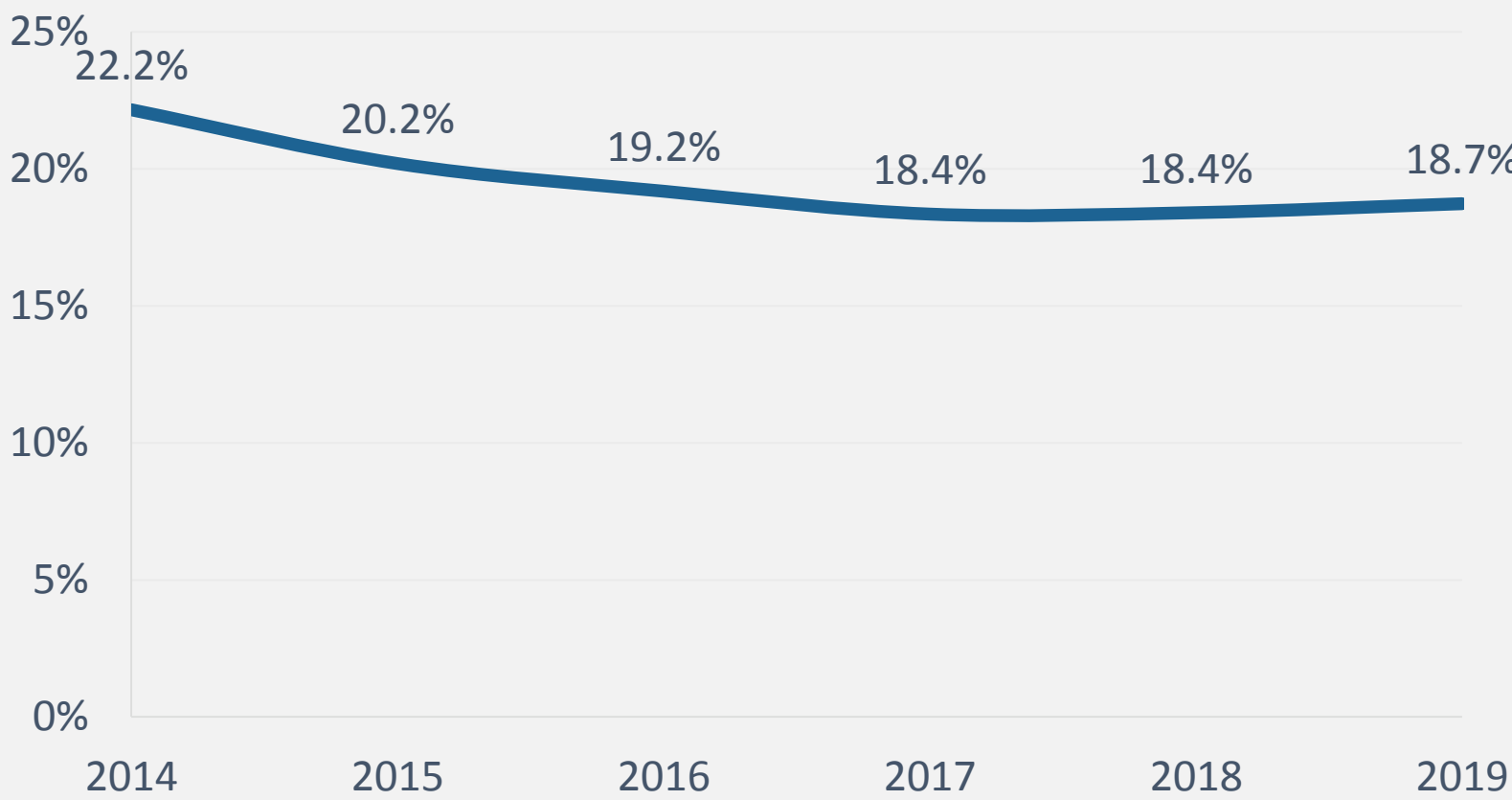


Proportion of Health Workforce



10,159 Physicians out of 54,231
(1,445 National, 8,714 Non-National)

Change in Proportion of Workforce



Physicians Per 1,000 Capita

Overall Abu Dhabi Physicians



International Crude Rate Reference*



Supply and Demand of Physicians

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
10,159	9,214	10,411	25

Equilibrium State: The current supply of physicians meets/close to the projected demand.

Education and Training

Intern/ Resident/ GP Qualifications:

- MBBS or MBChB or equivalent qualification from an accredited institution + related required experience

Specialist/ Consultant qualifications:

- MBBS, MBChB or equivalent qualification from an accredited institution
- Completion of specialty qualification + related required experience + Local Medical Residency Programs

Emiratization Priority

1

Allied Health | Profile

Allied Health Professional Definition

Allied Health professionals are involved with the delivery of health or related services pertaining to the identification, evaluation and prevention of diseases and disorders; dietary and nutrition services; rehabilitation and health systems management, among others. They often work within a multidisciplinary health team to provide the best patient outcomes.

The Allied Health Major group is split into 57 Specialties and 189 Subspecialties

The largest 5 specialties include:

- Medical Laboratory
- Emergency Medical Technician/ Paramedics
- Physiotherapy
- Medical Imaging
- Dental Clinical Support

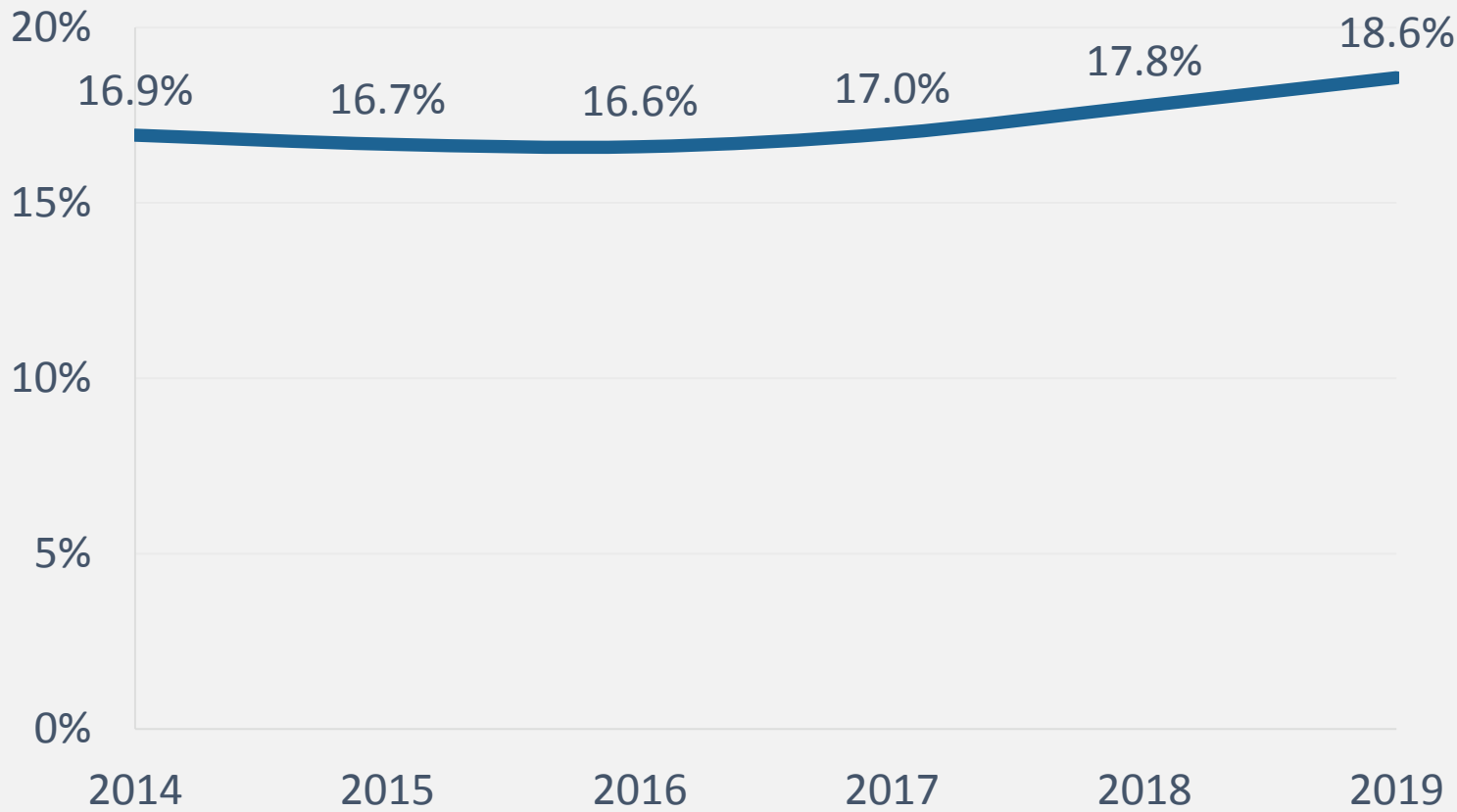


Proportion of Health Workforce



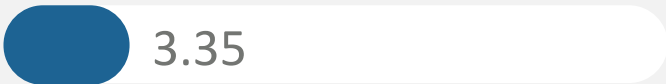
10,072 Allied Health out of 54,231
(774 National, 9,298 Non-National)

Change in Proportion of Workforce



Allied Health Per 1,000 Capita

Overall Abu Dhabi Allied Health



International Crude Rate Reference*



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand	
2019	2025	2030
10,072	10,432	11,786

Education and Training

Allied Healthcare Professionals Qualifications:

- Graduates from a recognized or accredited institution
- Required Bachelor degree (3 yr)
- Required Master's degree (2 yr)
- + related required experience

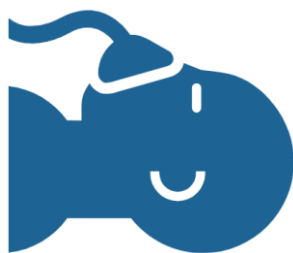
Allied Health | Anesthesia Technologist Profile

Anesthesia Technologist Definition

An Anesthesia Technologist an allied healthcare worker who performs a patient care role predominantly assisting with the administration and monitoring of anesthesia and has extensive knowledge of anesthesia techniques, instruments, supplies and technology.

The Anesthesia Specialty is split into 3 groups/titles

- 1) Anesthesia Technician
- 2) Anesthesia Technologist
- 3) Senior Anesthesia Technologist

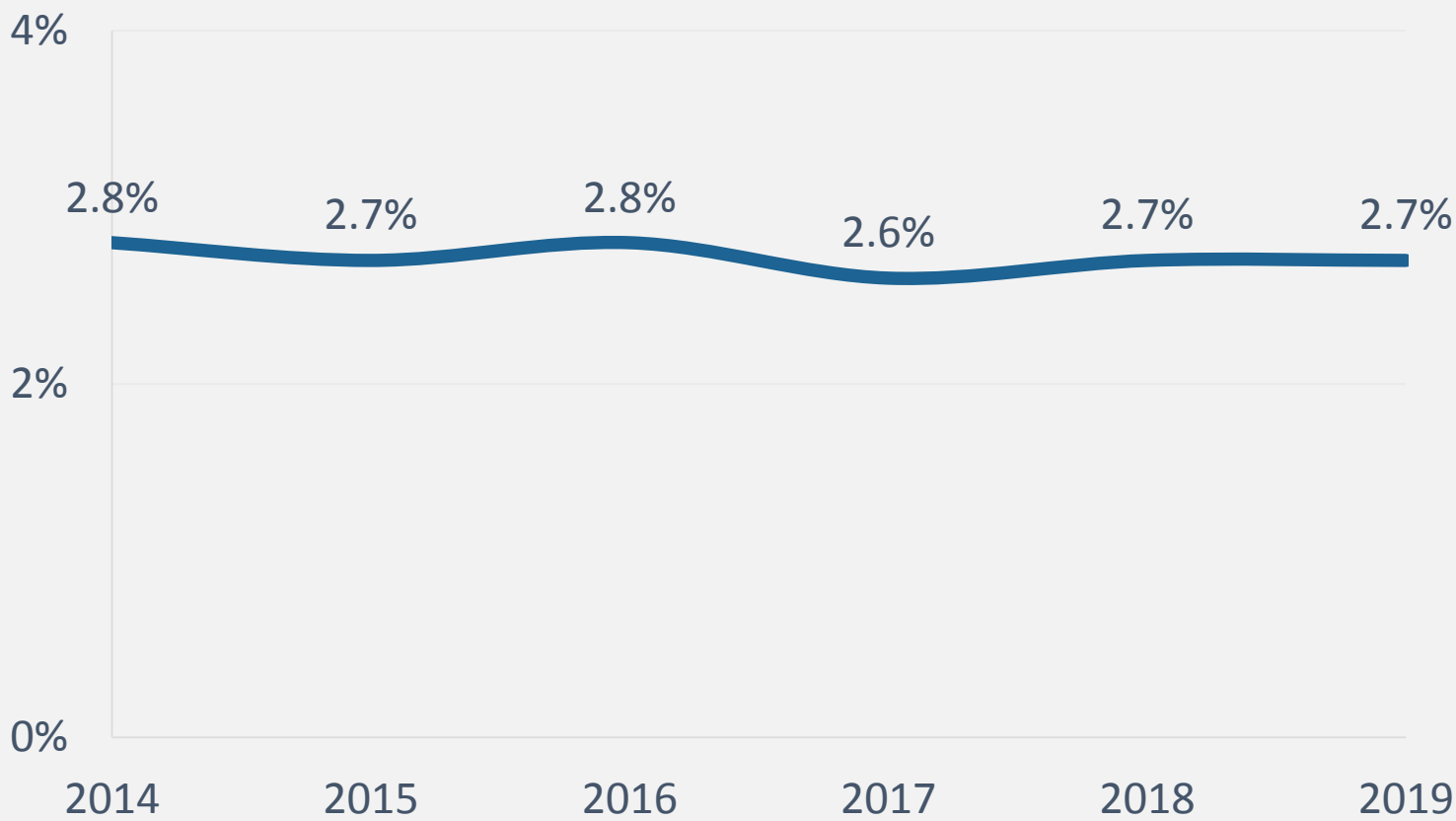


Proportion of Allied Health Workforce



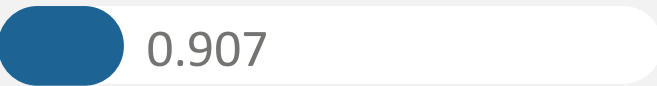
272 out of 10,072
(0 National, 272 Non-National)

Change in Proportion of Workforce



Anesthesia Technologists Per 10,000 Capita

Overall Abu Dhabi Anesthesia Technologists



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
272	313	353	8

Education and Training Anesthesia Technologist

- Required Bachelor degree in Anesthesia Technology + related required experience or
- Registered Nurse/ Respiratory Therapist & post graduate anesthesia certification

Anesthesia Technician

- 2-year Anesthesia Technician Program + related required experience

Course available: Yes – Gulf Medical University

Emiratization Priority

1

Allied Health | Paramedic Profile

Paramedic Definition

A Paramedic a specially trained medical technician licensed to provide a wide range of emergency services before or during transportation to a hospital.

The Paramedic Specialty is split into 4 groups/titles

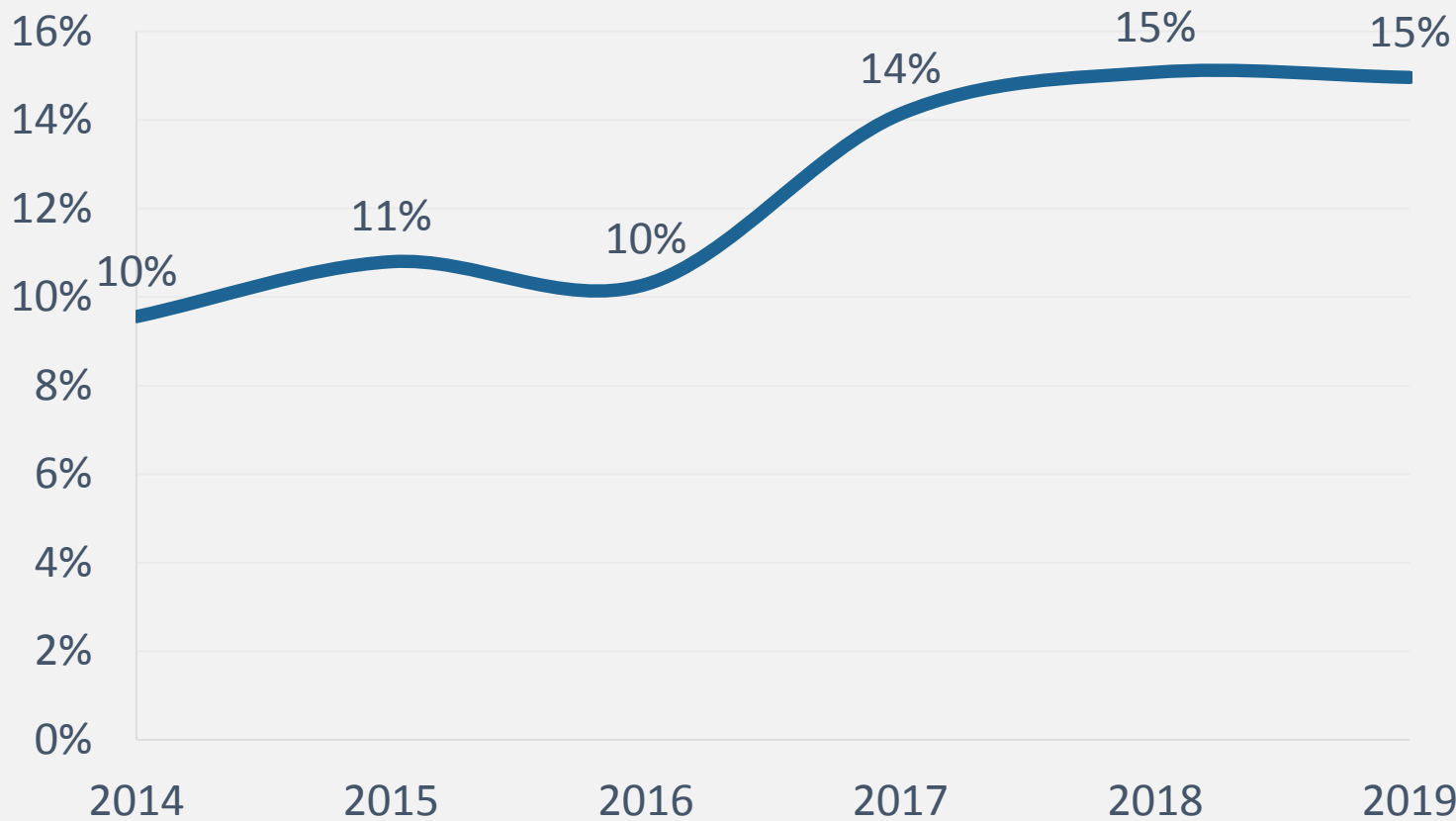
- 1. Ambulance Nurse
- 2. Emergency Medical Technician - Advanced
- 3. Emergency Medical Technician- Intermediate
- 4. Emergency Medical Technician – Basic



Proportion of Allied Health Workforce



Change in Proportion of Workforce



Paramedics per 10,000 Capita

Overall Abu Dhabi Paramedic



International Reference*



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
1,507	2012	2276	76

Education and Training

- Internationally recognized EMT-P course or equivalent (Minimum two (2) years course duration) or minimum of two (2) years Associate degree in EMT & hold a valid ACLS ,PALS, PHTLS Certification + related required experience OR
 - Bachelor’s degree or equivalent in emergency medical technology or Emergency applied science or UK paramedic Science & hold a valid ACLS, PALS, PHTLS Certification + related required experience
- Course available: Yes** - Al Khawarizmi International College, Dubai Women’s College, Fatima College for Health Sciences, Higher Colleges of Technology, University of Sharjah, UAE University

Emiratization Priority

1

Allied Health | Cardiovascular Technologist Profile

Cardiovascular Technologist Definition

A Cardiovascular Technologist are allied health professionals that deal with the circulatory system and assist physicians in the diagnosis and treatment of cardiac (heart) and peripheral vascular (blood vessel) conditions.

The Cardiovascular Technology Specialty is split into 4 groups/titles

- 1) Cardiovascular Technician
- 2) ECG Technician
- 3) Cath Lab Technologist
- 4) Cath Lab Technician

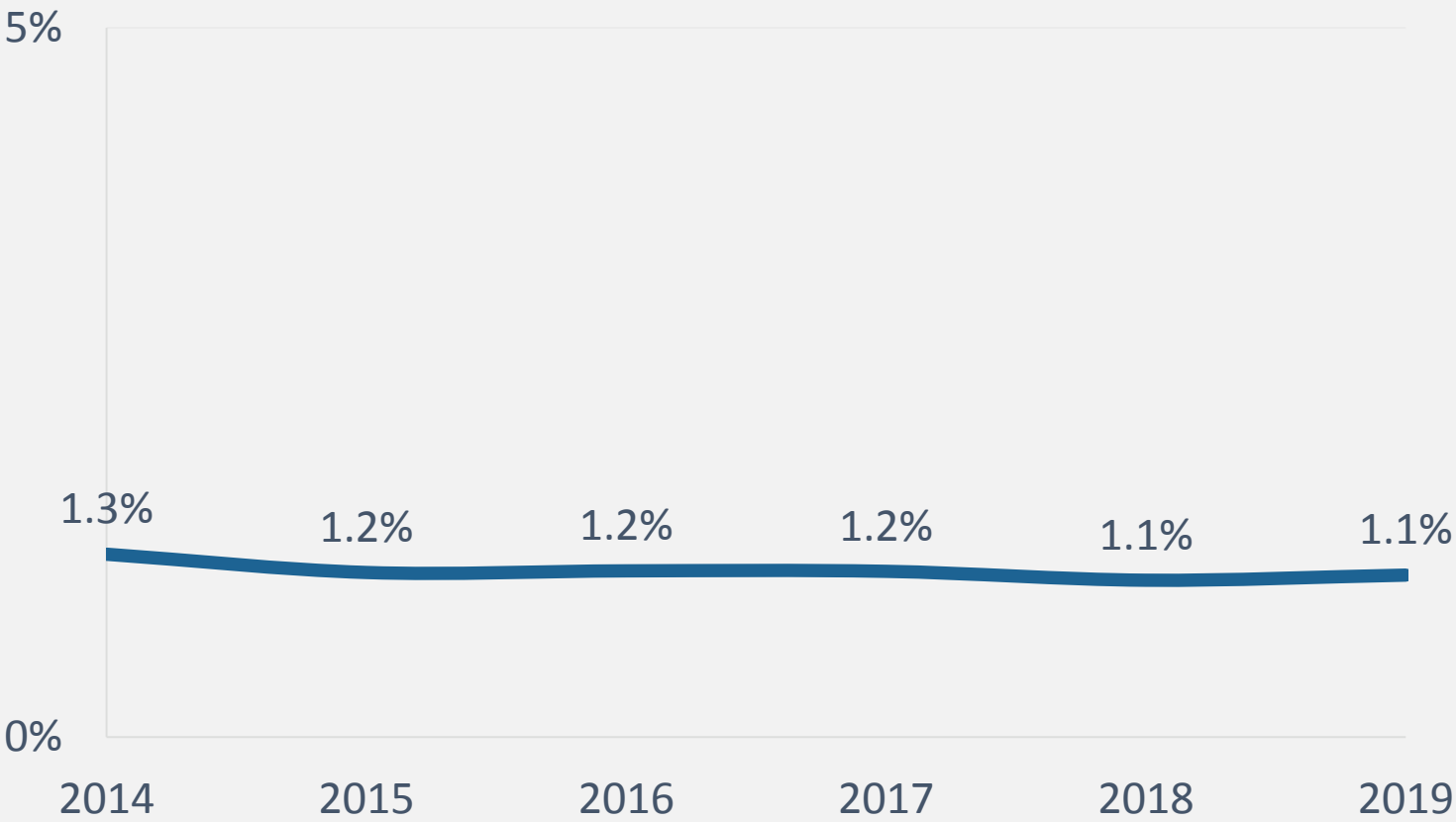


Proportion of Allied Health Workforce



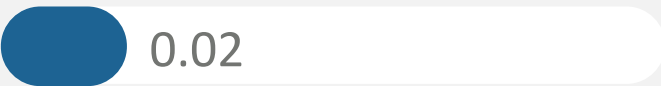
123 out of 10,072
(0 National, 123 Non-National)

Change in Proportion of Workforce



Cardiovascular Technologists per 10,000 Capita

Overall Abu Dhabi Cardiovascular Technologist



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
123	141	160	4

Education and Training

Cardiovascular Technologist

- BS degree in Cardiovascular program

Cardiovascular Technician

- 2-year Cardiovascular program

ECG Technician

- 1-year certificate in ECG or diploma in Medical Sciences/ Allied Health with ECG training

Course available: No

Emiratization Priority

1

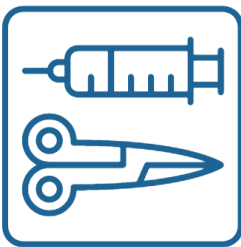
Allied Health | Central Sterile Service Profile

Central Sterile Service Staff Definition

Central Sterile Service staff coordinate and collaborate the overall cleaning, decontamination, assembly and dispensing of surgical instruments, equipment and supplies needed for surgeries, examinations, and medical procedures.

The Central Sterile Service Specialty is split into 4 groups/titles

- 1) Sterile Services Aide
- 2) Sterile Services Supervisor
- 3) Sterile Services Technician

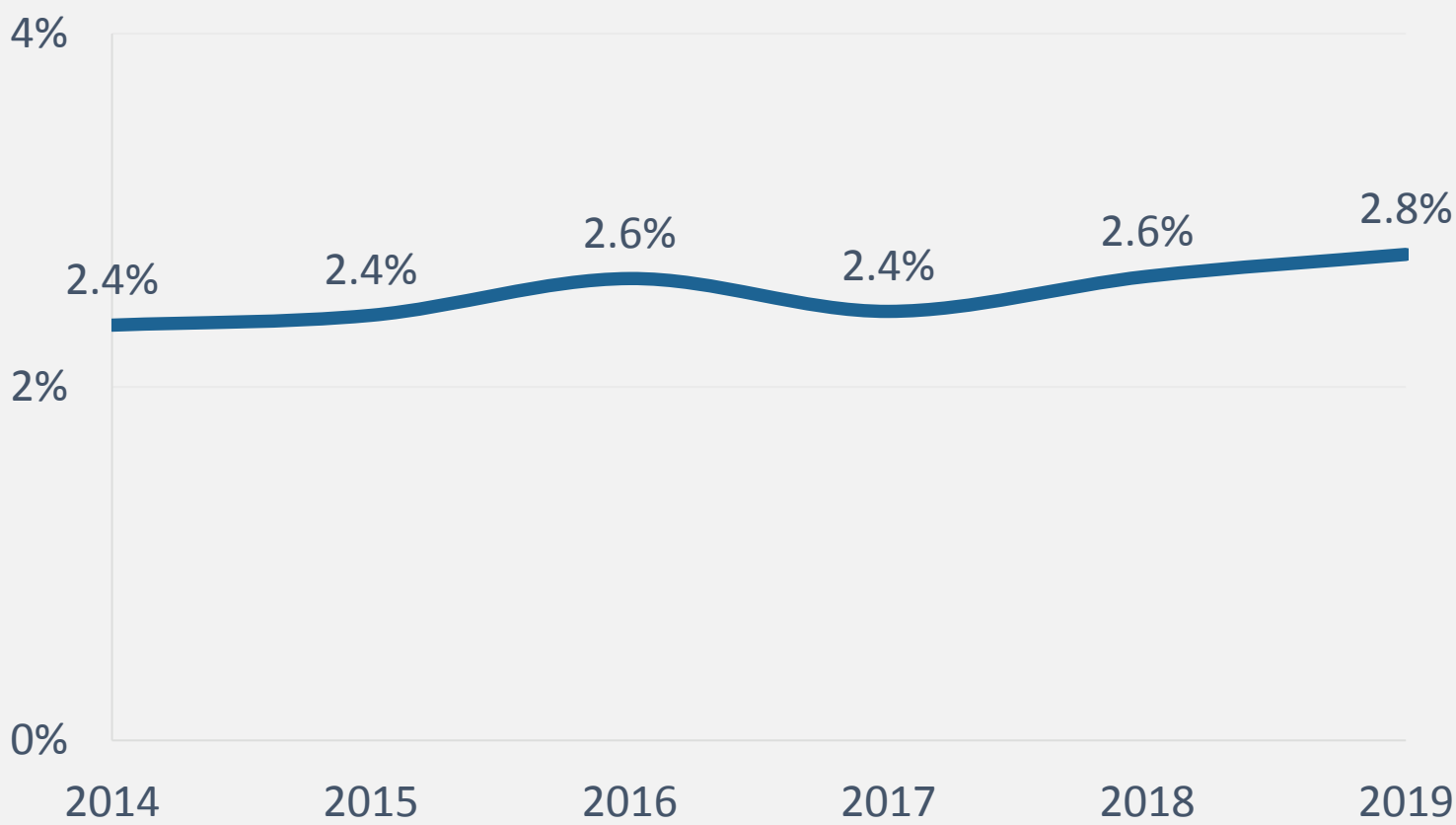


Proportion of Allied Health Workforce



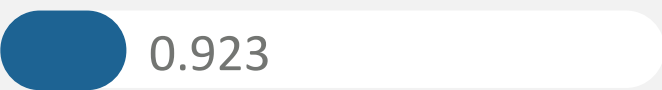
277 out of 10,072
(2 National, 275 Non-National)

Change in Proportion of Workforce



Central Sterile Service per 10,000 Capita

Overall Abu Dhabi CSS



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
277	319	360	8

Education and Training CSS Technician

- Associate degree in CSS technology (2 years) or
 - Certificate in health-related field with certification as a member of the Board of Sterile Processing and Distribution or International Association of Healthcare Central Services
- Material management + related required experience

CSS Aide

- Completion of higher secondary school + practical job training

Course available: No

Emiratization Priority

1

Allied Health | Medical Imaging Profile

Medical Imaging Staff Definition

Medical Imaging staff specialize in the field of Radiology as a diagnostic tool for many diseases. They have an important role in monitoring treatment and predicting outcomes. Radiology has a number of imaging modalities which have differing physical principles of varying complexity. Therefore there are various staff within a Radiology center which have their own respective responsibilities.

The Medical Imaging Specialty is split into 14 groups/titles

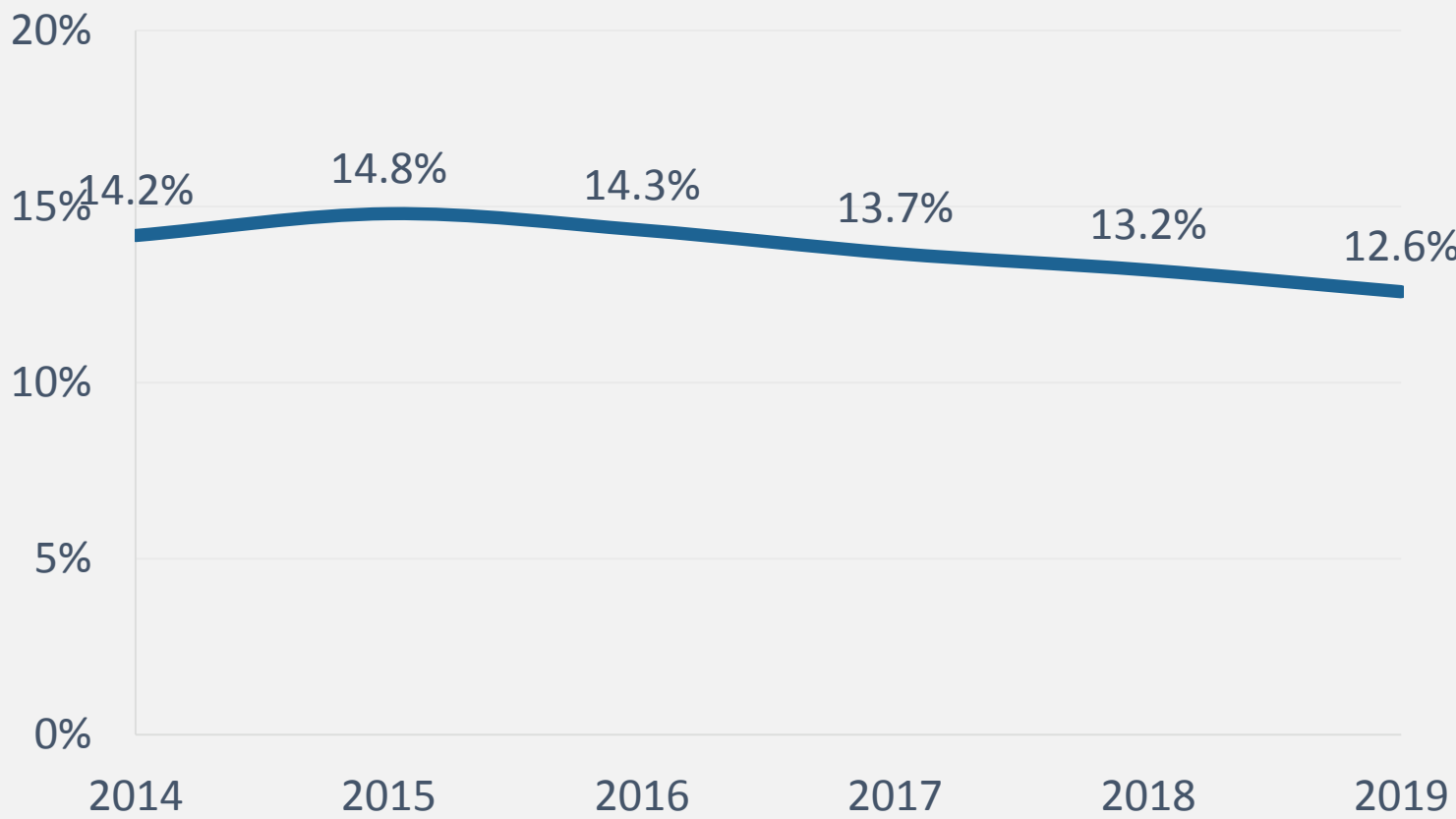
- 1) Assistant Radiographer
- 2) Mammographer
- 3) Manager of Radiology
- 4) Radiographer (General, Interventional, CT & MRI)
- 5) Radiography Technician
- 6) Radiography Technologist
- 7) Senior Radiographer & Supervisor
- 8) Senior and Junior Sonographer



Proportion of Allied Health Workforce

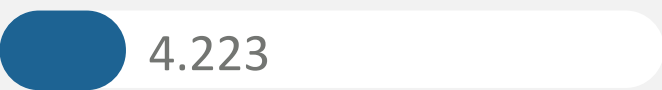


Change in Proportion of Workforce



Medical Imaging per 10,000 Capita

Overall Abu Dhabi Medical Imaging Workforce



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
	2019	2025 2030	
1,267	1,335	1,511	24

Education and Training Radiographer/ Radiography Technologist (MRI, Sonographer, Nuclear Medicine)

- Bachelor degree in Radiography, Radiology Technology or Medical Diagnostics + related required experience and
- Diploma in Radiology in related specialization (3 years)
- Associate degree in Radiography/ certification of accreditation
- Registered Nurse/ Respiratory Therapist & post grad anesthesia certification

Radiography Technician

- Bachelor degree in Radiography, Radiology Technology or Medical Imaging + related required experience and
- Diploma as a Radiographer Technician (2 years)

Course available: Yes – Emirates College of Technology, Fatima College, Gulf Medical University, Sharjah University, Higher Colleges of Technology

Emiratization Priority

1

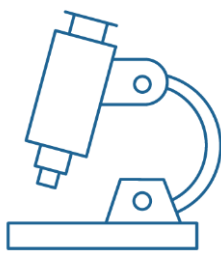
Allied Health | Medical Laboratory Profile

Medical Laboratory Staff Definition

Medical Laboratory technicians/technologists, technicians, working in research or medical laboratories. Medical Laboratory staff perform specific lab tests to obtain information about the health of a patient to aid in diagnosis, treatment, and prevention of disease.

The Medical Laboratory Specialty is split into 28 groups/titles

- 1) Clinical Scientist (Various)
- 2) Technologist (Intern & Manager, Various)
- 3) Technician (Various)
- 4) Phlebotomist
- 5) Radiographer (General)

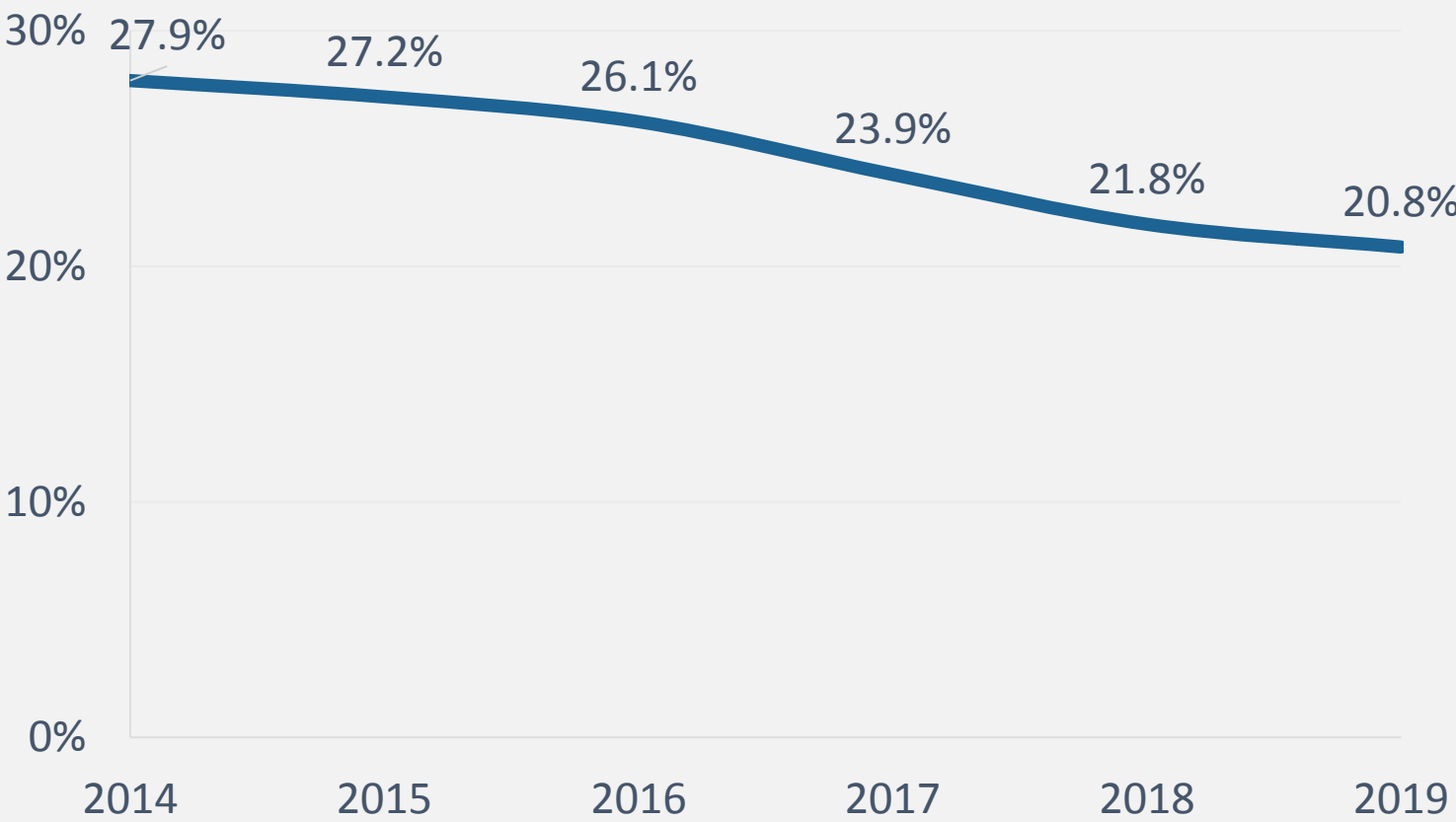


Proportion of Allied Health Workforce

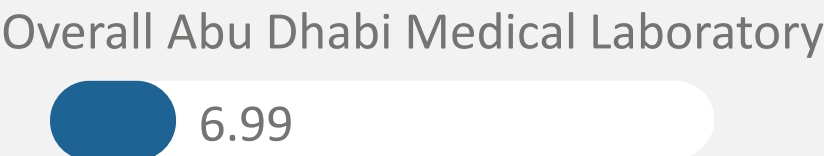


2,097 out of 10,072
(269 National, 1,828 Non-National)

Change in Proportion of Workforce



Medical Laboratory per 10,000 Capita



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
2,097	2,412	2,725	63

Education and Training

Clinical Scientist

- BSc in Medical Laboratory/ Medical Laboratory Science or Biomedical Science + MSc in relevant specialty or PhD in relevant in specialty + related required experience

Medical Laboratory Technologist

- BSc in Medical Laboratory/ Medical Laboratory Science or Biomedical Science + related required experience
- Specialty requires additional year in specialization + BSc in Laboratory Technology & Certification by the ASCP in the specialty + related required experience

Medical Laboratory Technician

- Diploma or certificate in Laboratory Technician + related required experience
Course available: Yes - Abu Dhabi Vocational Education & Training Institute (Diploma), Al Khawarizmi International College, Emirates College of Technology, Fatima College (Diploma), Gulf Medical University, Sharjah University

Emiratization Priority

2

Allied Health | Occupational Therapy Profile

Occupational Therapy Definition

Occupational Therapists treat injured, ill, or disabled patients through the therapeutic use of everyday activities. They help these patients develop, recover, improve, as well as maintain the skills needed for daily living and working.

The Occupational Therapy Specialty is split into 2 groups

- 1) Occupational and Environmental Health Physician
- 2) Occupational Health Therapist

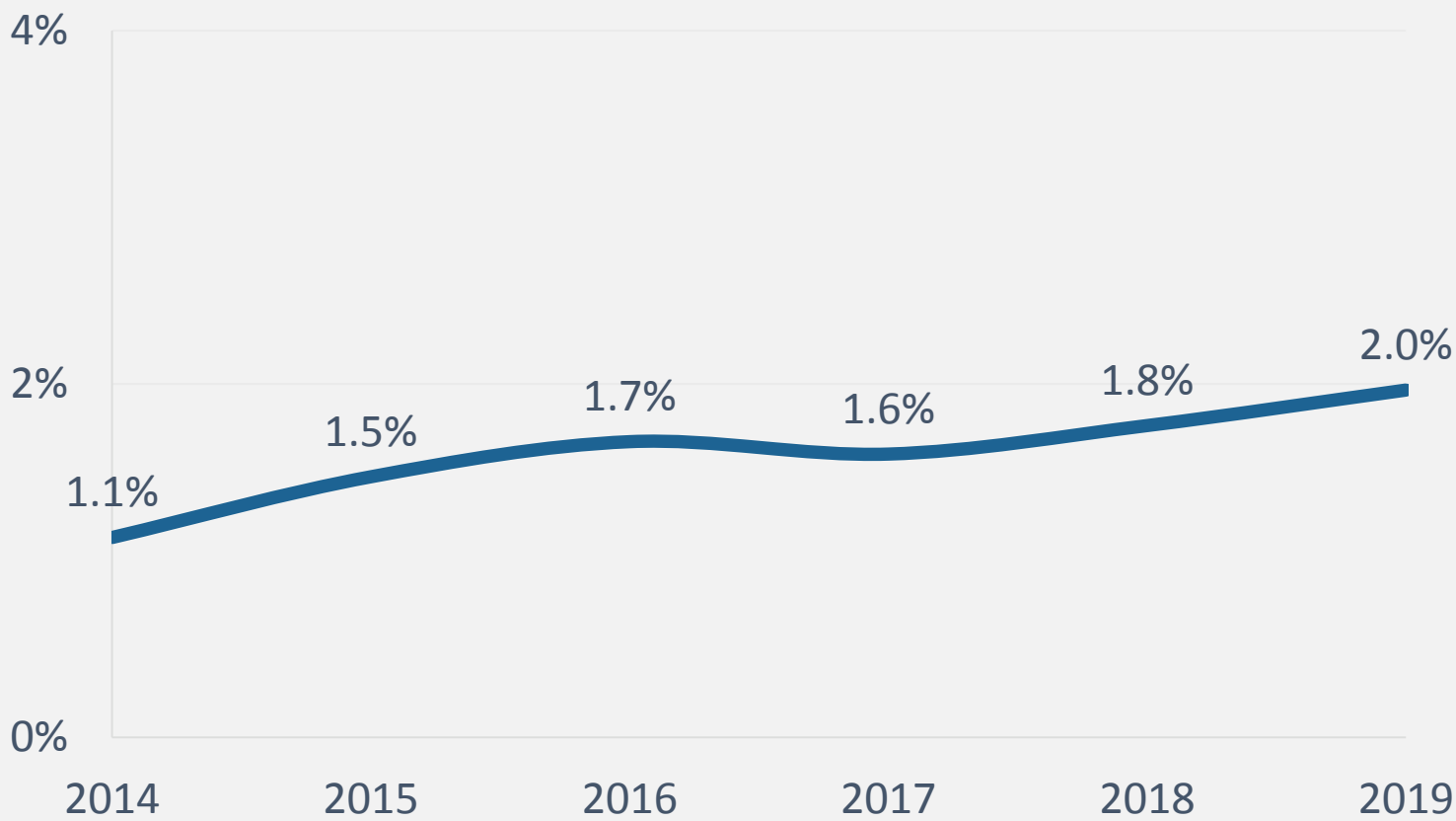


Proportion of Allied Health Workforce



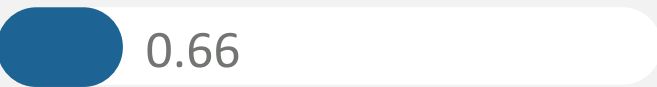
198 out of 10,072
(2 National, 196 Non-National)

Change in Proportion of Workforce



Occupational Therapy per 10,000 Capita

Overall Abu Dhabi Occupational Therapy



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
198	952	1,076	88

Education and Training

Occupational Technologist

- Required Bachelor degree in Occupational Therapy + related required experience
- Direct entry to a recognized program with attainment of MSc degree in OT Occupational Therapy Technician
- Graduate of an accredited OT course + related required experience

Course available: No

Emiratization Priority

1

Allied Health | Physician Assistant Profile

Physician Assistant Definition

Physician Assistants are medical professionals who diagnose illness, develop and manage treatment plans, prescribe medications, and often serve as a patient’s principal healthcare provider. A Physician Assistant is a mid-level practitioner who is able to practice medicine under the auspices of a licensed physician

The Physician Assistant Specialty is split into 1 group

- Physician Assistant

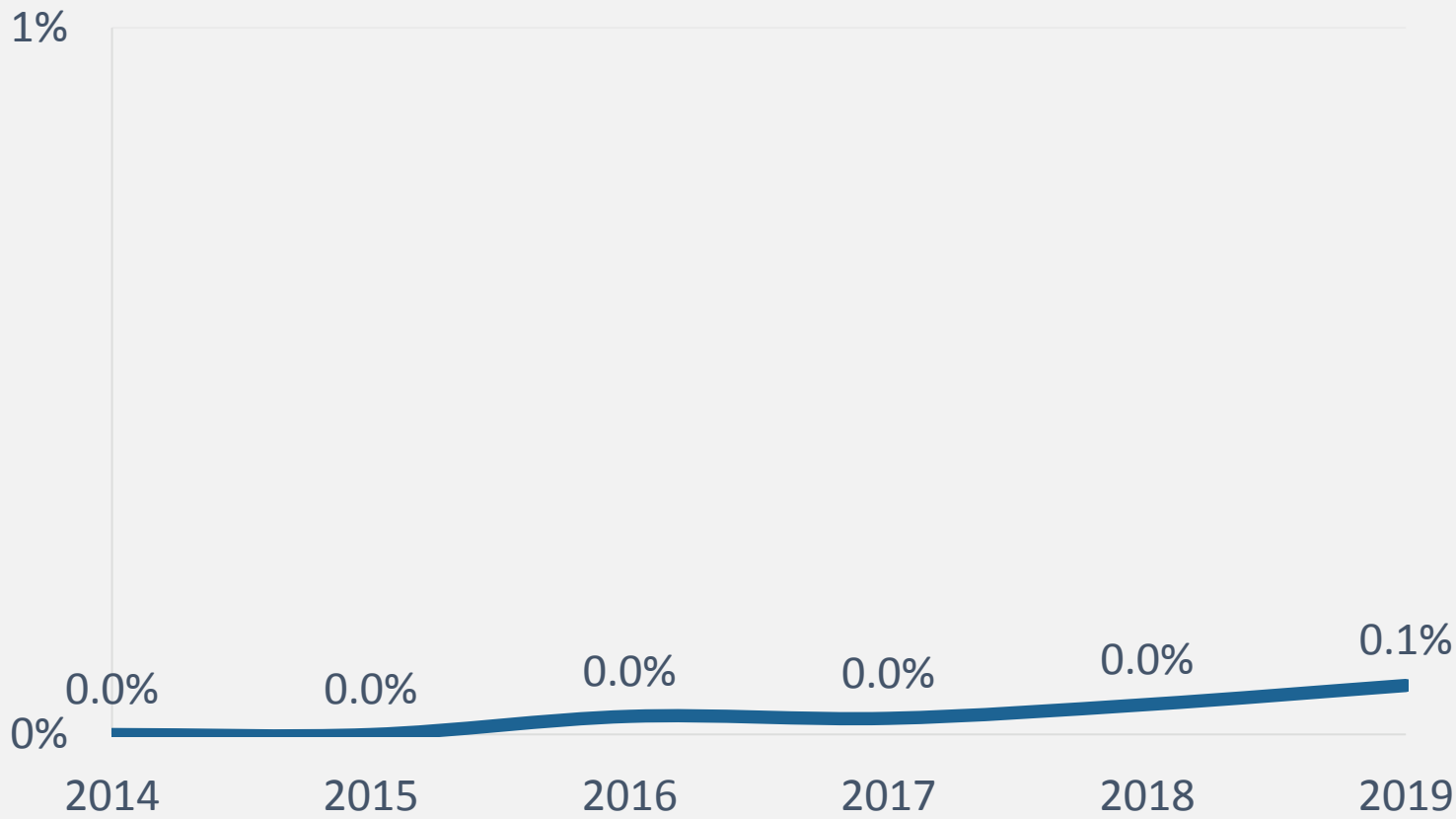


Proportion of Allied Health Workforce



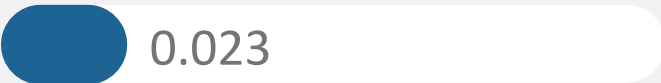
7 out of 10,072
(0 National, 7 Non-National)

Change in Proportion of Workforce



Physician Assistant per 10,000 Capita

Overall Abu Dhabi Physician Assistant



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
7	330	373	37

Education and Training Physician Assistant

- Graduate Certificate in Physician Assistant Studies and
 - Graduate from the Canadian Medical Association Conjoint Accreditation process/graduate from a Master Physician Assistant diploma accredited by the Netherlands + National Certification or licensure as a Physician Assistant + related required experience
 - Master of Physician Assistant Studies or BSc And completion of an accredited Physician Assistant training program + National Certification or licensure as a Physician Assistant + related required experience
- Course available: No

Emiratization Priority

2

Allied Health | Physiotherapy Profile

Physiotherapist Definition

Physiotherapists help people affected by injury, illness or disability through movement and exercise, manual therapy, education and advice. They maintain health for people of all ages, helping patients to manage pain and prevent disease.

The Physiotherapy Specialty is split into 7 groups/titles

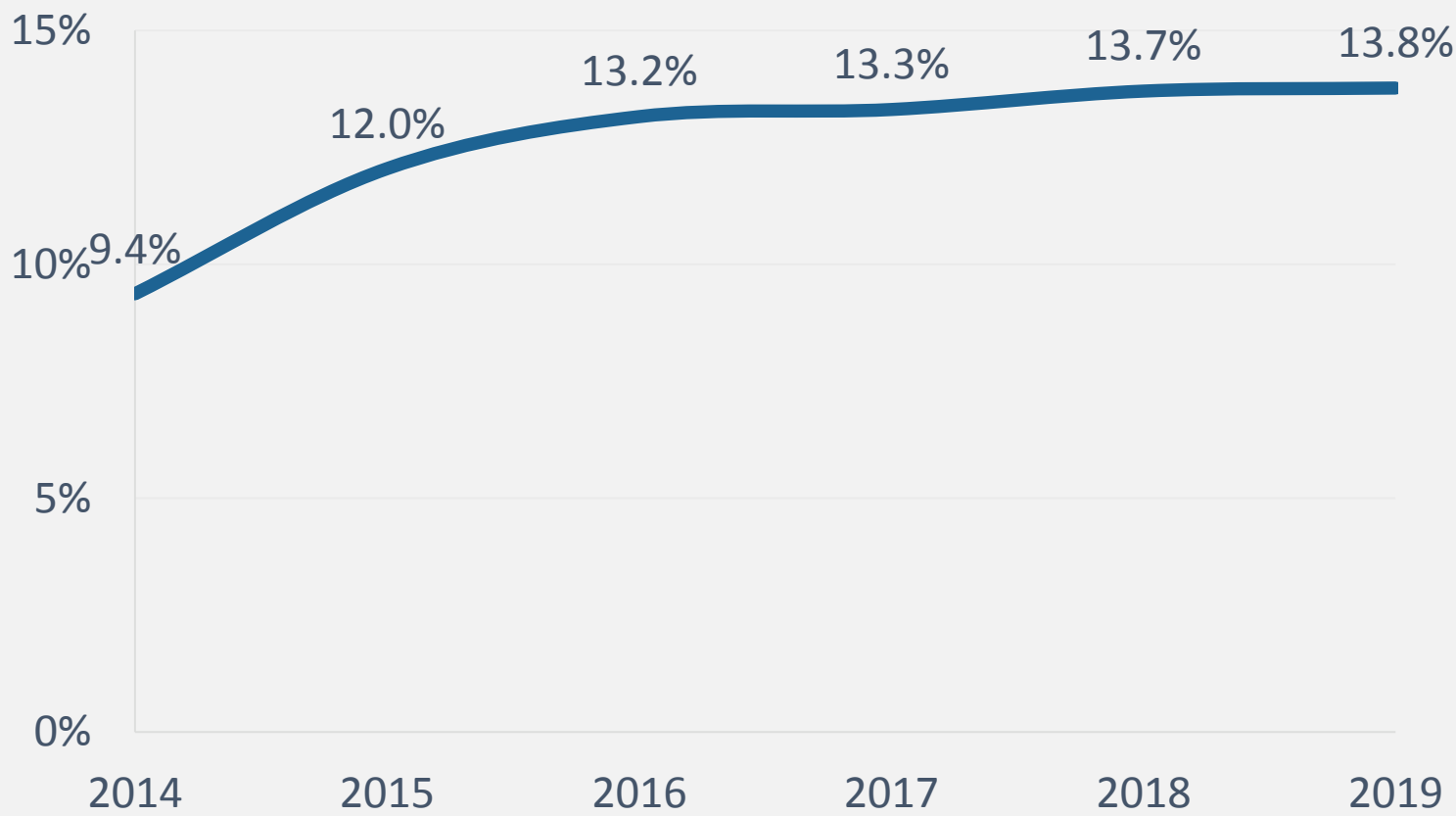
- 1) Massage Therapist
- 2) Physiotherapist (Levels 1 & 2, Supervisor, Senior)
- 3) Physiotherapy Technician
- 4) Sports Therapist



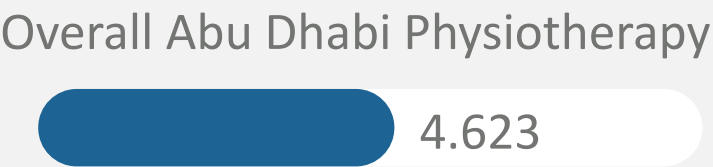
Proportion of Allied Health Workforce



Change in Proportion of Workforce



Physiotherapy per 10,000 Capita



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
1,387	1,889	2,134	75

Education and Training

Physiotherapist

- BSc in Physiotherapy or Physical Therapy + Direct entry of a MSc in Physiotherapy + related required experience

Physiotherapy Technician

Diploma or Associate degree in Physiotherapy or Physical Therapy (2 years) + related required experience

Course available: Yes – Fatima College, Gulf Medical University, Sharjah University

Emiratization Priority

1

Allied Health | Radiotherapy Profile

Radiotherapy Staff Definition

Radiotherapy staff are specialist health care professionals qualified in the localisation and treatment of cancer using ionising radiation (as distinct from diagnostic radiographers who image patients for diagnosis).

The Radiotherapy Specialty is split into 3 groups/titles

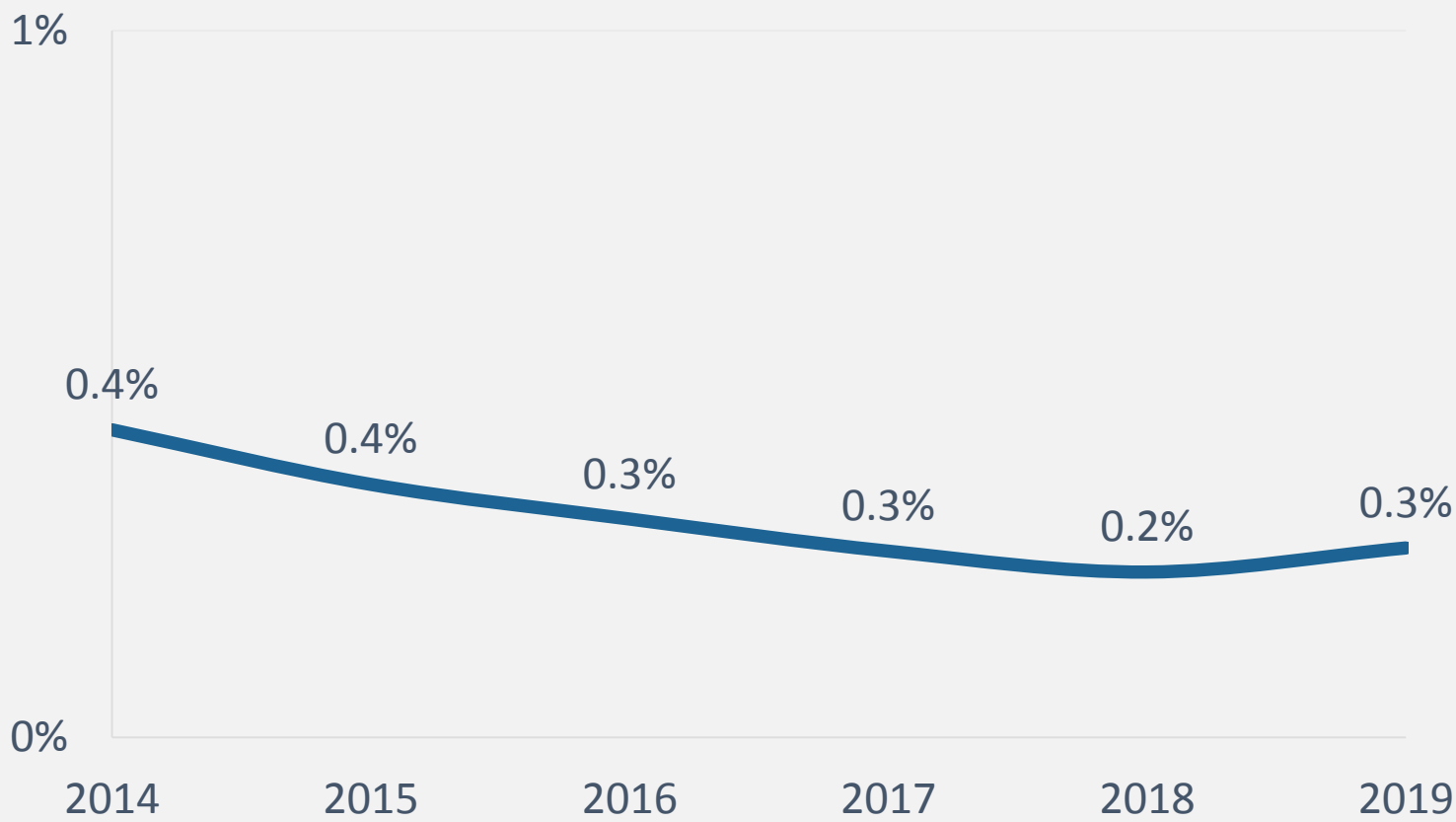
- 1) Radiotherapy Technician
- 2) Radiotherapy Technologist
- 3) Senior Technologist



Proportion of Allied Health Workforce



Change in Proportion of Workforce



Radiotherapy per 10,000 Capita

Overall Abu Dhabi Radiotherapy



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
27	204	230	20

Education and Training

Radiotherapy Technologist

- BSc in Radiotherapy Technology + related required experience

Radiotherapy Technician

- Diploma or certificate from an accredited institution in Radiotherapy (2 years) + related required experience

Course available: No

Emiratization Priority

2

Allied Health | Respiratory Therapy Profile

Respiratory Therapist Definition

Respiratory Therapists are specialized healthcare practitioner trained in critical care and cardio-pulmonary medicine in order to work therapeutically with people suffering from acute critical conditions, cardiac and pulmonary disease. They are trained in advanced airway management; establishing and maintaining the airway during management of trauma, and intensive care.

The Respiratory Therapy Specialty is split into 2 groups/titles

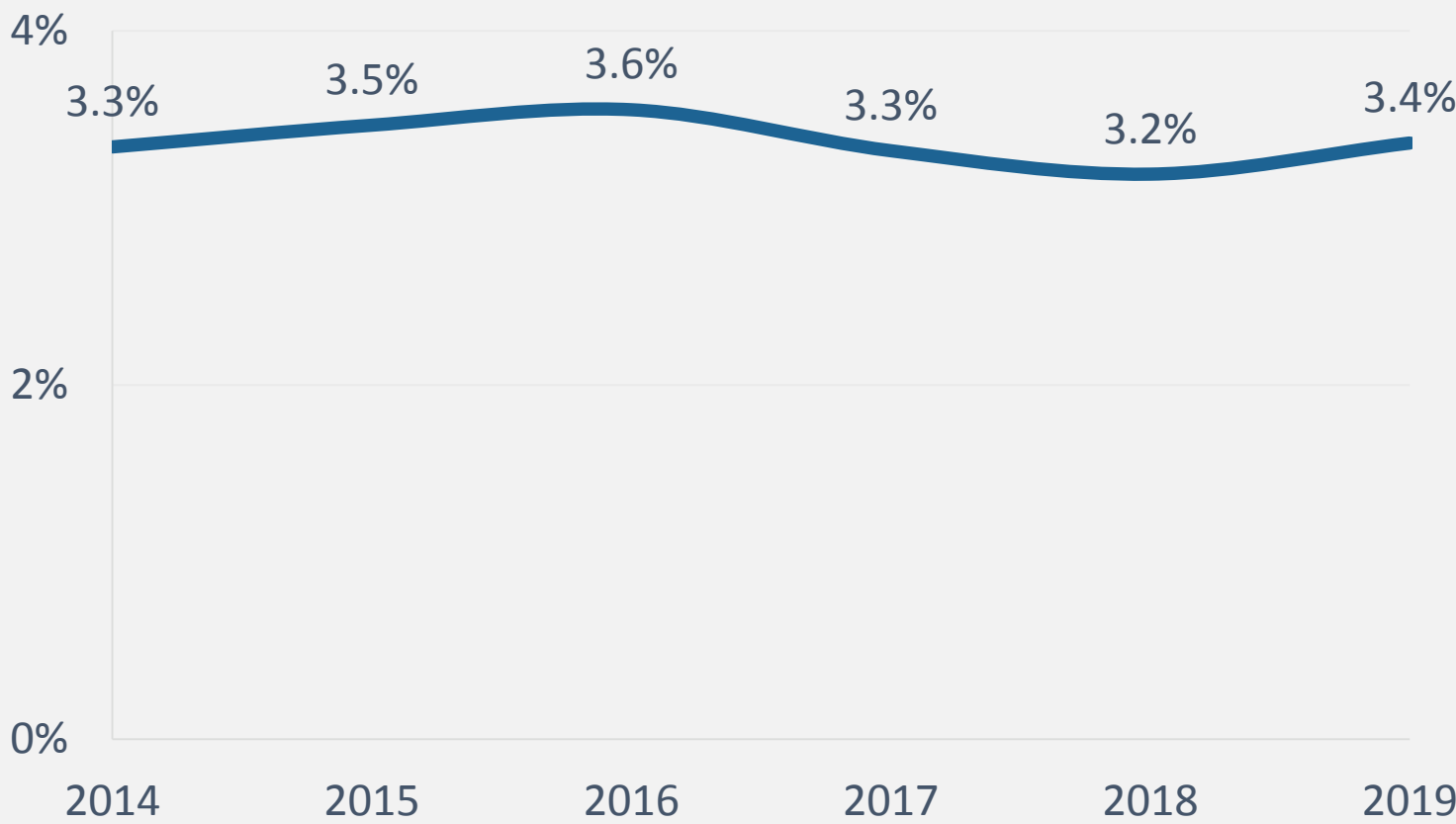
- 1) Respiratory Therapist
- 2) Respiratory Therapy Technician



Proportion of Allied Health Workforce



Change in Proportion of Workforce



Respiratory Therapy per 10,000 Capita

Overall Abu Dhabi Respiratory Therapy



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
339	390	441	10

Education and Training

Respiratory Therapist

- BSc in Respiratory Therapy or equivalent + valid ACLS/ PALS Certification + related required experience

Respiratory Therapy Technician

- Associate degree in respiratory therapy or equivalent (2 years) + related required experience

Course available: Yes – Al Khawarizmi International College

Emiratization Priority

1

Allied Health | Social Worker Profile

Social Worker Definition

Social Workers offer counselling to patients and their families and ensure that discharged patients will receive appropriate care in the community.

The Social Worker Specialty is split into 5 groups/titles

- 1) Assistant Social Worker
- 2) Clinical Social Worker
- 3) Senior & Junior Social Worker
- 4) Sociologist

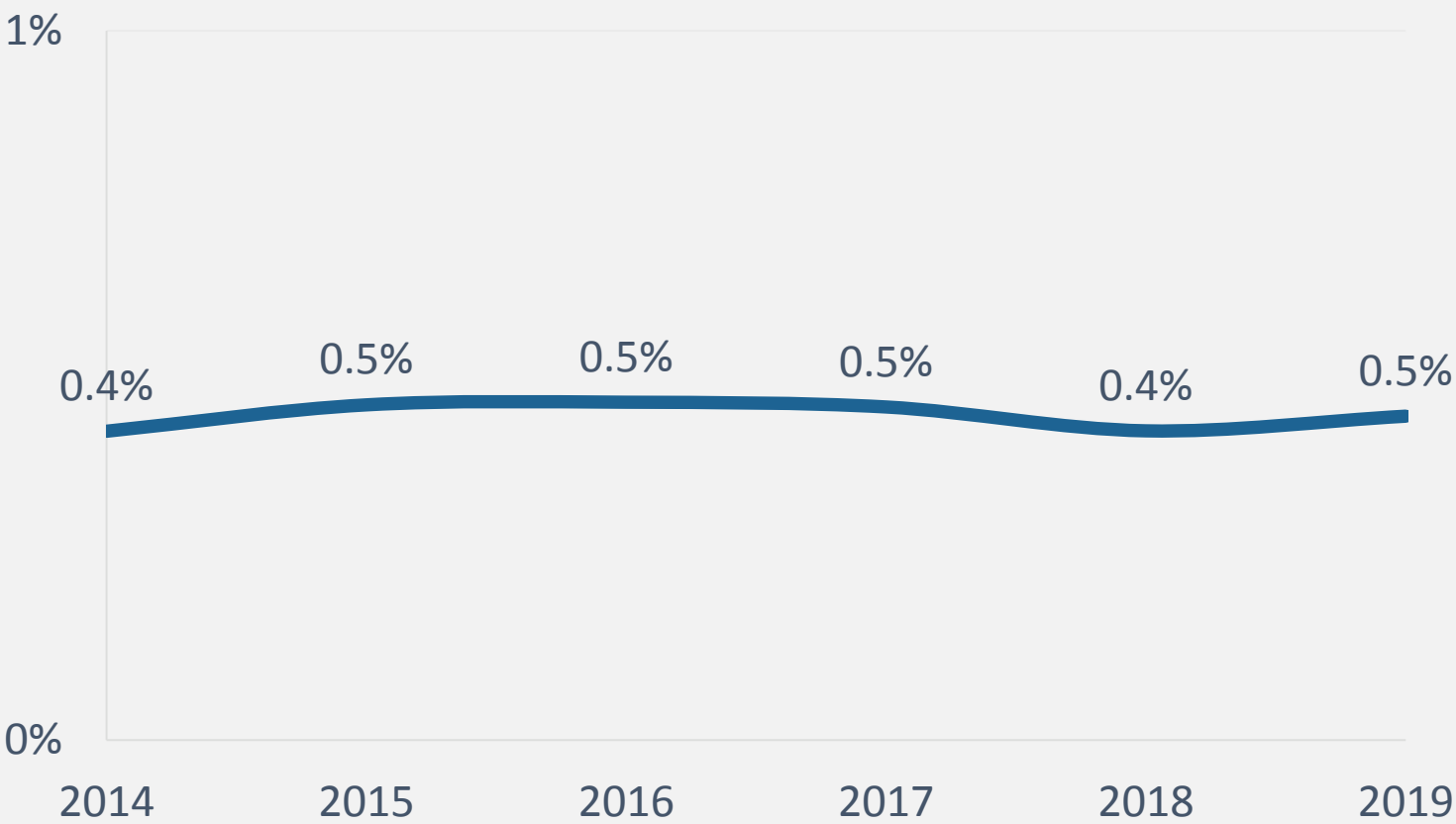


Proportion of Allied Health Workforce

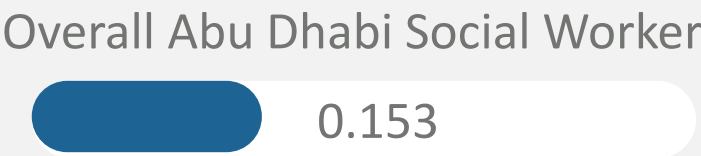


46 out of 10,072
(39 National, 7 Non-National)

Change in Proportion of Workforce



Social Worker per 10,000 Capita



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
46	203	230	18

Education and Training Social Worker

- BSc in Social Work + Masters degree in Social Work + related required experience
- Assistant Social Worker (Nationals only)**
- BSc in Social Work (3 years) + related required experience

Course available: Yes – University of Science & Technology Fujairah, Ajman University, Higher Colleges of Technology, UAE University

Emiratization Priority

3

Allied Health | Speech Therapy Profile

Speech Therapist Definition

Speech Therapists assess, diagnose and treat a wide range of speech, language, cognitive and swallowing disorders. They work with both children and adults affected by a variety of neurological events, chronic diseases or who have experienced a trauma.

The Speech Therapy Specialty is split into 4 groups/titles

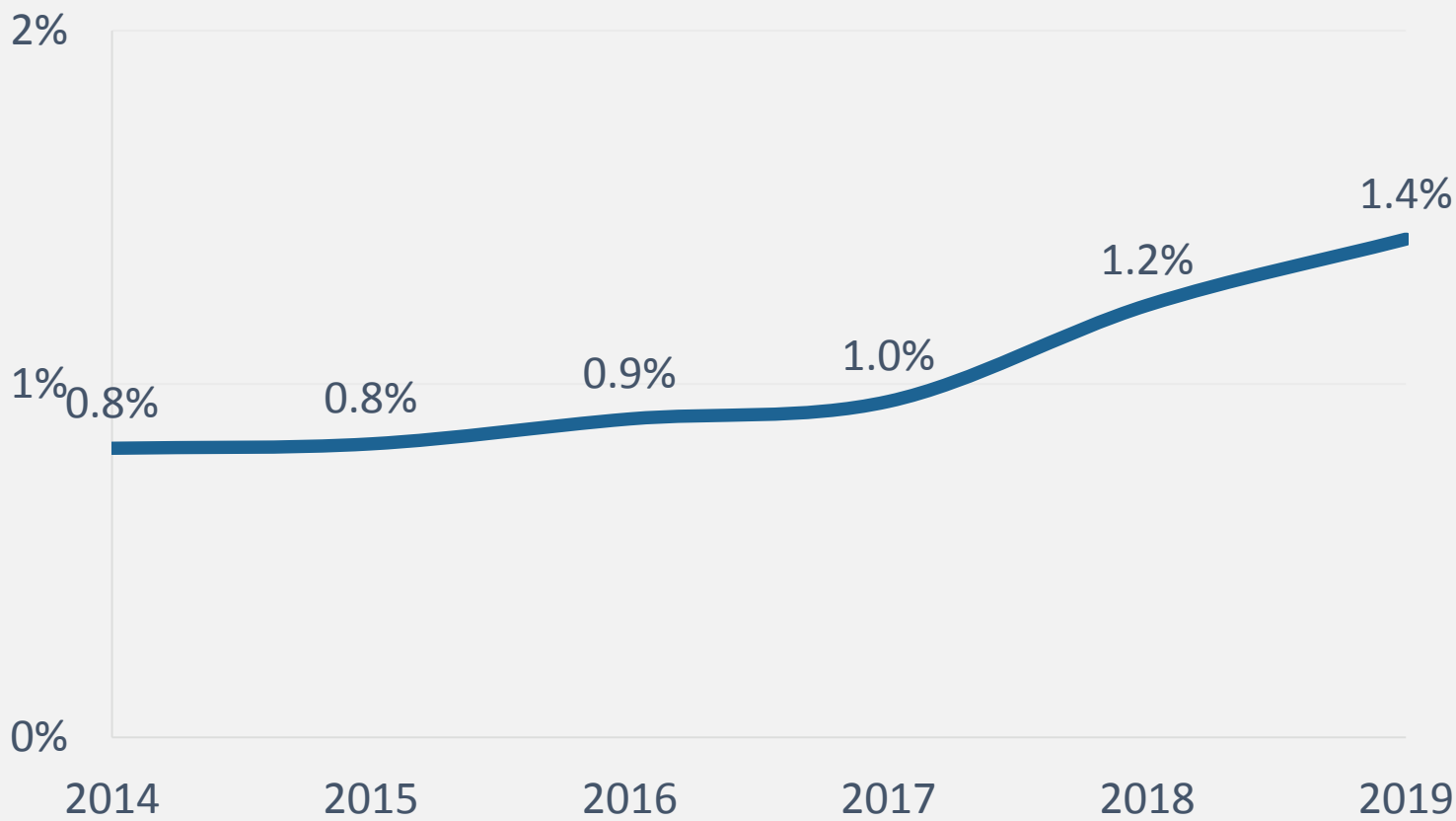
- 1) Senior & Junior Speech Pathologist
- 2) Speech Therapy Assistant
- 3) Speech Therapy Supervisor



Proportion of Allied Health Workforce



Change in Proportion of Workforce



Speech Therapy per 10,000 Capita

Overall Abu Dhabi Speech Therapy



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
	2019	2025	2030
142	329	372	23

Education and Training Speech Therapist

- BSc in Speech Language Pathology/ Speech and Language Therapy / Speech Pathology/ Speech Therapy/ Speech + related required experience or
- BSc in Communication or Psychology or Linguistics + Master's in Speech Language Pathology + related required experience

Course available: No

Emiratization Priority

1

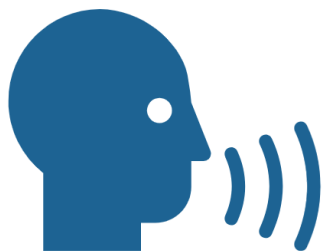
Allied Health | Cardiac Perfusionist Profile

Cardiac Perfusionist Definition

Cardiovascular perfusionists are responsible for operating extracorporeal circulation equipment, such as the heart-lung machine, during an open-heart surgery or any other medical procedure in which it is necessary to artificially support or temporarily replace a patient's circulatory or respiratory function.

The Cardiac Perfusionist category is split into 1 subspecialty

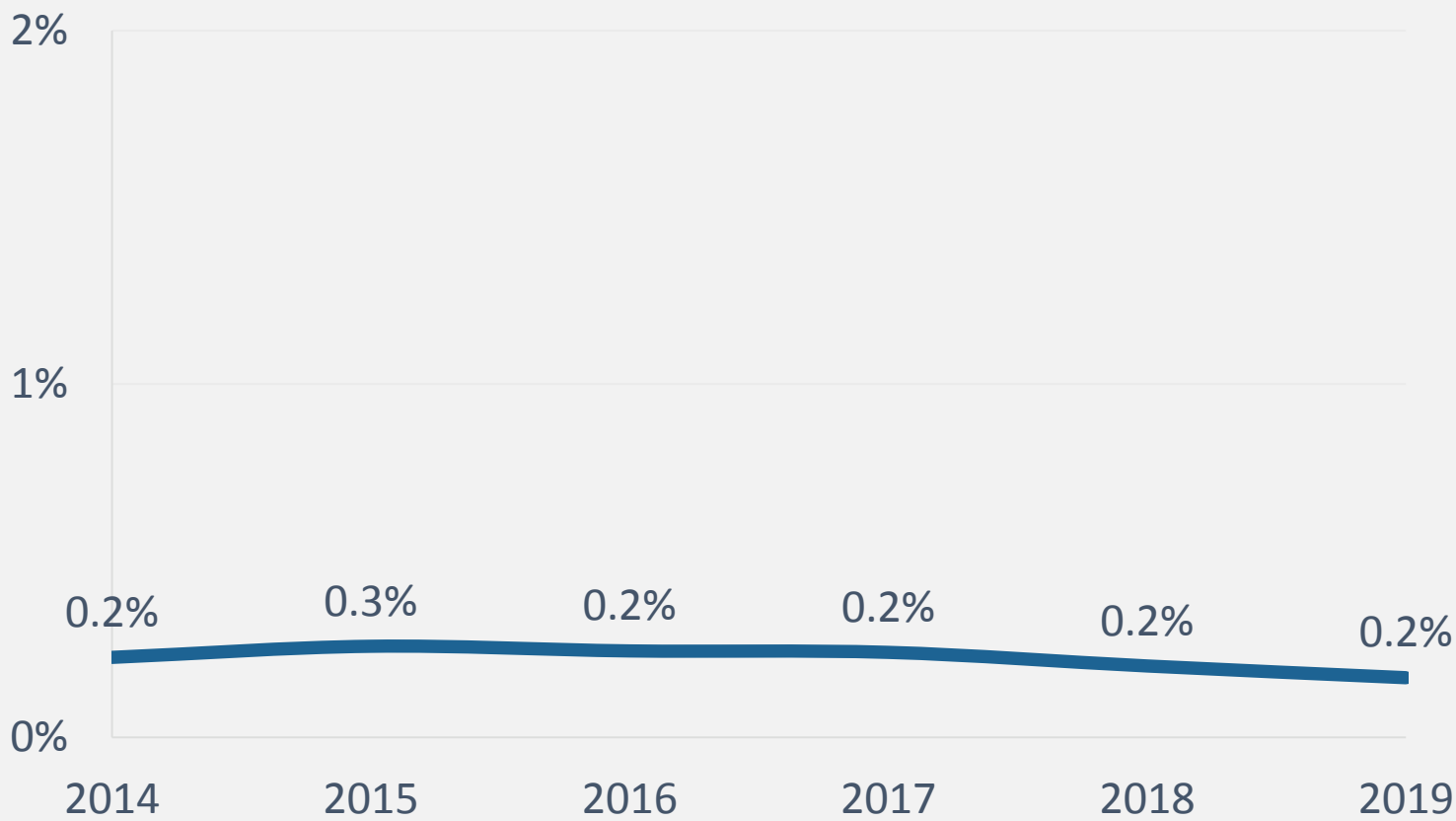
1) Cardiac Perfusionist



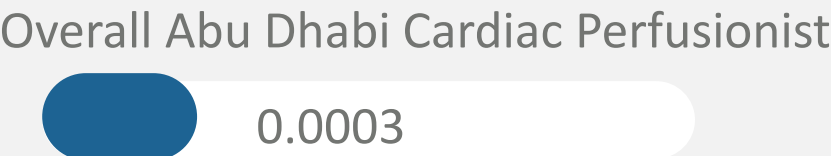
Proportion of Allied Health Workforce



Change in Proportion of Workforce



Cardiac Perfusionist per 10,000 Capita



Supply and Demand of Allied Health

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand		Gap
2019	2025	2030	Annual Target
17	20	22	1

Education and Training Cardiac Perfusionist

- BSc or diploma in Health + related practical and
- Post-graduate diploma or certificate in perfusion technology + required years of experience in a field hospital setting and proof of 100 clinical perfusion procedures independently

Course available: No

Emiratization Priority

1

Dental | Profile

Dentist Definition

A Dentist is a dental doctor who specializes in dentistry, the diagnosis, prevention, and treatment of diseases and conditions of the oral cavity.

The Dental Major group is split into 4 Major categories

- 1) Consultant Dentist
- 2) General Dentist
- 3) GP Dentist
- 4) Specialist Dentist

There are 13 Subspecialties licensed under the Dentist Major group

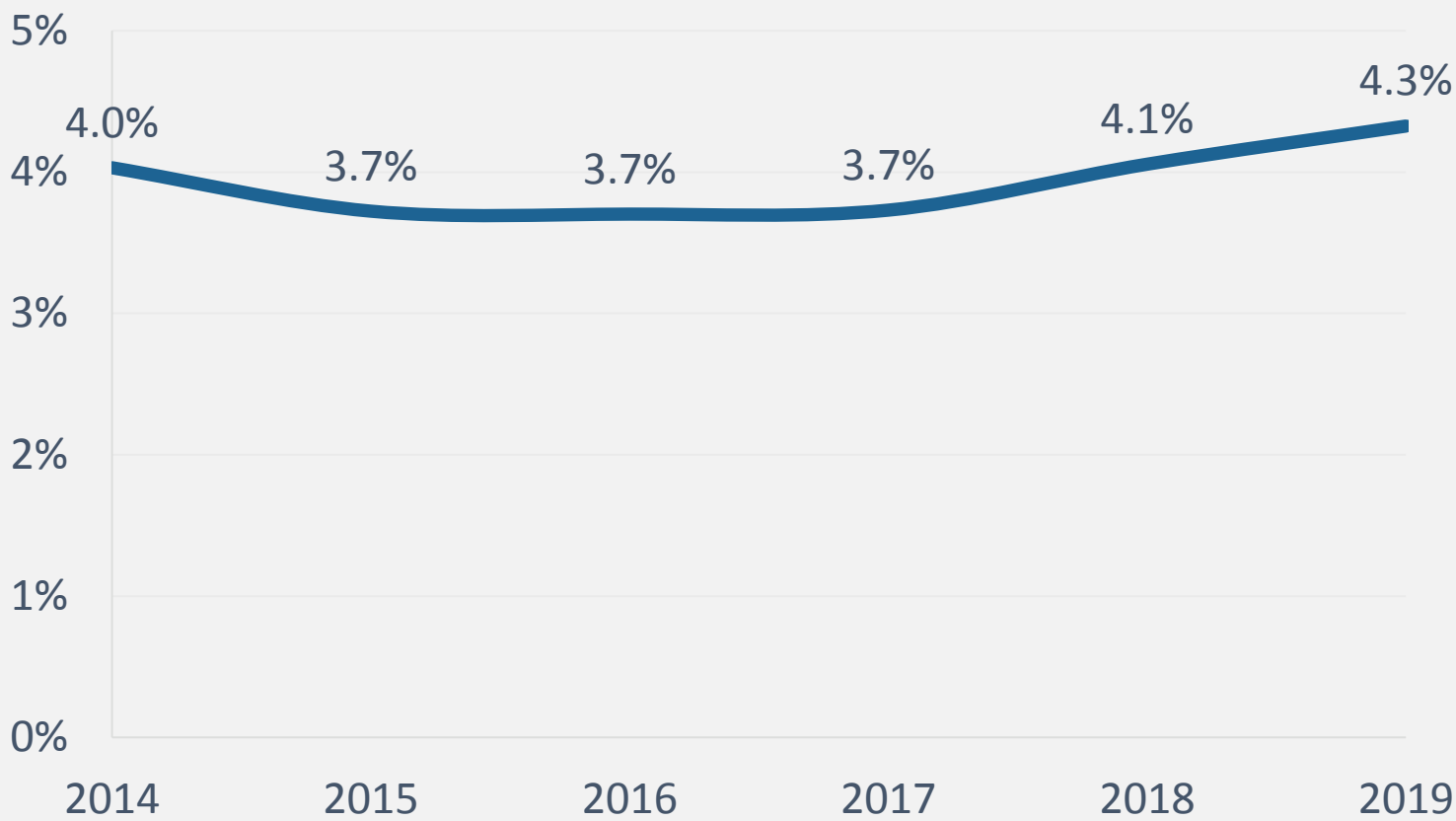


Proportion of Health Workforce



2,346 Dentists out of 54,231
(225 National, 2,121 Non-National)

Change in Proportion of Workforce



Dentists per 1,000 Capita

Overall Abu Dhabi Dentists



International Crude Rate Reference*



Supply and Demand of Dentists

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply	Demand	
	2019	2030
	2,346	2,262

Equilibrium: The current supply of dentists meets/close to the projected demand.

Education and Training

General Dentist Qualifications:

- BDS (Bachelor of Dental Surgery)
- DMD (Doctor of Dental Medicine)
- DDS (Doctor of Dental Surgery)
- Equivalent from a nationally accredited dental school/college

Specialist/ Consultant qualifications:

- BDS, DMD, DDS, or equivalent and
- Completion of specialty qualification + related required experience

Course available: Yes – Ajman University, Gulf Medical University, Mohammed Bin Rashid University, RAK Medical & Health Sciences University, Sharjah University

Emiratization Priority

2

Pharmacy | Profile

Pharmacy Staff Definition

Pharmacy personnel dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use. Pharmacy staff may also advise physicians and other health practitioners on the selection, dosage, interactions, and side effects of medications.

The Pharmacy Major group is split into 10 groups/titles

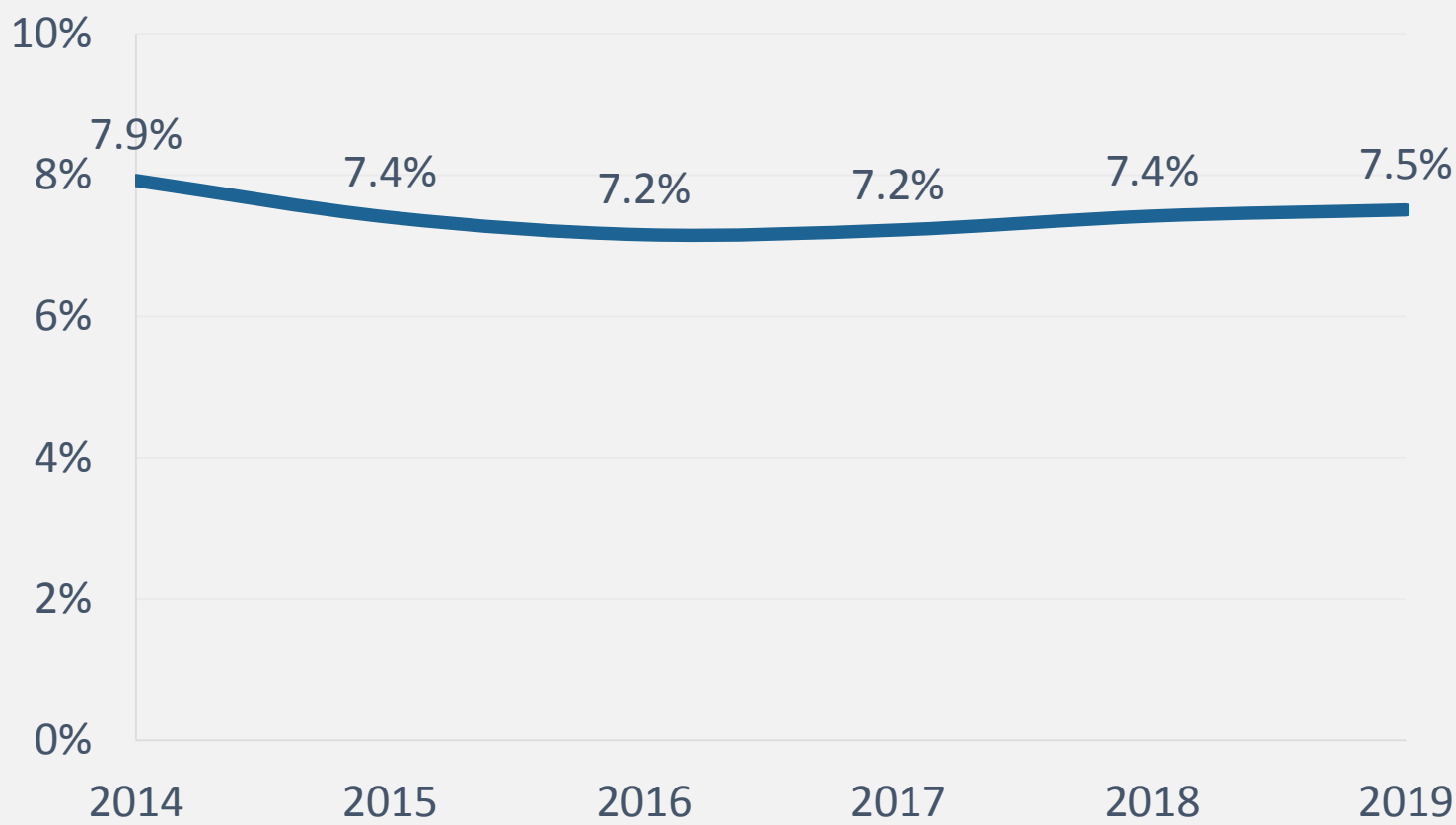
- 1) Clinical Pharmacist
- 2) Consultant Toxicology
- 3) Drug Store Pharmacist
- 4) Manager of Pharmacy - Chief Pharmacist
- 5) Pharmacist (1 & 2)
- 6) Pharmacy Supervisor
- 7) Pharmacy Technician
- 8) Senior Clinical Pharmacist
- 9) Senior Pharmacist



Proportion of Health Workforce



Change in Proportion of Workforce



Pharmacists Per 1,000 Capita

Overall Abu Dhabi Pharmacists



International Crude Rate Reference*



Supply and Demand of Pharmacists

Using International Demand references specific to the age and gender profile of Abu Dhabi

Supply		Demand	
2019		2025	2030
4,071		3,595	4,067

Equilibrium: The current supply of pharmacists meets/close to the projected demand.

Education and Training

Clinical Pharmacist:

PharmD or Doctor of Pharmacy (6 yr course)
BSc in Pharmacy AND 2 year post graduate qualification

Pharmacist: BSc or Doctor of Pharmacy

Pharmacy Technician: Diploma in Pharmacy (2 year)
+ 2 year experience post-qualification in related field

Course available: Yes – Ajman University, Al Ain University, Fatima College for Health Sciences, Gulf Medical University, RAK Medical & Health Sciences University, Sharjah University

Emiratization Priority

2



6 – Conclusion

Conclusion

The Abu Dhabi Health Workforce Plan has provided a full roadmap for Abu Dhabi Health Workforce Sustainability, Emiratization, an in-depth understanding of critical specialty workforce gaps and medical education strategy which supports the Emirate of Abu Dhabi into becoming a Medical Education Hub. It provides an Emirate-wide review to assist strategies to place the DOH and its partners in the best position to make strategic decisions concerning improvements of the changing healthcare sector and the health workforce requirements of Abu Dhabi population. Through this Plan, the DOH will be able to provide rapid access to key health workforce and education information and requirements to key public and private stakeholders, medical institutions and academic facilities. health professionals and students.





For further requests/queries, please contact us through: HealthWorkforce@doh.gov.ae

