



State Palestine  
Ministry of Health



# Health Sector Strategic Plan Southern Governorates

**2021 - 2025**

## Foreword

Praise be to Allah, Lord of the worlds; and prayers and peace be upon the Master of all creations and messengers, our Master Muhammad, on his family and companions; Oh, our Lord, praise be to You the one who filled the heavens and the earth, and filled what is between them, and filling whatever you might want hereafter.

With steady steps, and with a vision directed towards a new horizon, concerns are raised, dissipating the difficult, and making the impossible an area, in which a Palestinian excels in two fields - a work and giving. For today, we are looking forward to a new phase starting from the position of responsibility and the role assigned to the Ministry of Health, which is represented in leading and developing the health system and restructuring it to enhance health services. It was natural for the Ministry to initiate, in full cooperation and coordination with its partners in the health sector, this ambitious strategy for the health sector in the southern governorates of Palestine for the coming five years, which builds on what was accomplished during the previous strategic plan 2014-2018.

This plan came out to see the light after more than a year of hard work. It was the result of an in-depth extrapolation of a lot of data, studies, reports, workshops, and committees' outputs that were formed to enrich the goals and programs based on the results of the reality analysis. This strategy will focus on a set of goals that will be worked on in order to achieve the desired results, namely, strengthening comprehensive and safe health services at three levels; enhancing preparedness and effective management of health emergencies and disasters; strengthening human resources management, strengthening governance in health system management, raising the efficiency and effectiveness of financial resources management and enhancing coordination and complementarity with various partners.

This work went in parallel with the organizational restructuring of the Ministry of Health so that it is able to contain the elements of this plan, which made its paramount focus on quality, improving institutional performance and information as a basis for decision-making, upgrading human cadres as the most important element in the health system, as well as complementarity with the health work components.

In this context, the Ministry, with support of all partners, will continue to work hard at all levels to get through the crises afflicting it due to the unjust political and economic blockade. It will continue to work on the unique combination between crisis management and development management. And the best evidence of what we put today in your hands is represented by the new five-year health strategy that have been matured to see the light another major challenge facing the health sector –



COVID-19 pandemic. I cannot but pay tribute and homage to our cadres working in the health sector who have been and are still in the front line of defense in combating the crises. They are the best (most worthy) in making the difference in health achievement and skillfully performing their duty for a better health reality.

Being aware of the importance of developing this strategy, we stress on the critical need of commitment of all employees inside and outside the Ministry to fully comply with their roles and responsibilities towards implementing and following up achievement of the desired goals, if Allah's willing.

Finally, it is my pleasure to extend my greetings and gratitude to everyone – both MOH staff and partners from the health sector - who contributed to making this strategy a reality, hoping that the Almighty Allah will guide us to work hard towards achieving its goals to serve our citizens and promote the health of the entire society. “And He Said: Do, and Allah will see your work, so does His Messenger and the believers. ". And our last prayer is praise be to Allah, Lord of the worlds, and may Allah's peace, mercy and blessings be upon you.

**Dr. Yousef Abu Al-Reesh**  
**Deputy Minister of Health**



## **Acknowledgment**

By the ink from light that the letters of achievement are written, and with a firm determination that the meanings of hope shine, the spirit of loyalty to our dear homeland called Palestine is revived in us. And those nine letters, when mentioned, outline the spirit of determination and challenge, which we can clearly see in people in white coats, who believed in their mission and exerted their utmost efforts throughout the darkest chapters of their work. Here they are today glitter in a new glory that touches the edges of pages of creativity towards the advancement of the Palestinian health system.

The vocabulary of the language does not expand to reach the description of the highness of your giving, which we are presenting today with the health strategic plan for the coming five years.

For all and everyone who contributed in terms of his time and efforts, to all the committees that left their footprints, we are asking the Almighty to make this as an exclusive work for His honorable face, and to be written in your records of deeds, good and blessed deeds.

Gratefully,

**Eng. Osama Qassem**

**Assistant Deputy Minister of Health  
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## Abbreviation list

<b>CR</b>	Computed Radiography
<b>CT</b>	Computed Tomography
<b>DM</b>	Diabetes Mellitus
<b>EMS</b>	Emergency Medical Services
<b>GDP</b>	Gross Domestic Product
<b>GIS</b>	Geographic Information System
<b>GMR</b>	Great March of Return
<b>ICD10</b>	International Classification of Diseases (10th revision)
<b>ICU</b>	Intensive Care Unit
<b>IT</b>	Information Technology
<b>MDM</b>	Médecins du Monde
<b>MMS</b>	Military Medical Services
<b>MOH</b>	Ministry of Health
<b>MRI</b>	Magnetic Resonance Imaging
<b>NCD</b>	Non-Communicable Disease
<b>NGO</b>	Non-Governmental Organization
<b>NIS</b>	New Israeli Shekel
<b>OECD</b>	The Organization for Economic Co-operation and Development
<b>PACS</b>	Picture Archiving and Communication System
<b>PCBS</b>	Palestinian Central Bureau of Statistics
<b>PET</b>	Positron emission tomography
<b>PHC</b>	Primary Health Care
<b>PKU</b>	Phenylketonuria
<b>PMRS</b>	Palestinian Medical Relief Society
<b>PNGO</b>	Palestinian NGOs Network
<b>PNIPH</b>	Palestinian National Institute of Public Health
<b>PRCS</b>	Palestinian Red Crescent Society
<b>TDS</b>	Total Dissolved Solids
<b>TSPs</b>	Trauma Stabilization Points



**UNFPA** United Nations Population Fund

**UNICEF** United Nations International Children's Emergency Fund

**UNRWA** United Nations Relief and Works Agency for Palestine Refugees in the Near East

**USAID** United States Agency for International Development

**WHO** World Health Organization



## INTRODUCTION

Health is a broad social notion that is difficult to define precisely or to measure. The health determinants of any population group comprise peace, security, stable economy, adequate income, education, democracy, justice, women's empowerment, safe and healthy environment, adequate nutrition and many others.

Due to the complex conditions that the sector has been going through for years, a large segment of the community suffers from poverty, stress-related diseases, and increased exposure to injuries, especially as a result of recurrent wars, as well as the blatant attacks on peaceful demonstrations of the Great March of Return that left tens of thousands of injuries and disabilities in addition to the challenges related to COVID-19 pandemic that has been affecting the whole health system. Altogether, these factors negatively impacted health determinants and thus the health of society in general, as well as disrupted development projects, training and capacity-building activities that were approved many years ago. Since 2007, the Gaza Strip share of the allocated international support is still frozen except limited humanitarian aid funds.

The complex and complicated burdens that the Gaza Strip is going through urges decision makers to take into account the specificity of the Gaza Strip context, when studying the reality, in order to develop plans for the health sector to be able to respond to the needs of the dramatically growing population. This requires the efficient and effective use of scarce resources to meet these increasing needs of the population.

In view of unstable conditions in the Gaza Strip and resulting from it a vague vision, strategic planning in the Palestinian context, especially in the Gaza Strip, is extremely difficult. Despite the confusion and instability characteristic of the Palestinian situation, strategic planning is considered an urgent need as it helps in dealing with this prevailing instability in a more logical way. In addition to the fact that planning is considered a practice that would contribute to building a broad consensus about the priorities and main challenges facing the health sector at the present time; it has been also noticed that awareness towards the importance of strategic planning in Palestine is increasing among decision-makers, professionals, donors and politicians. In this context, the Ministry of Health worked forward in cooperation with its partners to finalize the health sector strategic plan for the coming five years despite the protracted state of emergency and instability, the latest of which has been COVID-19 pandemic that had been shortly preceded by a toll of hundreds of martyrs and injuries as a result of the Zionist occupation military attacks on the peaceful demonstrations of the Great March of Return that lasted for more than a year and a half posing extra burden on the health system. In line with this plan and aiming



at achieving its goals, the Ministry has worked to harmonize its organizational structure to serve these goals, hoping to meet needs and expectations of the Palestinian society.

## VISION, MISSION AND PHILOSOPHY

**Vision:** To reach a healthy Palestinian community that enjoys comprehensive, high-quality health care.

**Mission:** We in the health sector are committed to improving the health status and practices of the Palestinian society, including vulnerable groups, as well as ensuring the provision of quality evidence-based health services through policy-making and implementation of health programs and community initiatives in an integrated, multisectoral, developmental and sustainable manner.

**Philosophy:** Philosophy is the profound values, standards, assumptions, and beliefs underlying performance and practices in the Palestinian health system that reflect ethical principles, or standards acceptable for health care providers, institutions, and the Palestinian health system as a whole. The following paragraphs clarify the most important basic principles adopted by the Palestinian health system:

**Health:** We adopt the World Health Organization's definition of health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Accordingly, our focus is not only on medical aspects and diseases, but rather on the overall needs of the population throughout the state of wellness and disease. We believe that access to health care is a human right.

**A human being:** the health system in Palestine believes that a human being is a unique physiological, psychological, social and spiritual creature created by God and endowed innately with will, freedom and dignity. This human being is a complete and indivisible entity, with specific features and characteristics of his own.

**Our Approach to Care:** The Palestinian health system undertakes to serve beneficiaries and provide care - not just treatment - with sympathy, politeness and respect.

**Integrity:** The Palestinian health system is committed to observing the principles of accuracy, transparency and frankness in dealing with beneficiaries.

**Dedication:** Our staff are intellectually and emotionally committed to provision of health care, to an enduring obligation towards the society and to applying the health work ethics.

**Commitment:** Our staff deeply believe in the goals of the health system, and are ready to exert their great efforts to be always in the service of our people

**Task Force:** individuals, organizations, health service providers, policy makers, beneficiaries, and communities. We work together as one team to achieve success.



**Appreciation of our staff:** Our staff are our most valuable asset. We value pluralism, and we deeply believe that differences between human beings are natural, not intended to be isolated or excluded. We differ (so that) to realize how much we need each other.

**Valuing Employment Equity:** We believe / recognize that there is a need for equality in the workplace. We also believe that no one should be deprived of the opportunity to be employed and promoted for a reason other than one's own abilities. Employment equity means implementing initiatives aiming at elimination of discrimination in the workplace.

**Gender Equity:** We believe that gender equity implies fair dealing with a male and a female; it means fairness in receiving services according to one's specific needs; and to be present in duties, privileges and opportunities.

**Vulnerability:** it is the vulnerability of society, which is associated with poor health, economic, political and geographical indicators and accompanying it changes related to the social environment.

**Human Rights:** Our practical reflect our respect for the human rights by providing health care services and care-related information in compliance with international laws, thus reflecting the fundamental values of justice, respect, equality, dignity and independence for all clients and employees.

**Ethics:** We adopt the rules of work ethics that provide a framework of shared values, through which the health care is practiced. We apply work ethics in conformity with fundamental ethical principles that underlie all health care services, such as respect for personal freedom, promoting social justice, encouraging charity, and avoiding harm. We are also confident that the healthcare practice is a covenant of trust between beneficiaries and healthcare providers; and our response reflects effective social responsibility.

**Quality:** We adopt the WHO definition of quality, which states that quality is a proper performance in accordance with safe standards, which the majority of the Palestinian society can accept, and which are able to reduce morbidity, mortality, disability and malnutrition. Our definition of quality comprises the following dimensions:

**Access to services:** We are keen to ensure that barriers to accessing services such as physical, economic, social, organizational, technical, and time barriers are addressed.

**Effectiveness of care:** We believe that the ultimate judgment about our performance is related to the outcomes we are willing to attain or the outcomes that we achieve.

**Service Efficiency:** We are committed to do more with less, and without wasting resources.

**Safe care:** The beneficiaries are not exposed to any harm by the services we provide. We are alert to avoid or reduce the risk of injury, infection or any other harmful effect.

**Patient-centered services:** We undertake to provide effective services to the patients, while involving them in planning, implementation and evaluation, and respecting their choices and values that are aligned with the values of the society.

**Equity:** The Palestinian health system provides health services to all Palestinians without any discrimination among beneficiaries, regardless of their gender, religion, political affiliation, place of residence, nationality, or education level.



**Interpersonal relationships:** We commit ourselves to practice active listening and effective communication based on the development of trust, respect, privacy and the ability to respond to patients' interests and concerns.

**Continuity of services:** Health care is provided with the same approach, which is followed during various stages of care, in addition to the availability of timely referral mechanisms and communication among providers, when intervention of multiple health service providers is needed.

**Technical Performance:** We are committed to high and appropriate technical standards, excellence in performance, and evidence-based practices.

## GENERAL CONTEXT

Throughout the history, Palestinian people have been denied and deprived of their right to self-governance and building their sovereign state. It has started with granting the Great Britain a Mandate for Palestine, followed by the Zionist occupation, resulting in the subsequent repression, economic decline, and social and cultural restrictions that impacted the social, cultural and psychological structure of the Palestinian people, thus creating a unique situation being a complex combination of challenges unlike other politically stable regions. The occupied Palestinian territories in general and the southern governorates in particular are witnessing numerous challenges. The Palestinians do not enjoy the minimum level of stability that is an essential condition of establishing a coherent and solid system through which policies, systems and services are coordinated and integrated. This is applicable as well to the health system, which spent most of its time and exerted the great majority of its efforts as a firefighter, as it has rarely managed to achieve its vision related to the ability of operating on a larger scale to protect and promote health and wellbeing of the population.

Over the past few years, the condition of more than 2 million of Palestinians in the Gaza Strip has become much worse than it has ever been since the onset of the Israeli occupation in 1967. Occupation, conflict, siege, closures and repeated wars have resulted in a state of extreme vulnerability of the Gaza Strip with its high population density. The current isolation has made the humanitarian situation unprecedentedly dire with exhausted resilience capacity, widespread poverty, and inability of civil society organizations and official authorities to meet the basic needs of the population. With the collapse of the economy, less financial resources have been made available for the local communities (population) to buy food and other household needs from the market, as well as the ability of people to purchase needed medicines, contribute to paying medical fees, and provide transportation to access health facilities has greatly decreased.

The tightened blockade that has been imposed on the Gaza Strip since June 2007 has affected the health system in general, particularly in terms of health services delivery inside Gaza and in terms of access to treatment abroad.



Geographically, the Gaza Strip is a narrow piece of land 45 kilometers long and from six up to 12 kilometers wide with a total area of 365 square kilometers. It has languished from the longstanding occupation and recurrent invasions. After the First World War, Palestine was placed under the British mandate and the Gaza Strip was subjugated to the Egyptian administration in the period from 1948 till 1967. In June 1967 Gaza was occupied by Israel and was formally handed over to the Palestinian Authority in 1994 in accordance with the agreement signed between Israel and the Palestine Liberation Organization known as the " Declaration of Principles on Interim Self-Government Arrangements, a document that became familiar as the" Oslo Accords. " Implementation of partial autonomy in 1994 and the establishment of the Palestinian Authority had a great impact on the Palestinian society after years of devastating wars, decades of occupation and on the Palestinian diaspora around the world. Nonetheless, Israel still maintains full sovereignty over the Gaza Strip as it controls the borders and the movement of goods, travelers, especially Gazan residents; it also has exclusive command over the trade, water, food, energy sources (fuel, gas, and electricity), means of communication, and overall external security. Consequently, Israel still controls the local Palestinian economy. Given the complexities of the health sector in general in light of the lack of resources, closures, blockade, instability, huge implications of the political divide among the Palestinian parties, and the expansion of needs of people, maintaining continuity of health care services to citizens is an indicator of the achievement recorded for the Palestinian health sector. It is worth noting that the health sector has made enormous efforts not only to sustain health care delivery but also to improve this care and to introduce a number of new services, e.g. opening of new specialized services in the Ministry of Health facilities, such as heart surgery and cardiac catheterization; introducing new health programs such as family medicine services provide by UNRWA; maintaining adequate coverage of rehabilitation services by civil organizations, and maintaining most of the previously accomplished achievements.

Special thanks and appreciation have to go to the health sector for its tremendous investment into the information technology, health information systems, training, and human resource development in some subspecialties.

### **1. Population trends**

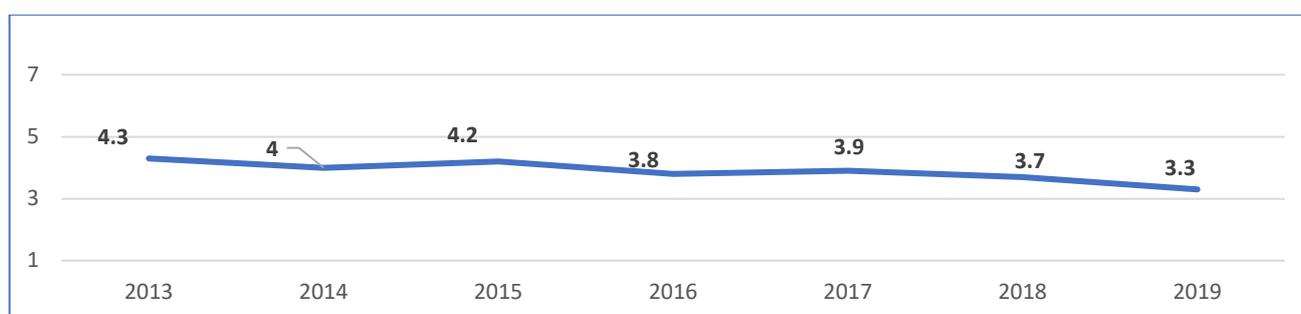
The population of the Palestinian territories (the governorates of the West Bank and the Gaza Strip) stands at about 5,038,918 million, of whom 3,019,948 reside in the governorates of the West Bank and constitute 59.9% of the total population of the Palestinian territories; in addition to 2,018,970 residing in the governorates of the Gaza Strip - 40.1% (MOH, 2019). As reported by the Palestinian Central Bureau of Statistics (PCBS), the number of males and females in the Gaza Strip governorates reached 1,023,266 and 995,704 respectively, with the ratio of males to females reaching 102.8% in 2019 and 2018 consequently (MOH,2019).



The population density in the State of Palestine has reached about 836 persons / km<sup>2</sup> at the end of 2019, of which 534 individuals / km<sup>2</sup> - in the West Bank, and 5,533 individuals / km<sup>2</sup> - in the Gaza Strip bearing in mind that 66.1% of the population of the Gaza Strip are refugees, where the influx of refugees has made Gaza one of the most highly populated areas in the world (PCBS,2019). It is worth noting that the Israeli occupation has established a buffer zone alongside the Gaza Strip eastern border line of more than 1,500 meters wide thus controlling about 24% of the total area of the Gaza Strip, which is 365 km<sup>2</sup>. This contributed to a sharp increase in the unemployment rate in the Gaza Strip (PCBS, 2019), where Gaza governorate witnessed the highest population density with an average of 9,288 inhabitants / km<sup>2</sup>, while the lowest level of population density was recorded in Khan Yunis governorate at a rate of 3,663 people / km<sup>2</sup>. (MOH, 2019).

Recent reports indicate that the Gaza Strip is among the most densely populated areas on the planet, where the population growth rate has reached 2.9 for the year 2019, with a decline in the fertility rate standing at 3.3 per woman of reproductive age (15-49 years) for the year 2019.

Therefore, the population growth in the Gaza Strip, as a result of the higher fertility rate and the internal population momentum, will more than double (2.5 times) from 2,018,970 million people in 2019 to 3.1 million in 2030 and further to 4.8 million in 2050. On the other hand, the population of Gaza will constitute 50.3% of the Palestinians, slightly exceeding the population of the West Bank, and will remain young on average. (United Nations Population Fund, 2016).

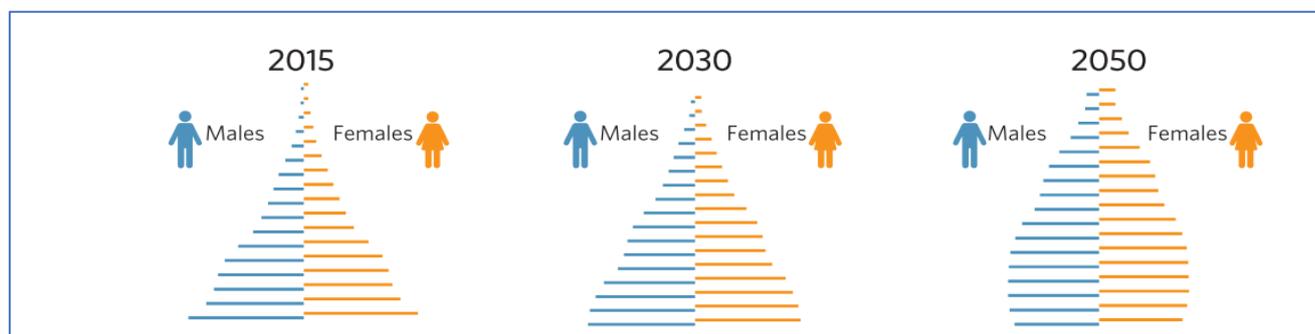


**Figure 1: Fertility rate for the years 2013-2019**

According to population projections, the age pyramid will change dramatically due to the significant decrease in the percentage of young people under 15 years of age, which is expected to decline from current 39% to 35% in 2030 and to 25% in 2050. Concurrently, the percentage of elderly people will double during the same period from 2.9% to 4.4% in 2030 and further to 7.7% in 2050, while their absolute number will rise 5.3 times. However, this still stands far from the concept of aging population, with all the implications of this new situation in terms of health care, social protection, and the significant increase of the population in the working age group (15-64 years) from 58% in the year 2015 to 61% in



2030 and further to 67% in 2050, which provides a valuable opportunity for a demographic dividend if better investment is made in youth and empowerment of women. (UNFPA, 2016).



**Figure 2: Changes in the population age structure for the years 2015-2030-2050**

As indicated by the population projections, the estimated crude birth rate in Palestine was 29.9 births per 1000 of the population in 2020, where this rate was 27.5 in the West Bank compared to 33.4 in the Gaza Strip. On the other hand, the estimated crude death rate in Palestine was 3.7 deaths per 1000 population in 2020 reaching 3.9 in the West Bank compared to 3.4 in the Gaza Strip (PCBS, 2020). Hence, the potential increase in the population will pose extra burden on the access of the Palestinians to a certain level of living conditions, including housing, work and health services. The population growth and its rise indicate on the young structure of the Palestinian society where the dependency ratio in the Gaza Strip reached 79.2 in 2019, and represents a tremendous economic burden on families. (MOH, 2019)

The estimations based on the results of the Labor Force Survey conducted in 2019 and the 2017 Population, Housing and Establishment Census, report a drop in the average household size in Palestine compared to 2007, as the average household size declined from 5.8 individuals in 2007 to 5.1 individuals in 2019. In the same context, the average household size in the West Bank reached 4.9 individuals in 2019 compared to 5.5 individuals reported in 2007, while in the Gaza Strip the average household size decreased to 5.5 members in 2019 compared to 6.5 in 2007. Of note, 11% of households in Palestine are headed by females, where the percentage of female-headed households in the West Bank was recorded at 12% and at 9% in the Gaza Strip (PCBS,2020).

## 2. Living conditions

The percentage of home ownership in Palestine, where a dwelling is owned by a family member, was about 58% in 2017 with 85% in the West Bank and 83% in the Gaza Strip, whereas the percentage of Palestinian families living in rented houses was 9% in the West Bank and 7% in the Gaza Strip (PCBS,



2019). The 2017 Population, Housing and Establishment Census data reveal that 62% of families in Palestine use safe drinking water (as defined by the Sustainable Development Goals indicators), where this percentage reached 95% in the West Bank and only 11% in the Gaza Strip.

The data of the Labor Force Survey for 2018 indicated that the illiteracy rate in Palestine among people aged 15 years and over was about 3%, and this percentage varied significantly between males and females, reaching about 1% among males and about 4% among females (PCBS, 2019).

The data of the Labor Force Survey for 2019 showed a diminished illiteracy rate among youth in Palestine, where the illiteracy rate among the youth aged 18-29 years decreased to about 0.7% (0.8% in the West Bank and 0.7% in the Gaza Strip) in comparison to the year 2018, when it reached about 3%. The percentage of people aged 15 years and above who graduated universities with a Bachelor's degree or higher, was reported at about 16%. As for the percentage of individuals who did not complete any stage of education, it was about 7% for 2019 in whole Palestine (PCBS, 2020).

### **3. Environmental status**

Palestine relies in its freshwater supply mainly on the water abstraction from the groundwater aquifer basins, which accounts for 77% of the total available water. The amount of water abstracted from groundwater wells (the Eastern Basin, the Western Basin, and the North-East Basin) in the West Bank was about 99 million m<sup>3</sup> in 2018. (Palestinian Water Authority, 2019).

The main reason behind the weak use of the surface water in Palestine is the Israeli's exclusive control of the waters of the Jordan River and the Dead Sea. As data of 2018 reveal, Palestine started producing desalinated water, the percentage of which is expected to increase in the coming years by operating limited quantity of desalination plants in Gaza that are to be increased significantly with the implementation of the central desalination plant program. The amount of water abstracted from the coastal aquifer basin in the Gaza Strip reached 177.6 million m<sup>3</sup> during the year 2018. This huge amount is considered as an over-exploitation of the aquifer, which eventually led to the depletion of water reserves under the point of less than 19 meters below the sea level, in addition to infiltration of the sea water and wastewater into the reservoir, thus causing more than 97% of the coastal aquifer water being non-compliant with the WHO standards (PCBS, 2019).

The situation in relation to water supply in the Gaza Strip is "disastrous" with the pollution level reaching up to 98%. According to the latest statistics published by the Palestinian Water Authority, the percentage of the water deficit in the Gaza Strip was marked at 110 million m<sup>3</sup> per year out of the 200 million m<sup>3</sup>



of water needed. There are about 80 water wells distributed throughout the Gaza Strip governorates of which about 67 are functioning, while none of them is suitable for human consumption, as the produced water is acceptable for domestic use only. The Gaza Strip drains annually more than 30 million m<sup>3</sup> of water, while the average annual recharge of the aquifer is less than 30% of the abstracted water. The Gaza Strip imports about 30 million m<sup>3</sup> of water annually from Israeli (Palestinian Water Authority, 2019).

In 2012, the United Nations has highlighted in its report "Gaza in 2020: A liveable place?" that about 90,000 cubic meters of raw or partly treated sewage would be dumped daily into the Mediterranean Sea and environs (i.e. almost 33 million cubic meters annually). Therefore, it was found that 20% of the drinking water wells (run by the municipalities) are acceptable and comply with the standards recommended by the World Health Organization (250 mg / liter). On the other hand, when nitrate compounds are concerned, it was found that only 14% of municipal wells meet the global permissible level (50 mg / liter). In general, when speaking about the concentration of both chloride and nitrates, it was found that only 4% of the municipal wells in the Gaza Strip satisfy the permissible limits recommended by the World Health Organization. All the afore mentioned highlights that the Gaza Strip suffers from a disaster in terms of water quality (Palestinian Water Authority, 2019).

The power crisis in the Gaza Strip and power cuts have been persisting for many years, especially during the Israeli attacks. In June 2006, Israel destroyed the main and the only power station in Gaza after taking captive of "Gilad Shalit". Since then and till the present moment, collective punishment measures have been imposed on the whole population inhabiting the Gaza Strip. The average power deficit in the Gaza Strip for the first half of the year 2019 reached about 60% of the total demand due to the shortages of power supply from its various sources, especially with the breakdown of Egyptian electricity lines since March 2018 and continuing power crisis.

The use of huge quantities of missiles, bombs, ammunition and internationally banned weapons during the 51 day of the continuous aggression on the Gaza Strip during the 2014 war led to high levels of air pollution from the materials resulting from these bombs and explosives. The air pollution and dense dust with toxic materials released from bomb explosions caused suffocation, difficulties in breathing, burning eyes, and various types of skin sensitivity, which, scientifically speaking, would certainly have a serious impact on health and environment, either on the long run or on the short run (Environment Quality Authority, 2014).

The retrospective study by Paola and Al-Barquni (2020) revealed a gradual increase in birth defects among children since the 2006 attacks. In 2011, childbirth was monitored with the analysis of the heavy



inert metals "dime" used during the aggression and carried by pregnant women and their babies. Protocols for birth registration were used, which also documented the extent of the exposure to attacks, war remnants and other environmental hazards that allow comparison of three data sets: 2011, 2016 and 2018. By ICP / MS analysis, the content of 23 metals was determined in mothers' hair. Comparison of data in birth registers showed a significant increase in the prevalence of congenital anomalies and preterm babies in the period between 2011 and 2016 from 1.1% to 1.8% for congenital anomalies, and from 1.1% to 7.9% for prematurity respectively, with the values being stable in 2019. The results at birth were negative from 2016 till 2019, and this is associated with exposure of mothers to attacks in 2014 and / or to hot spots of heavy metal contamination. Since the 2014 attacks, metal loads have been consistently high until 2018-2019 for such metals as barium, arsenic, cobalt, cadmium, chromium, vanadium, and uranium, indicating that these metals could be potential inducers for the increased prevalence of negative health outcomes at birth since 2016. High load of heavy metals might be the explanation to the recent rise in non-communicable diseases and cancers in all age groups in Gaza. The modern war legacy of diseases and deaths extends in time to populations.

#### **4. Economic situation**

The gross domestic income in the Gaza Strip cannot be tracked reliably from the local sources due to the general state of chaos. The GDP per capita in Palestine at constant prices reached \$ 802 during the first quarter of 2020, registering a 6% decrease compared to the fourth quarter of the year 2019 (PCBS, 2020). The GDP per capita in the West Bank reached \$1,151 during the first quarter of 2020 with a decline of 5% compared to the fourth quarter of 2019, while the GDP per capita in the Gaza Strip stood at \$331 during the first quarter of 2020 recording a decrease of 7% compared to the fourth quarter of 2019. The preliminary estimates indicated a decline in the GDP at constant prices by 4.6% in the West Bank and by 6.1% in the Gaza Strip during the first quarter of 2020 compared to the same period in 2019. The value of the GDP during the fourth quarter of 2019 at constant prices reached up to \$ 3,302 million in the West Bank and \$714 million in the Gaza Strip (PCBS, 2020). As revealed in the report of the Palestinian Central Bureau of Statistics of 2019, the labor force participation rate in Palestine was estimated to stand at 46% of the total manpower (persons aged 15 years and over) during 2018 (i.e. 46 out of every 100 persons aged 15 years and over participated in the labor force), where this rate was 46% in the West Bank compared to 47% in the Gaza Strip. The labor force participation rate among females in Palestine was low in comparison to that among males, where it reached 21%, standing at 18% in the West Bank and 26% in the Gaza Strip. As for the labor force participation rate among males, it reached 72% for Palestine with 74% in the West Bank and 68% in the Gaza Strip. The data of the 2017 Population, Housing and Establishment Census indicated that the number of people covered by the



health insurance in Palestine was 4,582,273 constituting 79% of the total population of Palestine; where the percentage of people with the government health insurance was estimated at 32%, those with the UNRWA insurance - 15%; with private insurance - 2%; 29% of people had both government and UNRWA insurance, 0.2% - government and private insurance, 0.7% - UNRWA and private insurance, 0.7% - Israeli insurance, and 0.3% - other types of insurance.

The poverty line for a reference family in Palestine consisting of five persons (two adults and three children) was about 2,470 NIS (about 671 USD) per month during 2017, while the extreme/deep poverty line for the same reference family stood at 1,974 NIS (about 536 USD) per month. The poverty rate, based on the average monthly consumption patterns, was calculated to stand at 29% in Palestine during the year 2017 (14% in the West Bank and 53% in the Gaza Strip). It was also found that about 17% of individuals in Palestine suffered from extreme poverty with 6% in the West Bank and 34% in the Gaza Strip). Having that said, we can conclude that this context of economic and social deterioration, and the inability of the health system to respond to the consequences of this deterioration (to the emerging needs), have exacerbated already dire health situation of the Gaza Strip population. Any kind of economic recovery is unlikely to ever happen as long as the blockade imposed on the Gaza Strip is in place. Even if the blockade is lifted, it will take years to repair its damages and to revive the economy. Despite the growing volume of the humanitarian aid provided to the Palestinians, the humanitarian situation is further deteriorating. Though access to the assistance is vital to address the worsening humanitarian crisis in Gaza, it cannot be a solution by itself.

The demographic indicators of the Gaza Strip highlight that there is a growing burden on the health sector, especially on maternal and child health services as well non-communicable diseases that affect the elderly population. Consequently, the health system has to respond not only to the challenges of the prevailing situation, but also to the increasing demands for services as a result of the increase in population size. Accordingly, planners, policy-makers, and donors have to consider these factors so that to meet current and future needs of the population of the Gaza Strip.

## **5. Primary Health Care**

It is worth mentioning that health care services in the Gaza Strip are effective, especially when comparing health indicators in Gaza with those in the region. As a rule, it is applicable as far as vital indicators are concerned, such as: death, infant mortality, maternal mortality, vaccination coverage, causes of death among adults and others. Physical access to health services is acceptable in the normal situation, but it is usually weak during emergencies. In general, there is satisfaction with most of the essential services provided in terms of coverage and access to health care, while the quality of care is a debatable issue. Due to the lack of relevant standards and protocols, and poor adherence to the available



standards, access to advanced care services also remains a real challenge faced by the health care system in Gaza.

Primary health care services are provided by a number of organizations in the health sector. The number of primary health care centers run by the Ministry of Health totals 52 health centers, accounting for 32% of the total services provided, while the number of health centers run by the UNRWA is 22 centers, constituting 14%. The number of NGO health centers reached 80 facilities (11.8%), in addition to five centers operated by the Military Medical Services accounting for 3%.

## 6. Maternal Health

Maternal health, including sexual and reproductive health and rights, is of a paramount importance for human and sustainable development, as “the enjoyment of the highest attainable standard of physical and mental health” is a recognized human right. Therefore, health services must respond to the needs of older and younger generations alike, both males and females, throughout their life cycle, by addressing communicable and non-communicable diseases and other health risks, as changes in the population structure mean the need for reforms in health care services. In the coming years, especially among the most vulnerable groups such as children, women of reproductive age and the elderly, an increase in the maternal mortality rate was observed in the Gaza Strip during 2019, where 17 maternal deaths were recorded at a rate of 30.8 per 100,000 live births compared to 2018, where the death rate was calculated at 19.1 per 100,000 live births meaning an increase of 54.5% (MOH, 2019). Among the main causes of maternal deaths according to the Ministry of Health report for 2019 were: cardiac arrest (52.9%), lung stroke (23.5%), and blood poisoning by (17.6%) and others (5.9%) (MOH, 2019). The percentage of deaths in hospitals reached 94.1% of total maternal deaths, while the proportion of maternal deaths at home was 5.9% of total deaths, with the highest death rate in the age group 35-40, followed by the age group 20-25 years in the normal, 29.43% and 23.5%, respectively.

**Table 1: Causes of Maternal Mortality in 2019**

Cause	Number	Percentage
Acute Cardiac Myopathy	9	52.9
Pulmonary Embolism	4	23.5
Sepsis	3	17.6
Complication of Systemic Lupus Erythematosus	1	5.9
<b>Total</b>	<b>17</b>	<b>100</b>



Maternity services in the Gaza Strip are easily available, but access to them during the crises is often a challenge. Though, much has to be done in terms of the quality of the services provided, as the vast majority of Palestinian mothers/women give birth in health facilities, primarily in the Ministry of Health hospitals. Almost all deliveries are attended by doctors, nurses and midwives. Obstetric care services are provided by approximately 17 hospitals / health centers in the Gaza Strip, among which six are governmental hospitals with the percentage of deliveries reaching 70% of the total births, where Shifa Maternity Hospital accounts for the largest number of deliveries - 35% out of the total births. The bed occupancy rate in maternity departments reached more than 110% in 2019, while taking into consideration that the number of maternity beds in the Ministry of Health reached 281 (217 beds - in-patient departments, 64 beds – obstetric day care departments), which represent 12.1% of the total MOH hospital beds (MOH, 2019).

## 7. Child Health

Child health care in the Gaza Strip is provided in general through a wide network of primary health care centers, out of which 52 centers are run by the Ministry of Health, 22 - by UNRWA, 80 – by non-governmental organizations, 5 centers - by the Military Medical Services in addition to a number of private clinics. Child health care services are offered to those under 18 years of age through three specialized pediatric hospitals, in addition to ten general hospitals that provide health care for children within the overall MOH services. The total number of in-patient beds in the MOH hospitals' pediatric departments is estimated at about 400 beds; this is in addition to 21 bed in pediatric intensive care units, 137 beds in neonatal ICUs, and 79 beds in pediatric day care departments. On the other hand, the total number of beds designated for newborn care services in three non-governmental hospitals is 13 in-patient beds (four -in Al-Ahli Hospital, six - in Al-Quds Hospital, and three - in Public Aid Hospital). As for the Military Medical Services, the total number of pediatric in-patient beds is 54 in addition to 5 beds at the neonatal ICU (MOH, 2019).

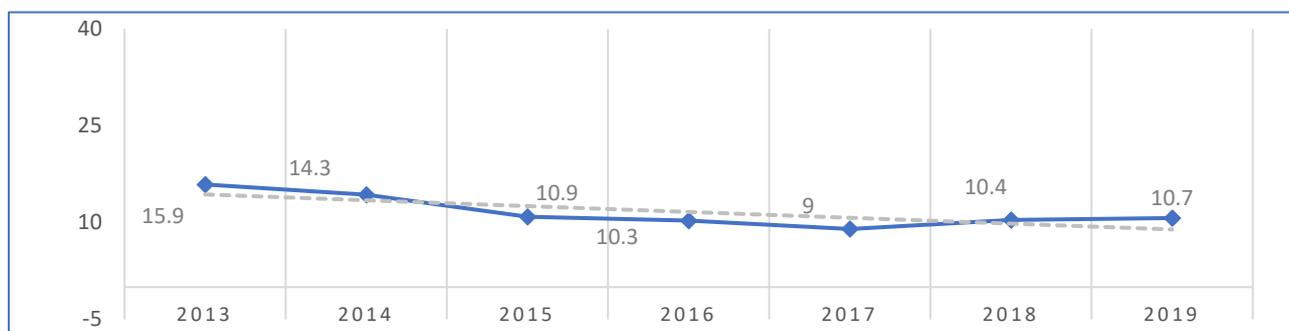
A good control has been established in the Gaza Strip over diseases that can be prevented by vaccination through the National Unified Expanded Program on Immunization, which is one of the most important successes achieved by the Ministry of Health in cooperation with other health care providers, especially UNRWA. Vaccination of infants and children against infectious diseases is viewed one of the most important priorities of the health sector represented by two main health care providers - the Ministry of Health and UNRWA. The overall vaccination coverage rate for infants and children ranges from 99.5% to 100%. The immunization program has been updated several times until the number of diseases targeted by vaccination reached 12 diseases: polio, diphtheria, Tetanus, whooping cough, pulmonary



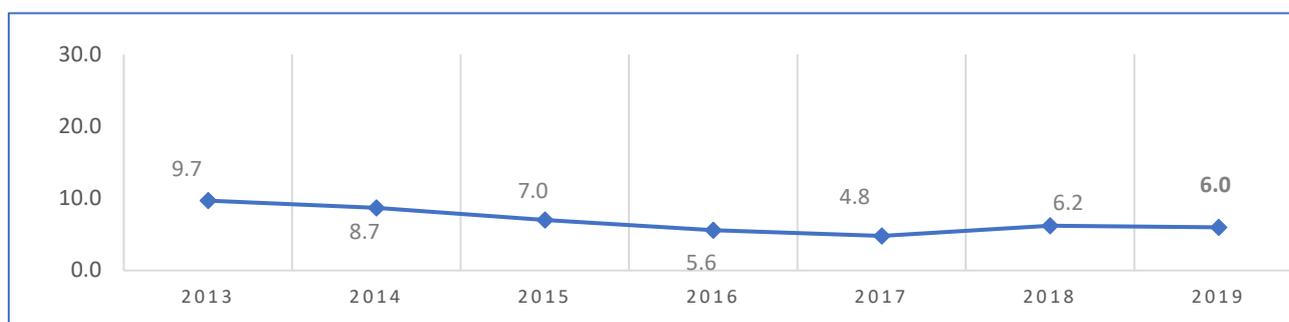
tuberculosis, hepatitis C, Hemophilus influenzae type B, Rota, measles, rubella, mumps and pneumococcus.

The process of monitoring the growth and development of children in primary health care facilities is carried out in an appropriate manner, and is often linked to promoting growth. The measurement is limited to providing child growth monitoring services mainly in the UNRWA clinics and in the Ministry of Health facilities that provide vaccinations. In addition to that, many service providers use various forms of charts and measurements to monitor growth. As a rule, growth monitoring services are linked to vaccination services. Accordingly, a growth control assessment, including the assessment of compliance with measurements of weight, height, and hemoglobin levels, is usually conducted only when children receive the vaccination. Upon completion of the immunization schedule, they are reluctant to have growth monitoring service, despite it is critical for monitoring and treating malnutrition cases.

Child mortality is considered as one of the leading indicators of the overall social and health status in the country. The number of child deaths reached 591 in 2019. The infant mortality rate (under one year of age) has decreased during the past ten years in the Gaza Strip from 17.1 of deaths per 1,000 live births in 2010 to 10.7 in 2019, while there was an increase of 0.3 over the year 2018 (MOH, 2019). There was a slight decrease in neonatal mortality rate (0-28 days of age) that declined from 6.2 newborn deaths per 1000 live births in 2018 to 6.0 newborn deaths per 1000 live births in 2019.



**Figure 3: Infant mortality rate in the Gaza Strip for the period 2013-2019 (per 1000 live births)**



**Figure 4: Neonatal mortality rate in the Gaza Strip for the period 2013-2019**



Whereas the percentage of infants aged 28-365 days was at a rate of 4/1000 births in 2019 compared to 4.2 / 1000 births in 2018, the mortality rate among children constitutes 11% of the total deaths in the Gaza Strip. As the Ministry of Health 2019 report reveals, the real leading causes of death among infants (under one year of age) were congenital malformations comprising 29.1% of the total infant deaths, respiratory diseases -18.5%, prematurity and low birth weight - 14%, sudden death - 10.8%, heart diseases - 10.3%, infectious diseases - 9.8%, malnutrition - 3.2%, cerebral palsy - 1.1%, accidents - 0.7%, and cancer - 0.2% of the total number of deaths among children (MOH, 2019).

**Table 2: Comparison of the percentage of deaths among infant in the Gaza Strip between 2016 and 2019**

Cause of death	2016	2017	2018	2019
<b>Congenital anomalies</b>	22.3	21.8	25.7	29.1
<b>Asphyxia</b>	15.4	22	20.1	12.6
<b>Other respiratory diseases</b>	2.7	2.1	3.1	5.9
<b>Prematurity and low birth weight</b>	16.8	19.4	23.7	14
<b>Heart diseases</b>	10.4	8.3	7.3	10.3
<b>Sudden death</b>	7.5	12	8.3	10.8
<b>Infectious diseases</b>	7.0	6.8	6.0	9.8

Despite the fluctuations in the prevalence rates of various types of malnutrition in the Gaza Strip, it is unanimously agreed that the prevalence rates are high. Chronic destitution, increased social and economic vulnerability, poor health conditions, political conflict, lack of awareness, and low cultural levels are among the risk factors that have contributed to the high incidence rates of malnutrition and anemia, which are also exacerbated by frequent infections in children, and the misuse of medicines (World Vision 2020).

Malnutrition in all its forms comprises nutritional deficiencies (wasting, stunting and underweight), vitamins or minerals deficiency, overweight, obesity, and diet-related non-communicable diseases. In 2016, more than 1.9 billion adults (39%), 18 years and older, were overweight. Of these over 650 million (13%) were obese, while 462 million people are underweight. 52 million children under five suffer globally from wasting, in addition to 17 million of those suffering from severe wasting; 155 million children are stunted, while 41 million children are overweight or obese. About 45% of deaths in children under five are associated with undernutrition, and most of these deaths occur in low- and middle-income countries (MOH, 2019).

The Palestinian Central Bureau of Statistics indicates that 10.7% of children under five suffer from chronic malnutrition (Palestinian Center for Human Rights, 2019). According to a recent study



conducted by Terre des hommes (Ard El-Insan) Society - a non-governmental association that provides health services to children, 6% of children under five who were included into the study sample (24,800 children) are stunting and severely malnourished. The rate of stunting resulting from chronic malnutrition among surveyed children reached 8.6%, while the percentage of children with nutritional anemia reached 28%. The survey highlighted that 95.8% of children aged 0-23 months in the West Bank were breastfed compared to 97.6% in the Gaza Strip. The data showed that 38.6% of children aged 0-5 months in Palestine received exclusive breastfeeding, with 40.6% in the West Bank and 36.4% in the Gaza Strip.

The number of children under the age of 18 with cancer reached 620 new cases for the period 2014 - 2018, which represents 7.4% of the total cancer cases. Bone marrow cancer is the most common type of cancer in children that accounts for about one third of total cancer cases among children. Lymphoma is the second most common type of tumors in children, which accounts for 17.1% of total cases, followed by tumors of the nervous system and brain accounting for about 16.5% of all cases (MOH, 2019).

## 8. Non-Communicable Diseases

The Gaza Strip is currently facing a growing burden of non-communicable diseases, which makes it a priority concern in the Palestinian health context. Cardiac and cerebrovascular diseases, as well as cancer are viewed as the main causes of morbidity and mortality in the Gaza Strip, which directly affects the high cost of care related to these diseases. Diseases, in an indirect way, affect shortfalls in domestic production, and increase pressure on the society. Among the common factors causing atherosclerosis are high blood pressure, diabetes, smoking, and hyperlipidemia. Therefore, there is an imperative need to develop and implement effective comprehensive prevention programs, and to re-organize the health care system so that to provide the treatment for the mentioned diseases as a priority in coming strategic plans (MOH, 2014).

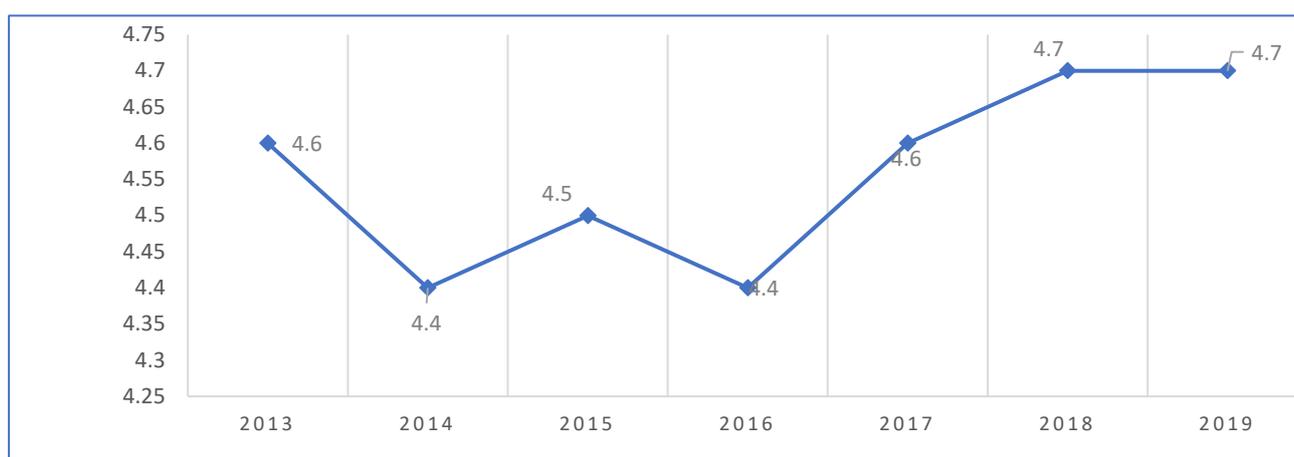
Diabetes Mellitus (DM) is one of the most dangerous and most common chronic diseases in the world as it is a gateway to many other diseases. What increases its danger in our society is that more than 55% of people with DM do not actually know that they have the disease. About 425 million people in the world suffer from DM, which constitutes 7% of the world adult population. The incidence of diabetes in the Gaza Strip in 2019 was estimated at 246.9 / 100,000, which was 10.2% higher than that for 2018, while in 2017 it reached about 264.8 per 100,000 population. The total number of diabetic patients registered in the Gaza Strip in 2019 was 62,409 patients, with a prevalence rate of about 3.1 / 100 people, where this rate was 17.6 / 100 people in the age group 40 years and above. About 46.6% of the total patients with DM were in the age group over 60 years, and these rates are lower than those in neighboring countries (MOH, 2019).



Despite the incidence of death due to the DM as an underlying cause is low, the disease rates and the costs of its treatment are very high. Patients with this medical condition are exposed to many serious complications, such as heart diseases, renal diseases, neuropathy, eye diseases, peripheral vascular diseases and others, which often develop slowly without any alarming signs / feelings. Diabetes may increase the risk of open wounds, ulcers, infections, where retinopathy is one of its most common complications (MOH, 2014).

Hypertension is one of the main causes of premature / early death in the world; it is often called “the silent killer” as most of the time it shows no warning signs or alert symptoms. The MOH report of 2019 (Figure 5) indicates that the total number of patients with high blood pressure in the Gaza Strip has reached 94,358 with the prevalence rate of 4.7 / 100, where this rate was 26.6 / 100 people in the age group of 40 years and above. Actually about 47.9% of hypertensive patients fall in the age group of 40 to 59 years.

It is worth mentioning that 80.4% of patients with hypertension received the health care service in the primary care centers run by the UNRWA (MOH, 2019).



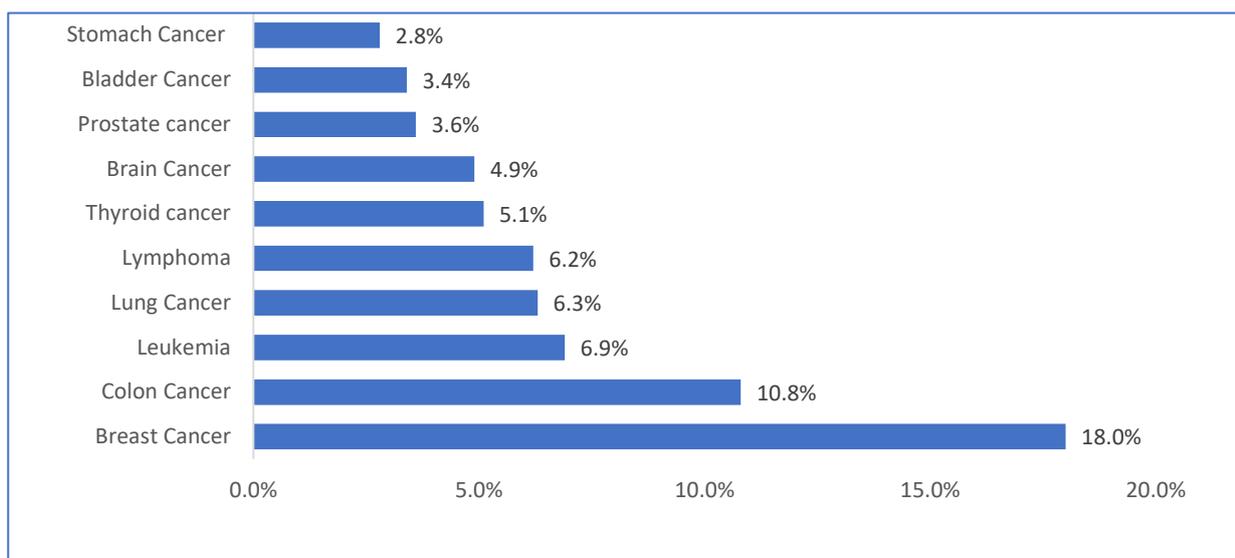
**Figure 5: Prevalence rate of hypertension in the Gaza Strip**

National protocols and policies have been developed to cover the main non-communicable diseases to control diabetes, hypertension, asthma, and heart diseases, in accordance with recommendations of concerned international and academic professional societies. However, the difficulty is not in the availability of protocols, rather in the lack of adequate training, supervision, monitoring and evaluation of these interventions. These protocols alone are not sufficient to improve and standardize the management of treatment and follow-up of patients, so it is of primary need to revisit, update and finalize the policies and protocols regulating the aforementioned services and conduct full training programs on them.

Cancer diseases are one of the most important health problems in developing and developed countries for their considerable financial and social impact. This dangerous disease is also one of the leading



causes of morbidity and mortality worldwide. The number of new cancer cases that were detected and registered in the Gaza Strip in the period of 2014-2018 reached about 8,326 cases. Breast cancer is the most common type of cancers; it ranks first in female tumors accounting for 32.2%. The number of breast cancer cases stands at 1,500 constituting 18% of the total cancers, while colon cancer ranks second among the most common types of cancer in both sexes. It is most common among males, representing 13.2% of total male cancers (MOH, 2019).



**Figure 6: Incidence of the most common types of cancer in both sexes in the Gaza Strip in the period of 2014-2019**

This crude number of cancer cases in 2014 reached 1,502 cases at a rate of 83.9 / 100,000 people, while the number of new cases recorded in 2018 increased to 1,750 at a rate of 90 / 100,000 people with an increase of about 14% compared to 2014. Table 3 shows the gradual increase in the number of new cases that were registered annually.

**Table 3: Cancer incidence and prevalence rates per year**

Year	Number	Incidence rate / 100,000
<b>2014</b>	<b>1,502</b>	83.9
<b>2015</b>	<b>1,628</b>	87.9
<b>2016</b>	<b>1,702</b>	89
<b>2017</b>	<b>1,744</b>	91
<b>2018</b>	<b>1,750</b>	90



The latest MOH reports indicate that colon cancer ranked as the first cause of death accounting for 11% of total deaths due to tumors, followed by breast cancer (10%), leukemia and brain cancer accounting for 9.7% and 9% respectively.

Movement of patients seeking health care among various service providers, duplication, and absence of effective coordination mechanisms are among the major problems currently prevailing that negative implications on the health status of this vulnerable group of patients.

The high costs of non-communicable diseases monitoring / surveillance that include primary prevention such as anti-smoking measures or education initiatives to promote a healthy diet and lifestyle, early detection and appropriate treatment (especially for cancer), are insufficient efforts to address the growing needs, where lack of detailed data on human resources and specialized health professionals in the field of cardiovascular diseases, diabetes and cancer makes the situation much worse.

Reports reveal that there is a shortage in some specialties including endocrinology, chest diseases, adult oncology, pediatric surgery, adult hematology and rheumatology, pediatric oncology, cardiac surgery, pediatric cardiac surgery, nephrology, surgical subspecialties, burns and plastic surgery, vascular surgery and catheterization interventions, orthopedic surgery, stroke units, colon and breast surgery, forensic medicine, genetic analysis of hereditary diseases, molecular biology and organ transplantation. The Ministry of Health will work to reduce the gap in these specialties in the coming years through internal and external training, scholarships and recruitment (outsourcing) of the required cadres (MOH, 2020).

## **9. Mental Health Services**

The political situation has exacerbated the problems faced by the population of the Gaza Strip caused by years of blockade, occupation, and economic deprivation. The Israeli siege imposed since 2006 and military attacks on the Gaza Strip have had adverse psychological effects on Gaza population, especially children of all ages. The ongoing psychological pain and frustration might be interpreted as a result of deteriorating conditions of life. The fact that citizens cannot find solutions for their hardships and hopelessness will lead to more and more mental disorders and domestic violence, as well as a rise in divorce rates. Men family breadwinners feel helpless and hopeless at the thought that their children might consider them as losers, which intensifies their tension; and this psychological pain is also expressed through physical symptoms and body pain in its various forms.

Due to the social stigma associated with mental health, people who suffer from mental disorder do not prefer visiting a doctor or a psychologist; they are satisfied with taking painkillers, which eventually can lead to drug addiction, and the percentage of these cases has increased recently. In addition to the blockade, the last war on Gaza has had profound impact on post-traumatic stress disorders accompanied



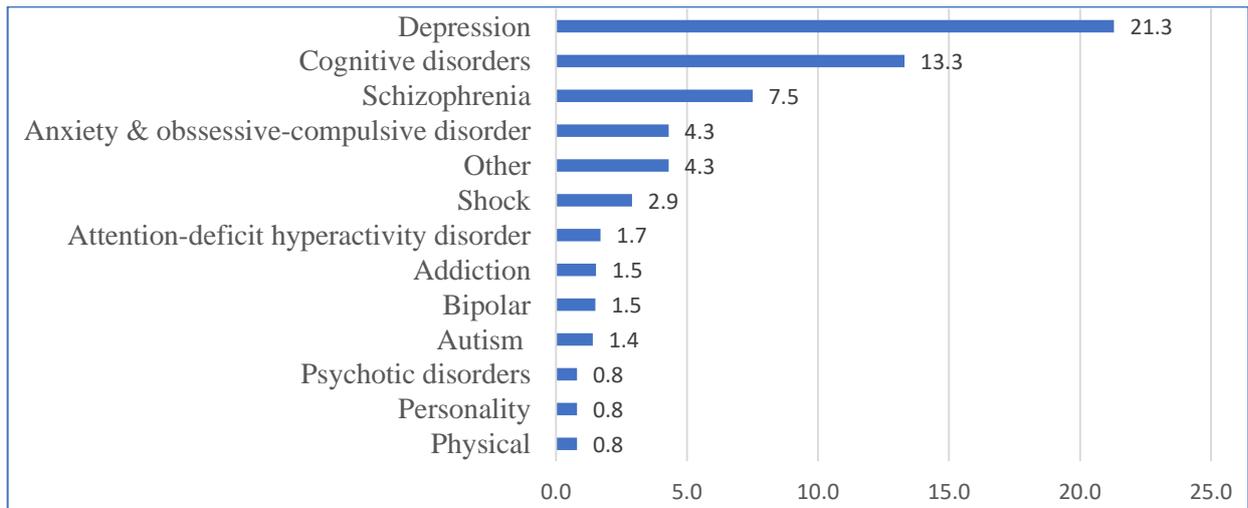
by chronic symptoms such as: flashbacks, high levels of anxiety, and psychological and emotional reactions. In this context of protracted crises and the blockade, children are among the most vulnerable groups, as they often suffer from various symptoms such as: bedwetting, mumbling, hyperactivity, nightmares. Growing violence in the environment they live in leads to aggressive behaviors at school and at home.

Mental disorders are defined as a noticeable defect in a person's thinking, feelings and behavior, as it disrupts his ability to deal with others, face the reality and cope with the demands of life. As mental illnesses cause a large number of disabilities and deaths, they represent 8.8% and 16.6% of the total morbidity burden respectively resulting from various health impairments in low- and middle-income countries. The number of people suffering from depression or anxiety reached 615 million in 2013, about 20% of children and adolescents in the world have mental disorders or problems, and these disorders are the main cause of disability worldwide. The number of suicides accounts for 900,000 people every year, where 86% of them were recorded in low- and middle-income countries.

Community mental health services are provided in Palestine through six centers. In 2019, a total of 89,525 visits to the Community Mental Health Clinic were recorded at Gaza Psychiatric Hospital with an increase of 15.9% compared to 2018. This is in addition to 77,231 new cases that were registered in the same year with an increase of 5.1% in comparison with the previous year and an incidence rate of 62.3 / 100,000 people. The number of home visits reached 1,419, in addition to 1,272 health education sessions, while the number of cases referred from the mental health centers to mental rehabilitation centers accounted for 377. The incidence of mental illness among males was 58.4%, with the incidence rate estimated at 71.7 / 100,000 males; while these indicators for females stood at 41.6% and 52.5 / 100,000 respectively (MOH, 2019).

People aged 30-39 were the most vulnerable to mental illnesses with a proportion of 34.7% out of total newly recorded cases, followed by the age group 20-29 with a percentage of 22.6%, where the youth group aged 20-39 constituted 57.3% of the total new cases with 65.1% of them being males. The highest incidence rate of psychological and mental illnesses was recorded in Rafah Governorate standing at 111.6 / 100,000 people, followed by Gaza governorate with a rate of 70.9 / 100,000 people, while in Khan Yunis this rate was estimated at 26.3 / 100,000 people. Depression constituted the highest incidence rate out of all psychological and mental illnesses standing at 21.3 / 100,000 people, followed by cognitive disorders at a rate of 13.3 / 100,000 people, while the incidence of physical disorders was 0.8 / 100,000 people (MOH, 2019).

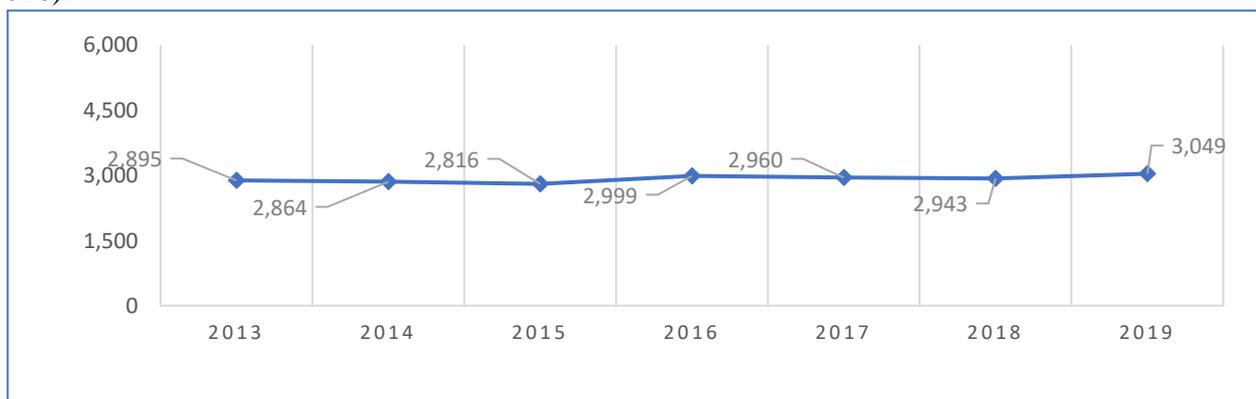




**Figure 7: Incidence rate of mental illnesses by diagnosis per 100,000 population**

**10. Secondary and Tertiary Health Care**

The need to focus on secondary and tertiary health care in the strategic plan comes from the reality of the prevailing situation in the besieged the Gaza Strip, which is subject to recurrent Israeli attacks. On the other hand, the United Nations Population Fund Report (2016) indicates that there are important demographic shifts in Palestine, which are represented by aging of the population and the expected growth of elderly as the proportion of Palestinians aged 65 years and over will double from 2.9% to 7.7% by 2050. As a result of aging, there will be more patients with chronic diseases and more multiple health problems that are more common among the elderly, as the prevalence of the major chronic diseases among the elderly is five times higher than that in younger people. Accordingly, the health care system must introduce and strengthen services for the elderly and palliative care, in addition to allocating more hospital beds for this age group. As the population projections indicate, the number of hospital beds in the Gaza Strip has to be increased to reach 4,000 beds by 2025, and 5,200 beds by 2030 (UNFPA, 2016).



**Figure 8: Distribution of the number of hospital beds in the Gaza Strip during the period 2013-2019**



The number of functioning hospitals in the Gaza Strip reached 34 hospitals in 2019 (13 hospitals managed by the Ministry of Health, 17 – by the non-governmental organizations, 2 - by the Ministry of Interior and National Security, and 2 - by the private sector), while in 2016 the number of hospitals was 30. The total number of hospital beds in the Gaza Strip accounts for 3,049 beds (2,343 beds hosted by the Ministry of Health (76.8% of total beds), 517 beds hosted by the non-governmental organizations (17%), and 163 beds - by the Ministry of Interior at a rate of 5.34%). Accordingly, the overall beds rate for a population is 1.5 per 1,000 people, which is the lowest in the year 2011, when it reached 1.57 beds per 1,000 people (MOH, 2019).

It was noticed that there has been a slight increase in the number of beds over the past six years. The figures indicate that the proportion of hospital beds increased during the period 2013 – 2016 by only 5.1%, and this increase is not commensurate with the increase in the size of the population, which was calculated at 15% for the same period. During 2019, 239,077 admissions were recorded in the Gaza Strip hospitals, where 83.4% of them were in the Ministry of Health hospitals. Table 5 below shows that the bed occupancy rate in government hospitals reached 95%, while it was 41.4% and 1.7% in NGO and private hospitals respectively, in addition to 73.5% in hospitals run by the Military Medical Services. Shifa Medical Complex recorded the highest occupancy rate of 124%, while the occupancy rate at Eye Hospital was 35%, which is the lowest among hospitals managed by the Ministry of Health. The above data provide a clear picture of the workload discrepancies between the MOH hospitals and those run by the non-governmental organizations and the Military Medical Services. This might be due to the low utilization of the services offered by the non-governmental organizations, and overcrowding in the Ministry of Health hospitals. Thus, greater attention to investing in external daily health care services is an important option. It can contribute significantly to reducing the number of hospitalizations (MOH, 2014).

**Table 4: Indicators of in-patient services utilization in the Gaza Strip hospitals in 2019**

Indicator	2019			
	Ministry of Health	NGOs	Ministry of Interior	Private
Occupancy	95.0	41.4	73.5	<b>1.7</b>
Overnight stay	3.5	2.4	2.2	<b>1.0</b>
Turn-over rate	110	59.7	124.2	<b>3.6</b>
Bed availability / vacancy period	0.4	3.5	0.8	<b>57.9</b>

Surgical departments ranked first for their need of increased number of beds (by 29.6%), followed by the internal medicine and psychiatry (by 24%), pediatric departments (by 21.8%), special / intensive



care beds (by 12.8%), and obstetrics and gynecology (by 11.8%) (MOH, 2019). The number of special care beds in the hospitals of the Gaza Strip reached 260 with a decrease of 4% compared to 2018, where about 90% of them are located in to the Ministry of Health hospitals. Neonatal care units have 155 beds, of which 137 beds belong to the Ministry of Health, and the rest are distributed between non-governmental hospitals (13 beds), and Military Medical Services (5 beds). As for the general care beds (for adults), they total 44 beds, of which 37 are in the MOH hospitals, the percentage of which decreased by about 10% compared to 2018, in addition to seven beds belonging to non-governmental hospitals. The number of cardiac care and heart surgery beds in the MOH hospitals total 37, which has decreased by 16% in comparison to 2018; this is in addition to 21 beds for pediatric care, all of which belong to the Ministry of Health. As far as operation rooms are concerned, their total number reached 95, of which 48 rooms (50.5%) are in the Ministry of Health hospitals, 39 operating rooms (41%) belong to the non-governmental sector, the Ministry of Interior (MMS) owns five operating rooms (5.3%), and three rooms (3.2%) are available in the private hospitals (MOH, 2019). The figures show that there is an increase in the number of operation rooms by 6.7% compared to last year, equally distributed between NGOs and the private sector, they reveal as well the weakness of the private sector in this aspect.

As determined by the international standards, there should be at least 5-20 operation rooms available for every 100,000 people (Powell, 2010). In some developing countries, 10 operation rooms and 10 intensive care beds are required for every 100,000 people (in Europe, the rate is 11 intensive care beds and 14 operation rooms for every 100,000 people) (Funk et al, 2010; OECD, 2012) This implies that there is a need for at least 125 intensive care rooms and 106 operation rooms to meet the current needs of the Gaza Strip. It is estimated that in 2024 there will be a need for 150 intensive care beds and 131 operation rooms in addition to those already available, and this serious gap can be filled up gradually. Over the past years, the Ministry of Health has worked to endorse a number of policies regulating the workflow in the operation rooms, but still there is a need for further follow-up and supervision of their implementation to ensure optimal use of these policies to compensate for the deficiency.

Cardiac catheterization service was introduced in the European Hospital in 2006, and in the middle of 2014, it was introduced in Shifa Medical Complex. This service is also available in non-governmental and private sectors, where it is provided in four health centers: which are the Cardio-vascular Hospital of the Public Aid Society, Al Quds Hospital, Al Hayat Specialized Hospital, and Julis Specialized Center. In 2019, a total of 6,429 cathlab interventions were performed in the Gaza Strip, of which 3,908 were performed in the Ministry of Health hospitals (comparing to 3,882 procedures performed during the previous year), in addition to 1,486 interventions in the non-governmental sector, and the rest 1,035 were performed in private health centers (MOH, 2019).



Diagnosis and treatment of heart diseases increase the demand for establishing cardiac and angiography laboratories. Using the standard rate of 2 / 1,000,000 people (UK standard), it is estimated that at least six such facilities will be required for the Gaza Strip in 2030. Using the average OECD rate per 1,000,000 people, 2,355 PCI procedures are expected to be performed in 2030, which poses a huge burden on the health system (UNFPA, 2016).

Open heart surgery services are provided by the Ministry of Health in two health centers: the first is in Shifa Medical Complex, and the second one is in the European Gaza Hospital. In the non-governmental sector, this service is offered at two centers, which are: The Heart Surgery Center in the Cardio-Vascular Hospital run by the Public Aid Society, and Al-Quds Hospital run by the Palestinian Red Crescent Society. In 2019, a total of 203 open heart surgeries were conducted in Gaza hospitals during the year 2019, while in the year 2018 their number reached 271. Out of total open-heart surgeries in 2019, 151 were conducted in the MOH Gaza European Hospital; none of the surgeries were performed at Shifa Medical Complex, contrary to last year. Fifty-two open heart surgeries were performed in Al-Quds Hospital during 2019, indicating a clear decrease in comparison to the previous year when 180 surgeries were conducted. This is mainly owing to the disruption of the heart surgery service in Shifa Medical Complex in 2019 due to the lack of the required specialists (MOH, 2019). Despite the availability of two heart surgery teams in the Ministry of Health hospitals, there are still difficulties in securing enough teams to conduct heart surgeries. Three medical teams are needed to run open heart surgery services, with a daily average of 3-4 patients undergoing open heart surgery in the Gaza Strip (MOH, 2014).

Oncology services are provided free of charge in two hospitals managed by the Ministry of Health, where the number of oncology beds accounts for 60 distributed equally between Rantisi Specialized Pediatric Hospital and the European Gaza Hospital (MOH, 2019). One should take into consideration that oncology services for adults that were previously provided at Shifa Medical Complex, have been transferred to Rantisi Specialized Pediatric Hospital several years ago due to the obsolescence of Shifa Oncology Department and thus being unsuitable for further provision of the service. This urgent measure has exacerbated sufferings and vulnerability of cancer patients forcing them to keep moving between the two hospitals - Al-Rantisi and Al-Shifa – to have all the required services and diagnostic procedures done, such as CT scan and MRI imaging, in addition to surgery services.

As for the kidney transplantation, the delivery of this service has been first initiated at Shifa Medical Complex through missions of expatriate medical teams with active involvement of doctors from the Ministry of Health. During 2019 a total of 36 kidney transplants were performed, while in 2018 the number of surgeries accounted for 22. It is worth mentioning that a total of 126 kidney transplants were



conducted since the beginning of the program till the end of 2019. Hemodialysis services are provided by the Ministry of Health to patients with renal failure through five centers distributed throughout the Gaza Strip, which function with a capacity of about 124 renal dialysis units constituting an increase by 24% over 2018. In the non-governmental sector, these services are offered only in Al-Quds Hospital run by the Palestinian Red Crescent Society with a capacity of two renal dialysis units (MOH, 2019).

**Table 5: Distribution of hemodialysis services in the MOH hospitals – 2019**

Indicator	Shifa	Nasser	Najjar	Aqsa	Rantissi	Total
No. of patients	492	140	96	108	44	880
Dialysis units	57	25	14	18	10	124
Dialysis sessions annually	66,356	20,628	112,117	12,185	5,349	116,635
	2.6	2.8	2.4	2.2	2.3	2.5

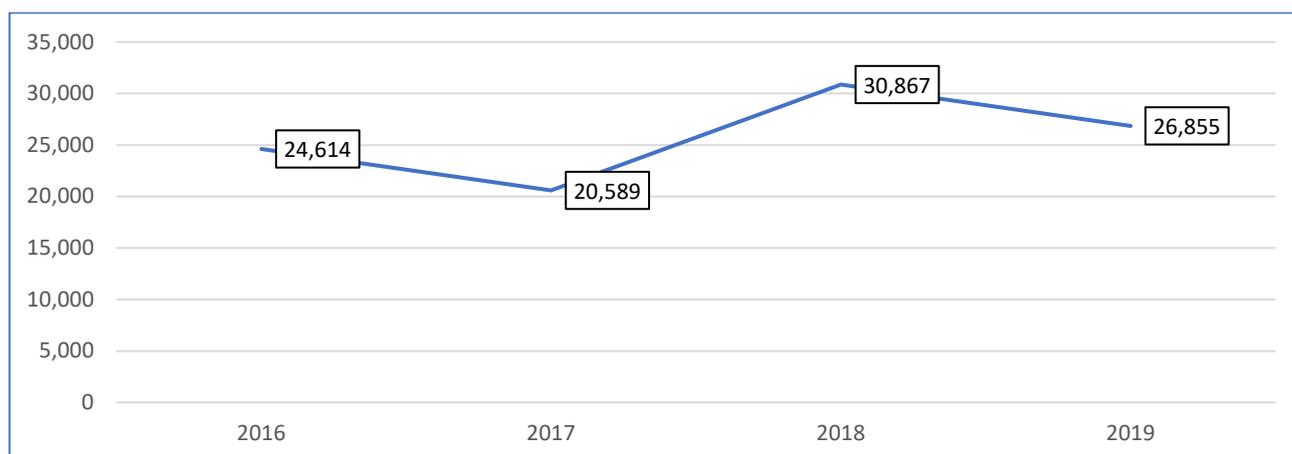
The latest statistics indicate that the number of patients with renal failure has increased dramatically from 666 patients in 2016 to 880 patients in 2019. The total number of hemodialysis sessions recorded in 2019 reached 116,635 with increase by 43.6% in comparison to 2016. The indicator of renal dialysis (RD) units for the number of patients stood at one RD unit for every seven patients, while the standard indicator is one RD unit for every four patients, which is twice as the number recommended by the international criteria and standards (MOH, 2019).

On the other hand, endoscopy services are the area that require further attention. A number of endoscopy services are provided in the Gaza Strip hospitals, which include laparoscopy, gastroscopy, and colonoscopy as the most common, while bile duct endoscopy services are less available and knee endoscopy is offered only in one hospital. In order to improve endoscopy services, it is of importance to identify the services needed as well as to focus on training of health cadres, and to ensure availability of the necessary equipment and its maintenance. It is crucial to ensure access to essential endoscopy services in public hospitals, while specific types of endoscopies can be provided in certain designated centers in an organized manner and within a comprehensive approach.

## 11. Treatment abroad

Thousands of Palestinians residing in the Gaza Strip are referred annually - by treating health care providers - to other non-MOH facilities for specialist healthcare not available in the public system. The number of cases referred from the Gaza Strip for treatment abroad during 2019 reached 26,855 with a decrease by 13% compared to 2018, as shown in Figure 9.





**Figure 9: Number of cases referred for treatment abroad during the period 2016-2019**

The MOH 2019 report highlights that the proportion of referrals to hospitals and health centers within the occupied Palestinian territories accounted for 83% of the total referrals, while the proportion of referrals to Egypt was 11.7%, and to the facilities within the Green Line was 5% (MOH, 2019). While comparing the data for 2018, it is clear that there was an increase in the rate of referrals to facilities within the oPt by 6.7% during 2019, and a decrease in the proportion of referrals to hospitals within the Green Line by 10.4% compared to 2018. These indicators are in line with the recent policy of the Ministry of Health that aims at reducing referrals to facilities outside the occupied Palestinian territories in order to nationalize health services. This requires studying the quality of services provided to patients who were referred for treatment to national hospitals, and comparing them with the outcomes of treatment received by patients in facilities outside the hospitals located in the Palestinian Authority areas. Figure (10) illustrates the total cost of expenditures spent for treatment abroad during 2019, which accounted for 6,209 million NIS with an increase of about 3 million NIS in comparison to 2018, and an increase of 73.4 million NIS (53.7%) compared to 2017 (MOH, 2019).



**Figure 10: Cost of cases referred from the Gaza Strip (in million NIS) during the year 2019**



Despite decline in the percentage of referrals for treatment inside Israeli hospitals by 10.4%, which cost is twice as the cost of treatment spent for treatment of patients in local hospitals, and despite decrease in the overall number of cases referred for treatment abroad during 2019 by 13% compared to the previous year, there was an increase in the cost of the services purchased during 2019. This fact requires further exploring the reasons behind the increase and the extent of transparency in the system of referrals for treatment abroad.

The purchase of health services from hospitals in the West Bank, Gaza and East Jerusalem ranked highest among referrals in 2018 as 89.1% of cases were referred to those facilities and represented 81.2% of the total MOH referrals. The total cost of those referrals was estimated at 537,762,017 NIS, which is equivalent to 74.2% of the overall expenditures for purchasing services from non-MOH facilities with an average cost of 6,033 NIS per referral.

In the year 2017, the expenditures for referrals to the West Bank, East Jerusalem and Gaza facilities constituted 288,996,013 NIS, that was equivalent to 67% of the total cost of purchasing the services, with an average cost of 3,737 NIS per referral. As for the average cost of one referral to hospitals outside the oPt, it was estimated at 9,034 NIS (MOH, 2018).

The Israeli violations have deprived Gaza patients of their most basic right, which is the right to health, by imposing more and more restrictions on exit of patients seeking treatment in health facilities outside besieged Gaza. All these patients required Israeli-issued permits to cross in order to access healthcare. Patients are often called for the Israeli security interrogation whose number reached 78 cases in 2019 (MOH, 2019).

The indicators related to the services purchasing show clearly that there is a need to strengthen investment in local Palestinian hospitals, which is in line with the Ministry of Health policy aiming at localization of health care services. This would require introducing new and upgrading already available services both in governmental and non-governmental facilities to meet patients' needs and bridge the gaps. This would require as well revisiting the referral system in order to rationalize referrals to non-oPt facilities and to keep them to a minimum.

The potential interventions should include ensuring availability of highly-qualified and trained health cadres, especially in rare and lacking medical specialties; efficient supply of contemporary medicines and vaccines, advanced medical devices and equipment, as well as modern and sophisticated diagnostic methods and technologies for treatment and rehabilitation. A sound referral system has to be put in place that guarantees equity, transparency and continuous monitoring and evaluation.



**Table 6: Distribution of cases referred for treatment abroad by type of service and destination in 2019**

Service	Palestine	Egypt	Jordan	Israel	Total
<b>Oncology</b>	6520	6,520	22	328	7027
<b>Cardiac cath.</b>	2311	2,311	1	2	2326
<b>Orthopedic surgery</b>	1297	1,297	2	7	2395
<b>Hematology</b>	1145	1,145	5	259	1461
<b>Pediatrics</b>	1562	1,562	11	170	1804
<b>Ophthalmology</b>	1566	1,566	5	54	1872
<b>PET scan</b>	769	769	1	189	1088
<b>Cardiology</b>	1074	1,074	1	36	1148
<b>Urinary</b>	662	662	1	2	820
<b>Internal Medicine</b>	944	944	3	48	1145
<b>General Surgery</b>	685	685	2	13	890
<b>Neurosurgery</b>	452	452	0	20	762
<b>Heart Surgery</b>	625	625	0	18	664
<b>Vascular</b>	605	605	1	10	688
<b>MRI</b>	43	43	0	0	51
<b>ENT</b>	366	366	0	25	570
<b>Nephrology</b>	325	325	1	83	469
<b>Rehabilitation</b>	258	258	0	1	266
<b>Lab testing</b>	37	37	0	3	51
<b>ICU</b>	137	137	1	6	149
<b>Neurology</b>	273	273	0	6	392
<b>Gyn &amp; Obstetrics</b>	134	134	0	0	140
<b>Endocrinology</b>	154	154	0	20	186
<b>Pulmonology</b>	104	104	1	1	123
<b>Plastic Surgery</b>	72	72	0	1	102
<b>Pediatric Surgery</b>	91	91	1	5	99
<b>Maxillo-Facial Surgery</b>	50	50	3	3	69
<b>Dermatology &amp; Venereology</b>	41	41	0	12	62
<b>CT</b>	8	8	0	0	9

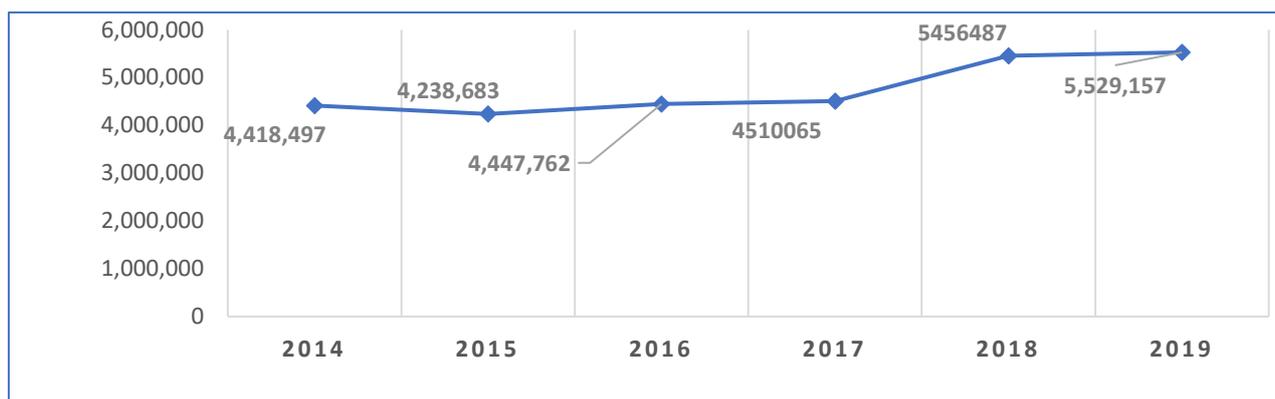
## 12. Laboratories

Laboratory services in the Ministry of Health are provided at three levels: hospitals, primary health care centers and the Central Laboratory. The number of laboratories in the Ministry of Health totals 56, of which 37 are PHC laboratories including the Public Health laboratory, 11 hospitals in addition to three pathology laboratories, three blood banks, one Central Laboratory, and one laboratory run by the Laboratory and Blood Banks Unit (MOH, 2019).

The number of laboratory technicians working in the Ministry of Health was estimated at 471, where 313 of them work in the hospitals and 101 – in the PHC centers. About 5,529,000 laboratory tests were



conducted during 2019 with an increase by 1.3% in comparison to 2018, where 4,646,532 of them were performed in the hospitals constituting 84% of the total lab tests; and 606,615 tests were done in the PHC centers. The number of laboratory tests conducted in UNRWA clinics reached 2,206,984, in non-governmental hospitals - 366,000 and in centers managed by the Military Medical Services the number of tests constituted 226,000 during the same period. Data for private sector laboratories were not available



**Figure 11: Number of laboratory tests conducted in the MOH during 2019 compared to previous years**

The proportion of lab tests per a technician in the Ministry of Health hospitals ranked the highest during 2019, where it reached 14,845 tests per technician, while for the primary health care centers it accounted for 6,006 tests per technician. These figures indicate the great discrepancy in the workload of lab technicians working in hospitals and their colleagues working in primary care clinics (MOH, 2019).

The list of laboratory items that have to be secured on annual basis includes 936 items with an estimated cost of \$ 5.1 million, which are divided into three priority lists: A, B, and C. It is worth underlining that there are significant disruptions in sustaining sufficient supply of the needed laboratory items to the Laboratories & Blood Bank Units stores, which results in increased zero stock of lab items. In 2019, this shortage varied from month to another, affecting the laboratory service delivery, where the financial deficit of supplies reached about 62% out of the total annual need. This is due to the sharp decline in donations, and significant decrease in the percentage of supplies received from the Ministry of Health stores in the northern governorates, which, consequently, lead to frequent interruption in laboratory testing services (MOH, 2019).

According to the MOH estimates, the average cost of a test conducted in hospital laboratories was 1.2 NIS, while this cost of the test performed in the PHC laboratories was 0.7 NIS (MOH, 2019).

There is a growing need in Gaza Strip for donation of blood, not only for ordinary cases such as childbirth, surgeries, anemia, chronic diseases, and others, but rather to secure sufficient number of blood



units to save patients injured as a result of repeated Israeli attacks and other accidents, given that blood bank services are provided inside major hospitals of the Ministry of Health and other health care providers. There is relatively sufficient supply of blood units in each of the Gaza Strip governorates with insignificant variations during emergencies. In 2019 a total of 42,099 blood units were provided, of which 12,691 were through the Blood Bank Association, mostly as voluntary (44%) or family (35%) donations (MOH, 2019).

### **13. Radiology and Medical Imaging Services**

The concern to medical imaging services has been constantly growing given their major role in diagnosis and treatment. Accordingly, it is of great importance to ensure the availability of medical imaging services in the health sector supported by advanced and effective technologies. There is an increased demand among physicians and health specialists in such diagnostic services as: magnetic resonance imaging, computed tomography, ultrasound, cardiac imaging, vascular imaging, mammography, and bone density measurement. The radiology diagnostic services currently offered in the Gaza Strip suffer from significant shortage of the needed equipment, poor maintenance support and lack of spare parts, which lead to delays in initiating treatment and thus adding to sufferings of patients. From the other hand, there is a great concern about ensuring safety of the health staff working at Radiology departments due to the deficit of effective devices used to detect the amount of radiation the radiology technicians are exposed to (this test is currently conducted in Hebron governorate), as well as absence of clear legislation to protect physicians and technicians working in the field of medical imaging (MOH, 2014).

Data obtained from the MOH General Administration of Auxiliary Medical Services show that there are seven x-ray machines in the UNRWA health centers that are supported by computed radiography (CR) system to create a digital image instead of a conventional x-ray film; this implies availability of at least one X-ray machine in each governorate in UNRWA PHC centers, which mainly serve refugees. There are 12 basic x-ray machines in the MOH PHC centers, still producing x-ray films using old and run-down developing devices, which affects the quality of the image. An average of 2560 cases have their x-ray per month at the MOH PHC clinics, which are performed by 27 radiology technicians (MOH, 2019). At some clinics this rate accounts for 50 cases per month only, i.e. two cases per day. It seems that primary health care centers are not following a proper triage system for cases in need of x-ray, as most cases are referred to hospitals (MOH, 2014).

The number of x-ray machines at the Ministry of Health hospitals accounts for 21 basic x-ray devices, in addition to 31 mobile X-ray machines, most of which are supported by CR system. There are more than 46 basic x-ray machines in private and NGOs health facilities (MOH, 2019). The number of basic



X-ray equipment currently available in Gaza Strip health sector is quite sufficient, as there are 17 mammography units distributed among NGOs and MOH facilities (MOH, 2019), out of which 12 are located in private and NGOs facilities and 5 - in the Ministry of Health; nine of these machines are digital and the remaining eight are basic x-ray devices supported by the CR system (MOH, 2019).

The Ministry of Health provides mammography services in its hospitals, and this medical imaging is usually done for high-risk cases, rather than part of a routine examination. The rate of mammography machines per million population is slightly higher in other countries; for example, this rate stands at 10.8 devices / million population in Turkey, 8.8 - in the UK, and 9.9 - in New Zealand (OECD, 2012). Given the high incidence of breast cancer in Gaza, it is vital to make stronger focus on early detection of breast cancer, that would include but not be limited to mammography screening, and raising awareness among the public on the importance of this examination, as recommended by the United Nations Population Fund (2016). It is projected that the Gaza Strip will need 32 mammography machines by the year 2030. As for the fluoroscopy procedures, that are conducted to gather real-time moving images using a fluoroscope of internal structures of patients, there are ten fluoroscopy units, of which four are in NGOs and six in the Ministry of Health hospitals. as for the C-arm fluoroscopic x-ray systems, there are 26 such units in the health sector, of which 18 are used in the Ministry of Health, and eight - in private and NGOs hospitals (MOH, 2019).

Magnetic resonance imaging is a rapidly developing medical imaging technique widely used for diagnosis, which was one of the major reasons for referring cases abroad during the past years. The number of MRI scanners in Gaza totals five functioning devices in addition to two machines that are out of work (one in Prince Nayef Center and the other - in the Turkish Friendship Hospital). Out of five functioning MRI machines, three are located in non-MOH facilities, and two are in the Ministry of Health hospitals (MOH, 2019). The OECD (2012) reports indicate that the number of MRI machines per one million population has reached five in the countries of Southeast Asia, which is much higher than in the European countries. Using availability of five MRI machines for every million people as a standard, the Gaza Strip will need at least 12 machines by the year 2025.

With regard to CT scanners, there are 18 such devices in the Gaza Strip, out of which nine are in non-MOH health facilities, eight are in the Ministry of Health and one device (not functioning) is available at the Turkish Friendship Hospital (Ministry of Health, 2019). Guided by the standards of some countries, where the number of CT scanners reaches 1 per 100,000 of the population, the Gaza Strip will need about 24 such devices by 2025.



Despite the fact that the use of conventional CT scans has witnessed some decrease with the shift to using MRI machines, there is a remarkable development in the CT scan imaging techniques of CT that contain multi-detectors (there are four such devices in the MOH hospitals, one - in Public Aid Society and one in Al-Quds Hospital (Ministry of Health, 2019). As revealed by the study conducted by the United Nations Population Fund in 2016, the Gaza Strip will need 24 CT scans by 2030, following a standard of eight devices per 1,000,000 people. As for the ultrasound imaging, the Ministry of Health has at its disposal 26 ultrasound devices. Majority of NGOs, including private sector, use ultrasound machines in their health facilities. In regards to the echocardiography, it is widely used at governmental and non-governmental health centers. As for the Ministry of Health, it has 17 ECG devices (MOH, 2019).

The Ministry of Health has a gamma camera device, as well as a simulator (a CT machine equipped with a patient simulation system) with a linear accelerator that were installed at Shifa hospital in 2004. Nevertheless, it has not been functioning till the present moment. With high cancer rates, and the heavy burden that was posed by referrals abroad for radiation therapy, there is an urgent need to make the radio-therapy unit functioning as soon as possible. The 2012 report of the Organization for Economic Cooperation and Development indicated that the number of radiotherapy devices per million people in the United States of America totaled 11.3, in the United Kingdom - 5.17, and in New Zealand - 9.9 (OECD, 2012). Taking into consideration the above rates, it is estimated that there should be about 12 radiotherapy units running by 2025.

The study, conducted by Baloosha (2018), that assessed medical imaging services offered by non-governmental organizations, highlighted that there is an obvious lack in the number of modern medical imaging devices such as magnetic resonance imaging and gamma cameras. The study by Mansour (2019) revealed that the cost of cardiac catheterization is four times the cost of the CT angiography, and accordingly, it recommended to increase the number of multi-detector CT scanners. Noticeable gaps in safety and protection of the technical staff working in medical imaging units were revealed by a study conducted by Al-Nahal (2016), which also indicated on the lack of radiation protection means and tools and ineffectiveness of the personal radiation monitoring program.

The study conducted by Al-Sheekh (2018), which assessed breast diagnostic methods in the Gaza Strip, showed that more than 25% of women face more than two weeks' delay in having their samples taken, and 46% receive their reports late. The study concluded that there is a crucial need to develop a national breast cancer protocol under the supervision of the Ministry of Health.

Due to the continuous upgrading of medical imaging services in the Ministry of Health facilities in terms of equipment such as CT scanners, MRI devices, and computerization of these services using CR systems, which were in line with the 2014 strategic plan, obvious development has also been observed



in terms of human resources – physicians and radiologists. This comprised increase in the number of doctors who are certified radiologists from the Palestinian Medical Board, as well as improved performance of radiologists who were upskilled through series of training programs on use of all modern advanced devices, in addition to introducing a specialization in medical imaging with a Master Degree in CT and MRI. Still, there is a need for training doctors in a number of other subspecialties, especially in the field of interventional radiology.

It is essential to establish and equip an interventional radiology department at Shifa hospital, as well as at the European Hospital given its importance and great reliance on it as an alternative to surgical interventions. Among other priorities: implementation of the integrated computerization system at hospitals, HIS, completing computerization of medical imaging services by providing a licensed PACS system, in addition to supplying digital X-ray machines. In order to avoid fragmentation and to ensure integrated services delivery, it is worth considering merging diagnostic services into specialized centers that are well-equipped with modern diagnostic devices. This should be done gradually, without complete dispensing with diagnostic services, leaving some of them being available, especially those needed for emergencies, such as CT, basic X-ray and ultrasound in every general emergency hospital. To support this field, a number of facilitations should be set in place and related laws and regulations should be enacted to encourage the private health sector and NGOs in the Gaza Strip to provide some important medical imaging services, such as: MRI, cardiac catheterization, and CT, and to conclude agreements with these organizations that would ensure effective partnership pursuing principles of the health system in Gaza.

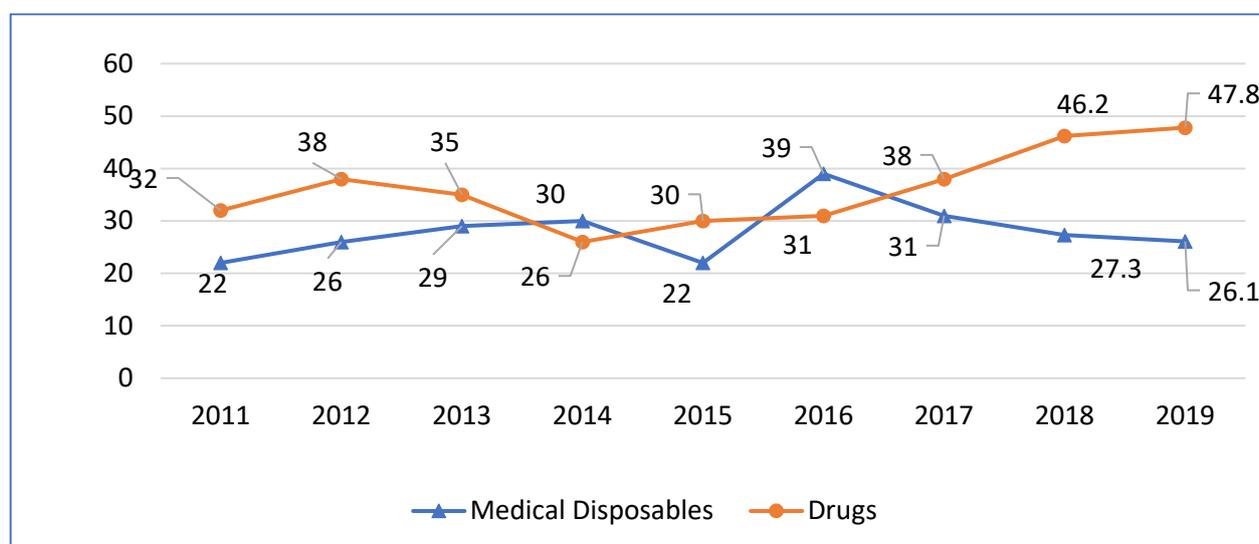
#### **14. Pharmacy and Drug Administration**

The pharmaceutical sector was organized and managed by the General Administration of Pharmacy in the Ministry of Health. There are 516 items of drugs on the MOH essential drug list, while the number of essential medical disposables used in the Ministry of Health comprises 853 items of medical consumables, which are required to provide basic health care. For decades, the Ministry has been facing enormous difficulties in sourcing these essential items of drugs and medical disposables as a result of harsh conditions prevailing in the Gaza Strip, represented by the blockade, the political divide, and lack of operational budgets allocated by the government for the Ministries in the Gaza Strip, including the Ministry of Health.

As mentioned afore, the MOH essential drug list accounts for 516 items at a total cost of 2,751,988 USD per month, and 33 million USD annually. During 2019 the zero stock of drugs reached 247 items at a



cost of 334,1376 dollars per month constituting 47.8% of the total essential drug list; while the number of items that would deplete within 1-3 months reached 56 items. The total number of items on the MOH essential medical disposables list totals 853 items at a total cost of 623,763 USD per month, and \$ 7.5 million annually. The zero stock of medical consumables stood at 223 items in 2019 at a cost of 140,599 USD per month. The deficit constituted 26.1% of the total essential medical disposables list; while the number of items that would deplete within 1-3 months reached 57 items (MOH, 2019).



**Figure 12: The percentage of zero stock drugs and medical disposables in recent years**

The above graph shows rise in the percentage of zero stock drugs during 2018 and 2019, with an increase by about 8% compared to 2017. It was estimated by the Ministry of Health that the health sector annual needs in terms of drugs and medical disposables stand at \$ 40.5 million. During 2019 the total cost of pharmaceutical items delivered to the MOH Central Stores totaled only \$ 25.95 million, with a deficit of about 36%. About 16% of the 2019 budget allocated for the Ministry of Health was spent for procurement of drugs and medical consumables, while it stood at 21.2% and 29% in 2018 and 2017 respectively (MOH, 2019).

The Ministry of Health in Gaza procured drugs and medical disposables for a total cost of \$3.38 million, which accounted for only 13% of the total items delivered to the MOH Central Stores during 2019, while the financial value of pharmaceutical items provided from the MOH Stores in the northern governorates totaled \$ 3.29 million constituting 12.68% of the total items delivered that indicated a dramatic decrease in comparison to 2018, where it was estimated at \$12.7 million. Donations to the Ministry in Gaza ranked the highest of all the supplies in terms of drugs and medical disposables provided during 2019 totaling \$19.28 million, or 74.3% (MOH, 2019).



The report of “Mapping the Palestinian Health Workforce” survey undertaken by the Palestine Human Resources for Health Observatory in 2019 states that the highest potential unemployment rates are found among dentists and pharmacists. There are 2,762 licensed pharmacists in the Gaza Strip, with a rate of 1.45 / 1,000 people, while the WHO standards identify the global acceptable average rate for each country to be at 0.5 pharmacists / 1,000 people, which implies that the number of pharmacists in the Gaza Strip is three times the global average. As for the pharmacists participating in the labor force, their number totals 984 who actually practice their profession, 28% of whom work in the Ministry of Health, 4% - in UNRWA, 2% - in the Military Medical Services, 6% - in NGOs and 60% - in the private sector. The above data clearly show that Gaza Strip has sufficient number of pharmacists, most of whom are involved in the labor force, rating 0.5 working pharmacist for every 1,000 people, in comparison to 0.7 -1 pharmacist per 1,000 people in most European countries. PNIPH, 2019.

The reported figures clearly indicate on the need to encourage training and upskilling of specialized pharmacists, for example, in such fields as industrial pharmacy, pharmacology and toxicology. It is worth mentioning that the number of assistant pharmacists who obtained a license to practice the profession till 2018 accounted for 905, where 190 of them were employed by the Ministry of Health, of whom 47 work in hospitals, 113 - in primary health care centers, and 30 work in various MOH departments and units, while 28 assistant pharmacists work in non-governmental institutions.

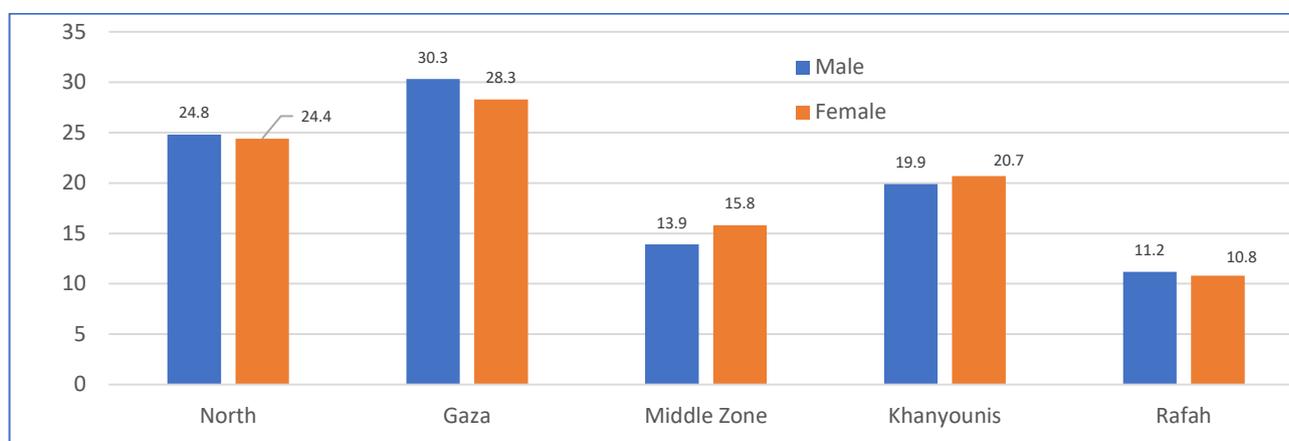
### **15. Disability and Rehabilitation Services**

In 1999 the Law No. 4 of 1999, which guarantees the rights of persons with disabilities on the basis of justice, entered into force in the Palestinian territories. Nevertheless, not all of its provisions are fully implemented, and there is currently a lack of implementation tools and mechanisms, as the resources allocated within the national budget to meet the needs of persons with disabilities are limited. The roles, responsibilities and guiding principles of various concerned Palestinian ministries – such as the Ministry of Social Affairs, the Ministry of Education, the Ministry of Labor and the Ministry of Health - are not clearly defined and not effectively implemented. The law stipulates that the Ministry of Social Affairs is the government institution responsible for provision of care for people with disabilities. The Ministry of Social Affairs undertook necessary executive measures to enforce the law in 2004. However, not so much has been achieved in administering the law so far due to the shortage of financial resources, as the main obstacle, as well as due to the lack of clear-cut policies related to disability adopted by the concerned ministries, except the Ministry of Education that developed and endorsed a comprehensive curriculum for integration of people with disabilities, in addition to providing support for students with special needs at schools. Medical and rehabilitation services are mainly provided through non-governmental organizations, while there is a great shortage in the availability of



professional and living services, except some vocational centers run by the private and government sectors. It is worth noting that there is no compliance of civil organizations with one of the important provisions of the law stipulating allocation of 5% of total jobs in large institutions for persons with disabilities, except government institutions.

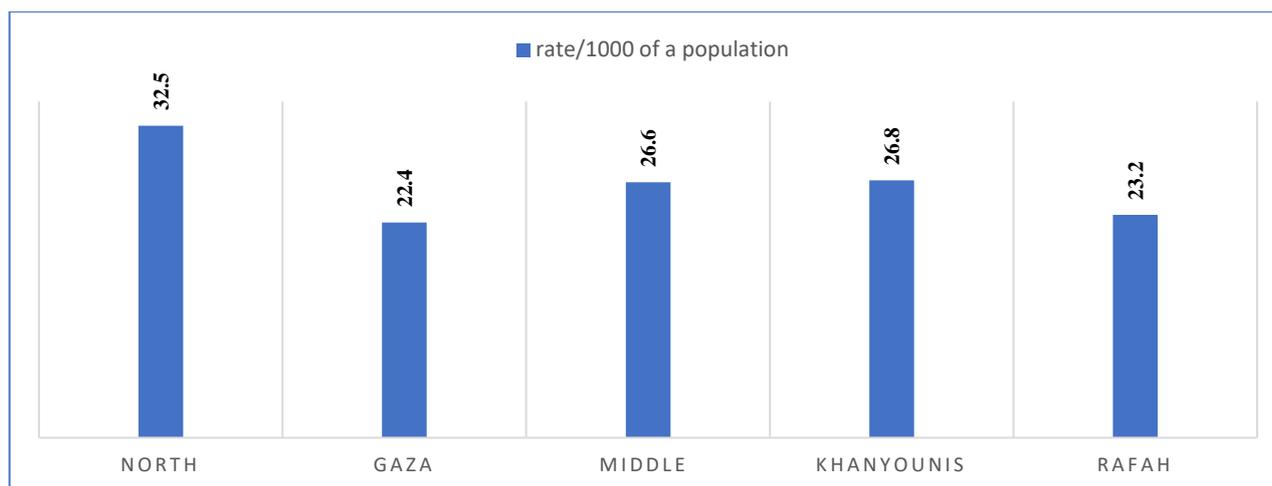
Palestinian Central Bureau of Statistics research studies reported that individuals with disabilities comprise 2.1% of the total population in Palestine, where 48% of them reside in the West Bank and 52% - in the Gaza Strip. Difficulties in mobility and the use of hands represented the highest percentage of disabilities, where the number of persons with disabilities in movement and the use of hands totaled 47,109, constituting 51% of total individuals with disabilities. About 20% of persons with disabilities in Palestine are children under eighteen, where the percentage of male children with disabilities prevailed over that of female children in the same age group, constituting 21% and 18% respectively; and it was more prevalent in the Gaza Strip (22%) compared to the West Bank (17%) according to the data of the Population, Housing and Establishments Census 2017 (PCBS, 2019). As the MOH reports show, the number of persons with disabilities reached 2.6% of the total population in Gaza Strip in 2019, of whom 29,080 are males and 23,301 - females.



**Figure 13: Percentage of persons with disabilities in the Gaza Strip by gender**

The rate of persons with disabilities in the Gaza Strip was estimated at 25.9 / 1,000 of the population (MOH, 2019). The percentage of persons with disabilities in the Northern Governorate stood at 32.5%, while it was the lowest in Gaza Governorate - 22.4%, as shown in the Figure 14. The percentage of males with disabilities constituted 55.5% of the total number of persons with disabilities, while children with disabilities under the age of 18 comprised 23.6% of the total number of persons with disabilities. Mobility difficulties accounted for 45.2% of people with disabilities, followed by vision impairments reaching 16% (MOH, 2019).





**Figure 14: Distribution of the rate of persons with disabilities in the Gaza Strip governorates**

## 16. Engineering & Maintenance

The health care system cannot function without adequate medical equipment. Patients are exposed to serious risks if the equipment needed for their treatment is not available, not tested regularly or properly maintained. Despite the development that has been achieved in the field of the health sector infrastructure during the last decade, where a number of new hospitals have been built, new floors have been added to existing buildings, and several PHC centers have been established; there is still a number of health facilities – both hospitals and PHC centers - distributed throughout the Gaza Strip that were constructed more than 60-70 years ago and have become outdated.

Of note, the Ministry of Health runs 13 hospitals out of the total 32 functioning hospitals in the Gaza Strip, in addition to 51 primary health care centers out of overall 158 centers. A large number of administrative and auxiliary services buildings have become old and worn out. In addition, some health facilities were severely damaged during the wars on Gaza, especially during the 2014 war, when four hospitals (Dorra, Najjar, Aqsa and Beit Hanoun) and three primary health care centers (Qubba, Rahma and Atta Habeeb) were subject to direct Israeli bombing.

The problem of power cuts remains one of the biggest challenges faced by the Ministry of Health, either in terms of management the problem to ensure continuity of the health services provision, or in terms of negative implications of the power outage that causes malfunctioning of a large number of expensive medical equipment. As the crisis persists, the technical personnel spare no effort to ensure proper functioning of the electric generators, provision of solar energy systems, undertaking required maintenance around the clock, as well as ensuring availability of fuel to run the generator.

The salinity of water in the Gaza Strip is very high, where it reached 25,000 TDS in Gaza Governorate. It is gradually approaching the salinity of the sea water, and thus leading to destruction of the



infrastructure in internal and external water and sewage networks, which require continuous maintenance and repair.

From what was mentioned above, it is clear that the Ministry of Health has found itself obligated to take over the responsibilities, which are originally among the scope of work of other authorities, institutions, ministries and municipalities, in order to provide the necessary support services and thus to ensure delivery of medical services to the Gaza Strip population. The challenges faced by the health facilities in the Gaza Strip in terms of infrastructure (buildings - equipment - vehicles) can be summarized as follows:

- A number of very old health facilities that were established since more than 70 years;
- A number of health facilities, which were originally designed as primary health care centers, and as a result of the security situation and recurrent wars on Gaza, they were transformed into hospitals that do not comply with the international requirements and standards. These buildings are in need of constant maintenance in addition to the expansion and modernization of buildings to meet the current and future needs;
- Budget shortfalls and lack of financial support for timely maintenance of buildings, medical and electromechanical equipment, and vehicles, thus resulting in bigger problems that would require more expensive interventions;
- High rates of beds occupancy in health facilities further increase the burden on the facilities themselves as well as on the equipment as the number of beds is not proportional to the number of populations according to international standards;
- A big number of medical equipment that have become outdated and need to be replaced due to recurrent breakdowns and high maintenance costs, as well as introducing new hi-tech devices, especially in the field of medical diagnosis and radiology;
- An urgent need to provide advanced medical equipment to keep pace with the expansion of services and beds in all specialties and departments; this would require introducing new medical services for treatment of some diseases, such as cancer (linear accelerator - nuclear scanning (PET), etc.).
- A large number of old ambulances and transportation vehicles that have been in service for more than 10 years working around the clock, especially during the wars, military escalations, crises, and during the Great March of Return (GMR) demonstrations that lasted for more than 20 months. These vehicles are rickety, useless to operate and need to be replaced. As mentioned above, 87% of the Ministry of Health ambulances have been in service for more than five years that exceeds the time period stipulated by the law, which is 5 years.



- Restrictions imposed by the Israeli occupation on entry/exit of medical systems, electro-mechanical equipment and spare parts needed for maintenance of various devices and equipment, which lead to the suspension of services, the most important of which are surgeries, intensive care, and critical supportive services such as air conditioning of operation theaters, ICUs, and nurseries, as well as sterilization services and laundry;
- Continued power cuts, which lead to malfunctioning of medical equipment;
- Lack of qualified human cadres specialized in maintenance of complex medical systems;
- Lack of training programs for the concerned technical staff due to the blockade and movement restrictions (MOH, 2019).

## 17. Emergencies

The current situation in the Gaza Strip can be best described as a chronic, acute, and primarily political in nature and man-made emergency situation that cannot be terminated or averted except through political solutions only (MOH, 2014).

Accidents ranked fifth among leading causes of death among the Gaza Strip population in 2018, and their percentage raised significantly during 2018 to reach 19.3%, while it stood at 7.5% and 7.2% during 2016 and 2017, respectively. This increase can be explained by the high number of GMR martyrs as a result of direct targeting of peaceful demonstrators by the Israeli occupation forces. Accidents as a leading cause of death ranked the highest among children under five with a proportion of 18.1%; they also constituted the highest percentage among leading causes of death in the age group five – under 20 years with a percentage of 38.8% (MOH, 2018).

During 2018, the Gaza Strip witnessed critical emergency events, as the Great March of Return peaceful protests evolved on its eastern borders. To respond to that situation, the Ministry of Health established five Trauma Stabilization Points (TSPs) in all governorates to manage casualties in the field, resulting from the Israeli attacks on the demonstrators. The TSPs were managed by the Ministry of Health and the Palestinian Red Crescent Society (PRCS) mainly, in addition to the support of the Palestinian Medical Relief Society (PMRS) that also set up medical points for this purpose. TSPs triaged casualties and provided initial treatment prior referring the injured in need of further medical care to hospitals. The PRCS and the MOH ambulance crews played the major role in transporting casualties, in addition to the significant contribution of the Civil Defense and some other NGOs.

The events reached their peak on 5-14-2018, when the peaceful demonstrators were exposed to direct fire, resulting in 52 martyrs and more than 7000 wounded within few hours. It was a real health catastrophe due to the enormous number of injuries, most of whom were shot by live bullets. This



situation put additional strain on the capacity of already overwhelmed health system to cope with the unfolding events, despite the prior arrangements of the Ministry of Health with all its partners providing health care.

The repeated Israeli attacks on the demonstrators sustained for more than twenty months draining the health system's resources and affecting its capacity to provide basic services. This resulted in suspension of elective surgeries, redistribution of hospital beds in surgery departments to respond to trauma caseload, transfer of health workers and ambulances and pressure on health supportive services. The great number of GMR injuries increased the need for physical and mental health rehabilitation services.

As highlighted by the Palestinian Health Information Center Report issued in mid-December 2019, the number of GMR martyrs reached 317, of whom about 19% were children. As for the casualties that were referred to hospitals, their number totaled 19,500, of whom more than 7,900 were injured by live bullets. TSPs staff treated and discharged more than 15,000 cases in the field. During the GMR, three health workers were killed and 580 of the health staff were injured, among whom 105 were shot with live bullets; 133 ambulances were partially damaged and 3 others were totally destroyed. The total number of disabilities reached 114, where 87.7% of them were as a result of lower limb amputations, and 21.9% of them were children under the age of 18 (MOH, 2018).

The experience and collective efforts of the Ministry of Health with its partners, both national and international, during the GMR demonstrated an effective response to trauma caseload by activating the role of primary health care in the field through five TSPs. These points, which were mainly staffed with PHC cadres, provided triage, treatment and discharge of patients with minor injuries, to include life-saving procedures, stabilization and referral of those with more critical injuries to undergo the needed specialized treatment, thus removing a burden from already overloaded and under-resources hospitals.

Throughout the GMR events, there was a good level of coordination and cooperation between the Ministry of Health and other health service providers, which was reflected in managing TSPs (PRCS and PMRS), transporting casualties (PRCS, Civil Defense and some other NGOs), and deploying paramedic teams. This coordination can be built upon, further developed and expanded in future to include other required health fields. Among the challenges that hospital emergency departments faced was the lack of their preparedness in terms of space to deal with the influx of injuries, which led to the idea of setting up triage tents in front of emergency departments to mitigate this problem and to provide the needed space for triage of casualties. This implies the need to take space and structure of emergency departments into consideration in all hospitals to enhance their capacity to deal with mass casualties in all circumstances.



It is worth noting that volunteers played an important role during the GMR demonstrations alleviating the enormous burden on health cadres while dealing with mass casualties. Their active involvement contributed to saving lives of many injuries. Therefore, this positive experience and the volunteers' file need to be revisited and taken into consideration so that to take advantage of these young people's potential, especially given the shortages of qualified and experienced human resources.

The Ministry of Health had at its disposal 67 ambulances in 2019, 18 of which were ICUs for transporting critical cases. Of note, the majority of the aforementioned ambulances (87%) have been in service for more than five years, i.e., they have exceeded the legally permitted period of their exploitation according to the universally accepted standards, which consequently leads to their inefficiency in terms of high maintenance cost and long out-of-service periods (MOH, 2019).

In accordance with the Health Contingency Plan (2018), the Ministry of Health actual need of ambulances is estimated at 96, which means that 33 additional vehicles have to be provided in order to support the MOH EMS capacity to address emergencies. Table 7 shows the number of available ambulances during 2018 by service providers and their distribution across the governorates, noting that the number does not include ambulances belonging to NGOs (MOH, 2018).

In order to enhance the capacity of the MOH EMS Unit – in terms of human resources - to provide the required services to the population of the Gaza Strip, especially during the emergencies, there would be a need to employ 25 ambulance officers, 96 paramedics and 7 workers to fill the current gap in the EMS Unit workforce (MOH, 2019).

**Table 7: Distribution of ambulances by the governorate and health care provider**

Distribution of ambulances by the governorate					
Governorate /Service Provider	MOH	PRCS	MMS	Civil Defense	Total
North	10	11	3	1	25
Gaza	21	15	3	5	44
Middle Zone	7	13	1	1	22
Khanyounis	15	14	2	1	32
Rafah	10	11	1	1	23
<b>Total</b>	<b>63</b>	<b>64</b>	<b>10</b>	<b>9</b>	<b>146</b>

Community preparedness is an important pillar in addressing emergency needs. Health awareness among community members about interventions during emergencies is considered an investment that has



positive implications on the long run. It also contributes to strengthening the local communities' capacity to request and support appropriate health practices, especially during emergencies. As a rule, opportunities to access professional medical care during emergencies are weak, and the cost of these services increases due to the prevailing political situation accompanied by difficult access to health facilities, and impaired capacity of these facilities to provide health care. Empowerment of local communities to depend on themselves and reinforcing their ability to manage the health problems they face are a sustainable approach under the current conditions (MOH, 2014).

Emergency care can be divided into several different stages (at the community level), which include pre-hospital care, in-hospital care, and follow-up of patients in need. Despite the fact that health care services provided for emergency cases are well-equipped and easily accessible in normal situation, the health system continues to face tremendous difficulties in coping with the large number of casualties resulting from Israeli attacks, which is due to shortages of resources, medicines, necessary equipment, depletion of supplies and breakdown of equipment. In order to cope with the huge number of injuries, hospitals are forced to discharge patients early before they are fully recovered, without an adequate therapy plan to ensure completion of treatment at home, in addition to poor coordination with community health facilities (MOH, 2014).

In this context, the Ministry of Health worked closely with its partners on development of the health sector contingency plan that would include expected scenarios, levels of emergency, stages of its management, levels of administrative leadership, mechanisms of interventions, roles distribution among partners, and how to mitigate the impact of the emergency aftermath as soon as possible in preparation for getting back to the normal (pre-crisis) situation.

A negative phenomenon has been observed in the field of emergency care delivery in Gaza, as this service is almost completely provided at the secondary care level - in hospitals, where overcrowdings and casualties that are out of control constitute a clear obstacle to providing adequate and timely emergency care in the Ministry of Health hospitals. Accordingly, strengthening emergency units at primary health care centers is considered as a vital importance as it reduces the extra burden on hospitals and increases the chances of providing high-quality services; it helps to overcome restrictions imposed on movement of people in the Gaza Strip pertaining to the situations of insecurity. During such emergencies some of the wounded would bleed to death due to the inability of EMS teams to reach them. Having the aforementioned considered, upgrading and strengthening PHC emergency rooms are seen as the most appropriate option and an important step towards scaling up the level of preparedness for emergencies in the region suffering from political instability and chronic crises (MOH, 2014). The PHC



emergency units are considered as a suitable solution for improved access of critical cases that are between life and death to timely emergency care. From this perspective, through cooperative efforts of the Ministry of Health and MDM-France, the capacity of 11 MOH PHC centers close to civilian-populated areas was strengthened to provide emergency medical care. The health system can build on this initiative and maintain what has been already achieved in order to ensure that these centers are capable of proper triage of casualties through continued efforts towards upskilling the staff working in these facilities and improving their qualifications, as well as through equipping them with the needed diagnostic devices so that none of the lives is lost due to complications of injuries resulting from any potential emergency.

Since January 2020, COVID-19 has exploded in a number of countries across the world, when in March 2020 the disease swept over 118 countries and was declared by the World Health Organization as a pandemic with constant dramatic increase in the number of infected and dead. As the world statistics indicate, about 80% of the infected with the virus have mild symptoms, 15% need hospitalization, and 5% need intensive care (ventilators). The death rate ranges from 2 to 3%, and most deaths are recorded in the age group of 65 and above – those suffering from chronic diseases and immunocompromised.

The fragility of the health system is a real obstacle in confronting the COVID-19 pandemic, as the clinical capacity is weak, especially for cases that need intensive care.

Realizing / Being conscious of the danger of the pandemic, and based on the environmental and risk analysis of the Gaza Strip, the Palestinian Ministry of Health, in close cooperation with its partners, has developed three scenarios of the crisis, which are as follows:

**Scenario “A”:** There is no recorded cases in the community; those returning from travel are in quarantine places. This stage depends on maximizing the health sector readiness and raising the degree of its preparedness, alertness, preventive measures, health education, and vigilance and anticipation.

**Scenario “B”:** COVID-19 infected cases emerge among the returnees and who undergo quarantine in designated places, without any cases recorded within the community. At this stage, measures are maintained to maximize the preparedness, and intensify monitoring and tracking of suspected cases in the community.

**Scenario "C":** COVID-19 infected cases emerge within the community; the measures undertaken in this scenario to limit the spread of the disease might be intensified so that to impose strict measures of social distancing and, if needed, curfews in areas of the epidemic outbreak.



**Scenario “D”:** Response and co-existence: is the stage of confronting the epidemic outbreak within the community and harmonization of the measures taken in terms of mitigation and intensification according to the epidemiological situation.

The Ministry of Health, in coordination with its partners in the health and other sectors, developed a crisis management plan to tackle the pandemic based on the outlined scenarios. At certain stage, the Ministry succeeded in preventing transmission of the virus into the community. Anticipating the continuation of the pandemic and heeding the possibility of the sector going through similar crises in the future, the Ministry has identified this threat among its priority concerns and upcoming programs to further fight this pandemic, which might persist as an endemic virus, so as to get benefit from the experience gained in this context by the health sector in the Gaza Strip and worldwide.

In November 2019, the General Administration Human Resources Development at the Ministry of Health hosted a scientific day on “Reducing the Impact of Crises and Disasters in the Health Sector”, where a number of scientific papers and Master Degree theses related to the field of emergencies and crises were presented. The scientific day came out with a number of recommendations, the most important of which are:

- Integrating mental health and psychosocial support service into the emergency plan, in addition to establishing mental health teams in government hospitals and ensure their full-time presence, not just during crises;
- Distributing the National Emergency Plan to health institutions in Gaza, both governmental and private, and the ministries concerned in emergency and disaster management, as well as conducting regular drills across the Gaza Strip with the participation of the governmental and private health sector, foreign organizations and concerned ministries;
- Developing a security system inside hospitals to protect citizens and employees;
- Activating the Crisis Management Unit in the Ministry of Health and providing it with relevant qualified personnel.
- Utilizing highly competent personnel who reached the age of retirement to benefit from their expertise in crisis management and their participation in committees.
- Establishing a joint central operations room comprising all crisis and disaster management related stakeholders representing governmental, non-governmental, and international health service providers, as well as the concerned ministries.



- Activating the work of the National Center for Disaster Risk Management in the Palestinian government, which was formed based on the decision of the Palestinian Ministers Council in March 2017.
- Establishing an emergency committee in non-governmental hospitals and its representation in the National Emergency Committee; full coordination among governmental, non-governmental and international health institutions.
- Taking into consideration needs of various categories of persons with disabilities in the National Emergency Plan, especially during emergencies and crises;
- Focusing on the role media and public relations during emergencies and crises.

### **18. Human resources**

The health sector still suffers from a number of inherited weaknesses and challenges, the most important of which is shortage of cadres in some subspecialties, and on-going reliance of the health sector on external support in providing many important secondary and advanced medical care services, which drains about a third of the Palestinian Ministry of Health expenditures (Economic Policies Research Institute "MAS", 2018).

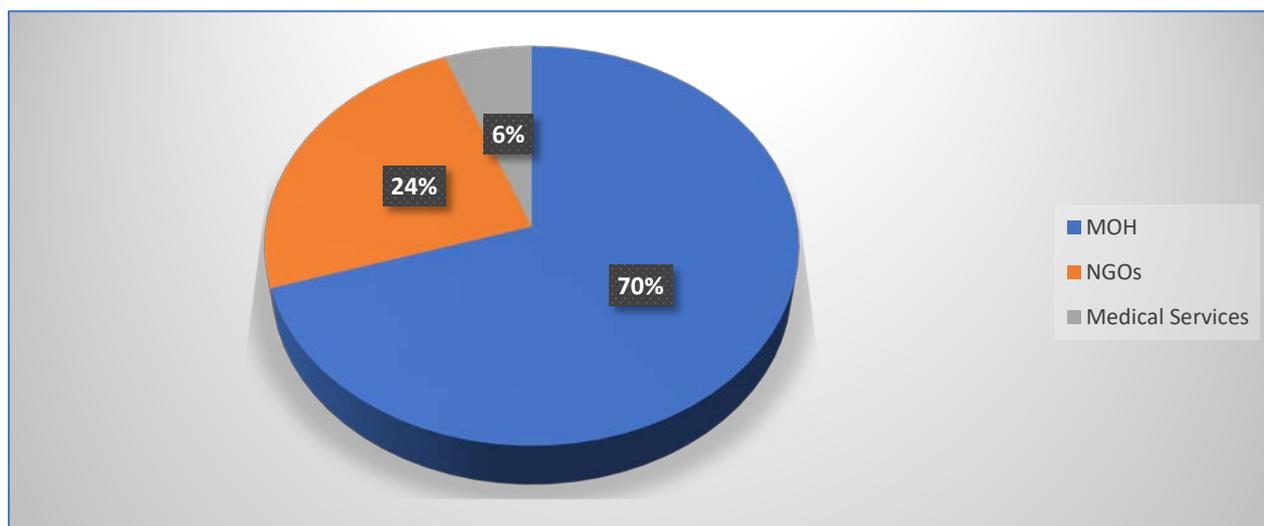
Functions of the human resources management are shallow, and they rarely reflect health workforce strategic planning, as human resources policies and strategies are either unavailable, or implemented ineffectively (WHO, 2010). There is also a clear weakness of understanding the tasks that are usually associated with human resources functions, and currently the human resources departments focus on office administrative issues more than on technical aspects (WHO, 2010). Other main results of various sources review pointed out to a shocking fact, that a large part of health care workers suffer from a job burnout (Halabi, 2013). Managing the training process and capacity building is also problematic, as training is not part of a comprehensive development strategy.

The Palestinian National Human Resources for Health Observatory was recently launched and hosted by the Palestinian National Institute for Public Health – one of WHO projects; it was established to address scattering of data dispersion, to meet the national need in better organizing the health workforce, and building a national strategy for the distribution and development of the health workforce in the Palestinian territories that will ultimately contribute to support of the Palestinian health policies.

According to the data of the Ministry of Health 2019 report, the total health sector workforce reached 14,632 employees, where the Ministry of Health ranked the highest percentage estimated at 70.1%,



followed by the non-governmental institutions -24.1%, and the lowest percentage of the health care workers was found at the Military Medical Services standing at 5.8%.



**Figure 15: Distribution of the health sector workforce by employer**

It is worth noting that there is a discrepancy in the figures published by the MOH Information Center and those mentioned in the report of the Palestinian Health Workforce Survey, 2019 published by the National Institute of Public Health as the survey was conducted for the period 2014 - 2016, and was updated in 2018, its latest figures indicate that the number of health care workers in the Gaza Strip totaled 16,215. Accordingly, it is important to agree on the methodology of data collection taking into account the accuracy of the numbers and the reliability of the reports. Table 8 shows that the highest percentage of employees in the health sector was found in the categories “Administration” and “Services” at a rate of 32.9%, followed by the nursing category (staff nurse, nurse, midwife) at a rate of 24.7%, while the category of physicians (general practitioners and specialists) ranked third at a rate of 19.5%. General practitioners constituted 12.9% of the total health workforce, while the percentage of specialist doctors was 6.6%; and the proportion of allied health professions was estimated at 11.9% ranking fourth (MOH, 2019).

As for the Ministry of Health workforce, the statistics indicate that the number of health workers totaled 10,257 in 2019, with a decrease by 3.3% comparing to the year 2018, when the number of employees was 10,597. This could be interpreted by several reasons, among which are: emigration of a number of competent and highly qualified staff abroad, lack of employment opportunities against the MOH needs, in addition to the fact that workers hired on the contract basis make up more than 17% of the total workforce in the Ministry of Health, which leads to instability in the number of working personnel from year to year.



**Table 8: Distribution of the health sector workforce in the Gaza Strip by specialization**

Specialization	Hospitals	PHC	Other	Total	%
Total doctors	<b>2,218</b>	<b>591</b>	<b>44</b>	<b>2,853</b>	<b>19.5</b>
General Practitioners	<b>1,388</b>	<b>461</b>	<b>42</b>	<b>1,891</b>	<b>12.9</b>
Physicians	<b>830</b>	<b>130</b>	<b>2</b>	<b>962</b>	<b>6.6</b>
Dentists	<b>69</b>	<b>167</b>	<b>4</b>	<b>240</b>	<b>1.6</b>
Pharmacists*	<b>255</b>	<b>326</b>	<b>118</b>	<b>699</b>	<b>4.8</b>
Nursing	<b>2,719</b>	<b>732</b>	<b>166</b>	<b>3,617</b>	<b>24.7</b>
Midwifery	<b>313</b>	<b>156</b>	<b>1</b>	<b>470</b>	<b>3.2</b>
Health workers**	<b>20</b>	<b>114</b>	<b>66</b>	<b>200</b>	<b>1.4</b>
Allied health professions	<b>1,268</b>	<b>369</b>	<b>100</b>	<b>1,737</b>	<b>11.9</b>
Administration and Services	<b>2,259</b>	<b>968</b>	<b>1,589</b>	<b>4,816</b>	<b>32.9</b>
Total	<b>9,121</b>	<b>3,423</b>	<b>2,088</b>	<b>14,632</b>	<b>100.0</b>

\* Pharmacists: include a pharmacist and an assistant pharmacist

\*\* Health workers: include a psychologist, a social worker, and a health inspector

There is no universal standard or a minimum density threshold to provide the most basic health coverage, yet the World Health Organization identifies one doctor and three nurses and midwives per 1,000 people. In the Gaza Strip, this ratio stands at 1.46 doctors and 2.1 nurses per 1,000 people. Therefore, the Gaza Strip is considered within the WHO standards for the availability of doctors, but it is below the international standard in terms of the availability of nurses and midwives. The ratio of nurses to doctors stands at 1.4 on average, and it is higher than other countries such as Turkey (1.1) and Italy (1.4) (WHO, 2016); yet it is still lower than the nurse-to-doctor ratio across OECD countries, where it was reported at three nurses per doctor on average. As for the West Bank, this ratio was 1.7 compared to 1.4 in the Gaza Strip; and the nurse-to-doctor ratio for hospitals was higher in the West Bank than in the Gaza Strip being 2.4 and 1.4, respectively (PNIPH, 2019). The role that the nursing personnel plays in the health care system can be enriched, especially in such fields as health promotion, control of noncommunicable diseases and care for the elderly. There is also a severe shortage of other important subspecialties in nursing, such as midwifery, intensive care unit nursing services, and medical-surgical nursing, nursing in neurology, nephrology, pediatric surgery, palliative care, geriatrics and family medicine (UNFPA, 2016).

There are no internationally defined standards for the availability of every medical specialty for the population, however, comparisons between different countries help in understanding the Palestinian situation. Greece, Turkey and Italy were chosen for comparison due to the fact that they have undertaken actual steps towards universal health coverage, health financing reform, and implementation of the



family medicine approach. Table 9 shows a comparison between practicing specialist doctors in different countries.

**Table 9: Comparison of the availability of medical specialists among different countries per 100,000 population**

Specialty	PLASTINE	TURKEY	ITALY	GREECE
Hematology	0.1	0.5	6	6
Psychology	1	5	17	23
Internal Medicine	4	16	41	26
Oncology	0.4	0.6	7	3
Pulmonology	0.4	3	6	17
Neurology	1	4	11	10
Vascular surgery	0.6	-	3	3
Thoracic surgery	0.1	3	2	4
Neurosurgery	0.5	3	1	4
Plastic surgery	0.2	2	5	4
Anesthesia and ICU	3	8	22	21
Pathology	0.2	3	3	32
Radiology	2	8	4	31
Emergency Medicine	0.1	0.5	6	6
Cardiology	2	5	22	35

The table above indicates the acute shortage of the aforementioned specialties - and it was highlighted intentionally, as these specialties are very important in regards to the most common causes of death, and in relation to causes underlying referral for treatment abroad (PNIPH 2019).

While the number of general practitioners seems adequate, specialty and subspecialty areas in medicine and nursing are to a large extent disadvantaged in the West Bank and Gaza. As it was mentioned earlier in this document, there is a great need for specialized staff to work in oncology, hematology, pediatric oncology intensive care, anesthesiology, orthopedic surgery, neonatology, histopathology, advanced laboratory services and palliative care. As a result of the expected change in the age structure in the upcoming decades, there will be an increased need for specializations in nephrology, neurology, ophthalmology, rehabilitation, palliative care, and geriatrics. For example, the number of needed obstetricians and gynecologists at a rate of 28 per 100,000 would be around 1,000 by 2030. Policies empowering midwives should be also strengthened, as midwives significantly contribute to improving the quality of reproductive health services. The better utilization of midwives is associated with less medicalization and less instrumentation of obstetric services, provision of a more friendly environment, in addition to cost containment. To correspond to the population growth and growing population needs,



more human resources are required in selected specialties. Table 10 below depicts human resources needs in some of the selected specializations in 2030 and 2050 according to projected population (UNFPA, 2016).

**Table 10: Needed human resources in selected specialties 2030 and 2050, according to projected population**

Specialty	2030			2050			Used rate
	Palestine	WB	Gaza	Palestine	WB	Gaza	
Obstetrician & gynecologists	966	519	437	1,330	658	672	28 / 100,000 females
Neonatologists	69	37	32	95	47	48	1 / 100,000 inhabitants
Midwives	2380	1,295	1,085	3,285	1,642	1,642	69 / 100,000 female
Oncology specialists	138	75	63	190	95	95	2 / 100,000 inhabitants
Cardiologists	552	300	252	768	384	384	8 / 100,000 inhabitants
Psychologists	104	56	48	142	71	71	1.5 / 100,000 inhabitants

\*Rates were calculated based on the average OECD country

The highest rates of potential unemployment were found among dentists and pharmacists, so it is important to focus on rehabilitation of dentists in some specialties that the health sector is lacking, such as oral and maxillofacial surgery, periodontics and dental surgery. As for pharmacists, the number of pharmacists graduated during the period 2013-2018 totaled 2,035 in the West Bank and the Gaza Strip, and the number of graduates for the coming five years 2019-2024 is expected to reach 4,377 in the West Bank and Gaza. This notable acceleration in the number of pharmacists that graduated during the past five years and are expected to graduate in the upcoming five years is a matter of great concern due to the proliferation of related training outlets. The capacity of the labor market to absorb this large number of new pharmacists needs to be studied, given that this number clearly exceeds the service requirements, based on the number of professionals currently practicing. Accordingly, training and upskilling of specialist pharmacists should be encouraged, for example, in such fields as industrial pharmacy, pharmacology and toxicology (PNIPH, 2019).

To sum it up, it is essential to conduct mapping of health services to identify the gaps, and thus to develop a plan to bridge the gaps that have been identified. There is a need to pay more attention to balance supply with demand in order to graduate skillful professionals capable of meeting the health needs of the Palestinian population. On the other hand, most health sector experts confirm that reforming the



Civil Service Law and regulations applicable to the Ministry of Health employees is a key to fill the gap of health care workers' skills. The system, in its current state, is devoid of incentives attracting distinguished specialists who prefer to work abroad due to the inducements and incentives offered to them in many countries of the world that suffer from a shortage of medical personnel. These incentives are not limited to salaries, but they also include continued education, participation in scientific conferences, the consequences/ impact of specialization, etc.

## 19. Governance

Improving management systems is the real challenge for all institutions, especially health ones (Abed, 2007). The Palestinian health system faces major administrative challenges that affect the efficiency and effectiveness of health services (PNGO, 2009). Despite most administrative levels show high commitment and dedication to work, they lack adequate experience and appropriate qualifications in the field of health management; and managerial and leadership skills such as human resources management and strategy, motivating health staff, and strategic management are not employed properly (WHO, 2010).

The degree of centralization in the health system is generally high (PNGO, 2009). Palestinian internal law does not provide sufficient independence and adequate participation of mid-level managers in strategic financial and administrative issues. Recruitment, remuneration, and financial administration are managed centrally by the General Personnel Council and the Ministry of Finance (WHO, 2010). This has negative implications on creativity, innovation, and productivity, and increases reliance on management levels.

The current organizational structure of the Ministry of Health has been developed and revised by the Ministry itself with a broad-based participation by stakeholders and supporters. The final version was modified in 2008, which depicts key positions and lines of reference in the Ministry of Health. It can also be noted that the current structure of the Ministry of Health does not reflect properly its regulatory role. Some positions have been separated while they need to come side by side in order to enhance communication and avoid duplication of authorities. One of the disadvantages of this organizational structure is its high cost, expertise and information sharing is not easy, and it requires extra efforts more than those exerted in other types of organizational structures (MOH, 2014). Accordingly, the Ministry is currently working on reviewing the organizational structure based on the developments and obstacles indicated by the previous implementation phase; and on the need to establish some departments and merge some units in order to prevent duplication, conflict of interest and to improve the efficiency and the workflow among various sectors in the Ministry of Health.



The Ministry of Health is responsible for regulating and monitoring health care services in the health sector, and licensing health facilities is an important entry point for quality control. Licensing Unit works to license individuals, institutions as well as private and NGO medical establishments, by playing the regulatory and supervisory role over the services related to a citizen's health within specific health policies in order to ensure the provision of high-quality preventive and curative health care. The Ministry of Health has succeeded in achieving a number of significant outcomes in recent years, which are represented by accelerating licensing of institutions of various kinds; controlling the quality of services provided in them through regular inspection; monitoring health institutions in the private sector to ensure sustainable compliance with the system requirements); introducing and improving sets of regulations, laws and decisions in place; controlling the health advertisement system according to the developed rules and regulations, following up on citizens' complaints against institutions and individuals and working to solve them; participating in a number of ministerial committees, courses and workshops.

It is worth mentioning that currently there are no requirements for re-licensing medical professions, or linking licensing to continuing medical education. Within the future vision of the Ministry, efforts will be made to develop and introduce more laws and regulations, and focus will be made on quality of work in non-governmental health institutions in addition to information sharing and complementarity.

Another issue that deserves consideration / attention in the Palestinian situation is the issue of medical errors. It is a serious and general (public) health problem, and constitutes a threat to the safety of the patient. There are no accurate records of medical errors in the Gaza Strip, however the Ministry of Health conducts investigations based on complaints submitted by the families of patients who developed major health complications after having received the service in health facilities. In order to bridge this gap, competent authorities in the Ministry work in cooperation with partners and other concerned parties to complete the requirements of the Medical Liability Law represented by building the judicial system capable of dealing with judicial incidents, as well as ensuring the availability of a fund to compensate the victims prior to the approval of the medical errors law in its final form. Further actions will be undertaken in cooperation with the General Prosecution Authorities to develop a guideline for investigation procedures, dealing with medical staff regarding medical errors allegations, in addition to promoting legal awareness for health sector employees.

## **20. Health Information Systems**

The health status of the Palestinian people is subject to continuous evaluation by the relevant stakeholders through a system of health indicators measurement with a real sense of responsibility



among policymakers despite the state of political uncertainty and unstable living conditions in Palestine. Nevertheless, the Ministry of Health has been working over the recent years on capacity building in two important fields: epidemics and data management, which was positively reflected on the quality of reports issued by the Ministry in this field. The Ministry of Health produces annual reports on the health status, as well as many other special reports on a variety of important health issues, such as oncology, human resources, health and population, and infectious diseases, in addition to a number of special bulletins. Annual reports are also produced by other health organizations that are, as a rule, read by international institutions; UNRWA, in addition to the annual reports on its health programs, issues epidemiological bulletins describing the health situation in Gaza (MOH, 2019).

The Ministry of Health also issues its annual general report, as it is considered one of the important sources of health information. Though it is not the only one as there are other important sources of health information that reflect the health status of the Palestinian people. These sources include the following:

- 1) Annual and periodic reports and studies issued by the Ministry of Health, UNRWA, the Palestinian Central Bureau of Statistics and other related organizations;
- 2) Health research studies conducted by students, organizations, and other concerned parties;
- 3) Reports issued by organizations working in the field of health and providing health services;
- 4) Reports issued through health projects that are implemented in the Gaza Strip and the West Bank;
- 5) Annual and periodic reports issued by international organizations that play significant roles in the field of health and development in Palestine, such as the World Bank, the World Health Organization, UNICEF, Save the Children, and many others;
- 6) Publications of health-related articles produced by investigators or writers in the health field in medical journals;
- 7) Assessment studies or surveys issued by donor agencies for evaluation purposes related to financial projects for support of Palestinians.

As for the information technology, and with a more detailed overview of the achievements made in the past few years in this field, it has to be mentioned that the electronic transformation process in the Ministry of Health comprised such areas as upgrading the infrastructure for communication and information technology services; developing medical, administrative and financial software and monitoring systems. as the internal computer network (wire and wireless) was equipped, and the external backbone connection was established between hospitals and III and IV level PHC clinics linking them to the MOH data center to enable them to operate their IT services.



In terms of telecommunications services, the internal communication network was developed in six hospitals and linked into a unified network, in addition to starting communication with cellular phone companies through switchboard operators. The first version of E-Hospital system, which includes administrative and paramedical systems, was developed and operated with variations in all hospitals. The first version of the outpatient clinic system “Doctor” is being developed to start operating. The Pulse application for smart devices (displaying a medical file - requesting and querying laboratory tests - querying ICD10) has been launched and operated with variations in hospitals, in addition to the Central Archive system, where the electronic archiving of patients' files is at its final stage. The first and second versions of the Clin-care system have been developed and operated in eight health centers; the Index system is running in 12 health centers; the Reproductive Health system is operational in 27 health centers. Oncology registry system and Pathology system have been developed and operated in hospitals to improve monitoring of tumors.

Computerization of administrative and financial works included development and operation of the personnel system, unified financial system, health insurance, technical support, financial commitment and electronic stamps. Medical, financial, and administrative indicators program as well as dashboard were developed for the hospital system; in addition to the unified financial system, the personnel affairs system, pathology, NCD system to enable high-level management authorities to make more accurate decisions. Moreover, non-governmental health organizations have been linked to the developed first version of the referral system and the PKU comprehensive screening among neonate's system, which were operated in all governmental and UNRWA health centers. Within public services, the first version of a smart device application was developed under the name of the Palestinian Ministry of Health, which offers the following services: insurance –surgery appointments - outpatient clinic appointments - phone book - financial commitment - submitting complaints).

From the mentioned above, we can say that the Ministry of Health was able to move forward with the electronic transformation process, despite real challenges that prevent this process from being completed at a faster rate (MOH, 2019).

Currently, the situation in Gaza requires enormous, sincere and professional efforts to focus on strengthening the information system. There is a great need of professional specialized personnel such as epidemiologists, IT specialists in the field of program development and technical support, researchers, statisticians, geographic information systems (GIS) specialists, IT enhancement, strengthening the communication network for data collection, in addition to the need for clear references in the MOH structure; availability of work procedures manuals, quality of data and outputs



tracking. Among the necessary steps that the government must take is contributing with other parties to consensus in updating the basic health indicators in line with recent global trends, their definitions, data collection methods, their sources, data processing, storage and use. Moreover, it is essential to support the culture of using information as a tool for decision-making, and to encourage evidence-based practice. The medical system is in desperate need to standardize data collection forms starting from patient records and ending with statistics, and it has to benefit from the IT development, but this would require a Palestinian political commitment to put this technology into practice. What follows is a mention of some efforts made to implement the established strategy, and which have been identified as priority areas. They are:

1. Public Health Law and General Statistics Law;
2. Planning and financing;
3. Data management and quality;
4. Information outputs;
5. Monitoring;
6. Human resources management and capacity building;
7. Financing and expenditures on the health sector;
8. Coordination.

## **21. Financial issues**

The Gaza Strip health accounts data of 2019 indicate that the total current expenditures on health equaled 160,702,904 US dollars, with an increase by 28% compared to 2018, which stood at 125,149,311 US dollars. The gross capital formation allocated during 2016 was accounted for 18.4 million US dollars, while in the year 2015 it stood at 28.9 million US dollars (PCBS, 2019). In regards to financing health care, it is found that the highest percentage in finance systems, clarifying the sources through which health services costs are paid in the Palestinian economy, was recorded households' payments reaching 45.5% in 2016, which stood the same in 2015 as the household contribution in total financing the health services costs. It was followed by government systems and programs, and mandatory contribution systems to finance health care, which was estimated at 33% in 2015 and decreased in 2016 to reach 30.5%. The Palestinian economy also depends on the rest of the world as one of the sources through which financing is provided, where the contribution rate stood at 14% in 2015, compared to 15.2% in 2016 (PCBS, 2018).

According to the preliminary estimates of the quarterly national accounts of the Palestinian Central Bureau of Statistics, the per capita GDP in Palestine at constant prices reached 833 dollars during the



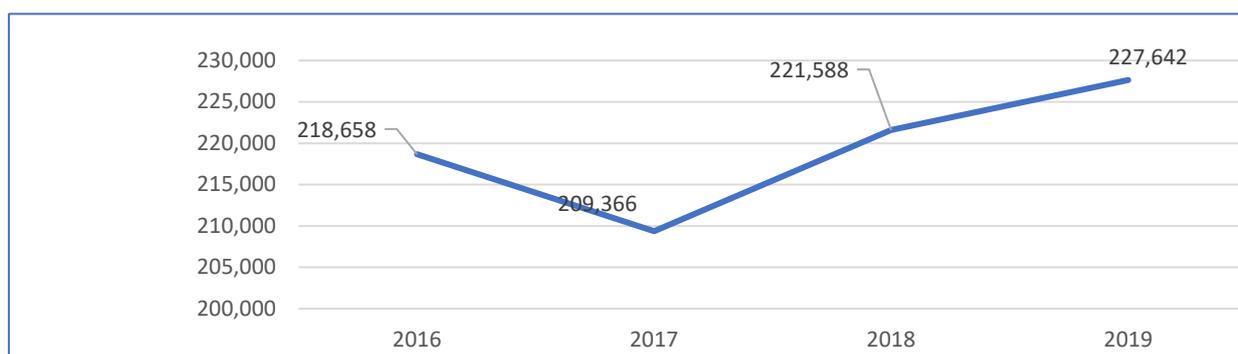
third quarter of 2019, registering an increase by 0.3% compared to the second quarter of 2019. The per capita GDP in the West Bank at constant prices reached 1,191 US dollars during the third quarter of 2019, with an increase by 0.5% compared to the second quarter of 2019, while in the Gaza Strip the per capita GDP reached 348 US dollars during the third quarter of 2019, recording a decrease by 0.2 % compared to the second quarter of 2019 (PCBS, 2019).

According to the 2019 financial report of the Ministry of Health in the Gaza Strip, it is clear that the MOH revenues totaled 7 million US dollars, its running costs accounted for 160,702,904 dollars, the capital stood at 5.3 million dollars, outstanding debts reached \$ 2,000,705, and donations equaled \$ 26,859,342.

As for the donations received by the Ministry of Health in Gaza, and as mentioned above, they reached about \$ 26 million in 2019, while in 2018 the donations totaled \$ 27 million, mainly for medicines (\$ 54 million). With the political changes, there was a radical change in main donor organizations where the USAID, the European Union, and the World Bank are no longer the main supporters of the Ministry of Health, though there are other non-governmental and international donors.

## 22. Health Insurance

Government health insurance in the Palestinian Territories is based on the citizens' right to obtain health services in accordance with the system, and the citizens' duty to provide co-payments in covering health services costs.



**Figure 16: The number of health insurances till the end of 2019 comparison with the previous years**

Figure 16 shows that the number of health insurances until the end of 2019 reached 227,642, with an increase by 2.7% in comparison to 2018, when it accounted for 221,588 insurances, and this includes both the official and toll-free system insurance. The increase in the number of insurances does not imply a corresponding increase in the cash income for the health insurance. Health insurance statistics of 2019 indicate a \$ 0.9 million decrease in the revenues with a decline by 11.4% in comparison to 2018, and by



27% in comparison to 2017, where the value of health insurance revenues in 2019 accounted for \$ 7 million, while it was \$ 9.6 million in 2017. At the same time, the total MOH exemptions from health insurance premiums in 2019 reached about 103.5 million NIS, which increased by 5.4% compared to 2018, and is equivalent to 5.3 million NIS, and in comparison, to 2017 this increase accounted for 11.3 million NIS (MOH, 2019).

These figures indicate the worsening of the financial situation of many groups of population residing in the Gaza Strip, which led to an increase in exemptions, thus posing an additional burden on the Ministry of Health that operates in challenging conditions, and questioning the Ministry's ability to sustain providing its services to the public with the required quality. It should be noted here that the actual revenues of the health insurance in 2019, which totaled 2 million USD, covered only 1.6% of the MOH running costs for the same year, which accounted for 125 million USD. The 2019 statistics of the Ministry of Health related to the groups of the population enrolled in the health insurance system do not reveal any fundamental differences in comparison to the previous years. In fact, the percentage of mandatory insurance decreased in 2019 by 0.8% compared to 2018, as the living conditions of the Gaza Strip population worsened due to persisting blockade and the rise in unemployment rates, which, of course, results in increased exemptions from premiums for poor families. There was a significant decline in voluntary enrollment in the health insurance, which makes the sustainability of this project extremely difficult, as success of the health insurance in Gaza depends on coverage of the entire population, not only of those who are really sick or in need of services in Adverse Selection insurance. So, healthy people stay without enrolling into the health insurance, with only the sick seeking for it. This poses significant risks to the sustainability of the insurance, as the health insurance provides a list of people who are not sick as a form of social security. Therefore, it is a vital importance to reform the health insurance system in order to work towards increasing its coverage and improving its sustainability (MOH, 2014).

### **23. Intersectoral Cooperation**

As mentioned above, many health determinants fall outside the scope of the health care system. Social, economic, cultural, educational, environmental and other factors are important determinants of the health sector. It is known that societies that have achieved remarkable progress in the field of health are those that have adopted health as a social concept. In general, the health sector in Palestine adopts a medical approach, and deals with diseases and injuries resulting from the Israeli attacks, and unhealthy living conditions in Gaza as the standard approach that requires the provision and securing of all services by the Ministry of Health, which cannot be followed due to the limited resources and the MOH inability to



address all the concerns. It is only with the establishment of the Palestinian Authority in 1994, when ministries and authorities started to formulate policies and provide services to the Palestinian communities. Since then, cooperation across various sectors to strengthen the health care has been recognized as an important approach in attaining better services. These sectors include health, agriculture, education, industry, social affairs, economy, environment, water, culture and other.

In health literature, the term “intersectoral collaboration” often refers to the collective actions involving more than one competent agency that perform different roles to achieve a common purpose. (Adeleye and Ofili, 2010). Coordination of special efforts was highlighted in the 1978 Declaration of Alma Ata as an essential requirement for intersectoral cooperation, which, in addition to the health sector, includes all sectors and aspects related to national and community development, especially such as agriculture, food, industry, education, housing, public works, communications, and other sectors. The Declaration calls for support of coordinated efforts of all those sectors in order to improve the quality of life, which is one of the important goals of this cooperation, as well as to achieve greater health awareness, and to ensure equity in this field by means of decisions related to policy and regulatory practices in various sectors. Among the recognized gaps in intersectoral cooperation in the Palestinian context is lack of regulations for national laws, such as the Public Health Law and the Disability Law. It is noted that there is a limited concern to health-related issues in non-health sectors’ agenda. Practical initiatives of the health sector towards other sectors are also not adequate, and the cooperation among sectors is manifested only during emergencies. The relations between various sectors are not formalized, no partnerships between the governmental and non-governmental sectors are sufficiently activated, and the division between the West Bank and the Gaza Strip, the blockade, and Israeli policies impede development of effective cooperation across sectors.

As indicated in other sections of this document, NGOs play an important role in covering some advanced health care services such as services for people with disabilities, psycho-social services, rehabilitation services, and advanced diagnostic procedures such as MRI, CT, and others. Some other advanced health care services as endoscopy, eye surgery, and cardiac catheterization are also offered by active NGOs. Civil society institutions (NGOs) are also considered as an effective forum for mobilization, advocacy and networking in order to support human rights, including the right to health, as many of them provide legal advice and psycho-social services and social mobility that is rarely provided by the Ministry of Health. The NGO sector plays a vital role in complementing the work of the Ministry of Health by providing advanced health services that are sometimes expensive and not usually available in the Ministry of Health.



The UN Relief and Works Agency for Palestine refugees in the Near East is the main provider of primary health care for Palestinian refugees in the Gaza Strip, as it has been implementing the largest humanitarian relief operations in the region for more than 71 years. The UNRWA commitment to health is protecting and promoting health of Palestinian refugees registered in the agency's five areas of operation: Jordan, Lebanon, Syria, the Gaza Strip and the West Bank. It aims at achieving the highest attainable standard of health for refugees as indicated in the second goal of the human development: "Protecting the health of refugees and reducing the burden of disease", which is within the UNRWA medium-term strategy 2016-2021. To contribute to achieving this strategic objective, UNRWA will continue, during the strategy period, providing quality and universally accessible primary health care. UNRWA will maximize the impact of reforms based on the Family Health Team approach to promote the proper diagnosis and treatment of the most common diseases and health conditions, to reduce the duration of illness and the incidence of complications that are often life-threatening, especially those arising from non-communicable diseases. Such care will also have its role in promoting preventative factors that contribute to psychosocial well-being, and combating the behavioral risk factors that lead to non-communicable diseases throughout the life cycle of the Palestinian refugees. The Family Health Team approach will enhance the role of health staff in addressing determinants of health, and strengthen the outreach activities and community participation. The comprehensive activities will include preventive oral and dental health care. Through training and capacity building as well as through partnerships, UNRWA will work to ensure that medical team and para-medical staff members of the Family Health Team are better qualified to identify mental disorders and psychosocial problems. UNRWA will equip these staff with the knowledge and skills necessary to deal with such cases that do not require specialist care. UNRWA will actively search for partnerships to establish quality referral systems for the cases that are in need of specialist services. UNRWA will establish quality control and quality assurance systems to ensure the quality of care provided by the referral organizations. UNRWA will improve its monitoring and reporting capacity in the areas of mental health and psychosocial well-being (UNRWA, 2016).

It is a paramount importance to enhance coordination with the UNRWA to achieve maximum cooperation, ensure integration of services, and avoid duplication. The exchange of experiences between the UNRWA, NGOs, and the Ministry of Health is also essential. Most importantly, there should be unification of the guidelines and standards applied in the UNRWA, NGOs, and the Ministry of Health.

The situation analysis can be summarized by identifying the main strengths, weaknesses, opportunities, and threats facing the health sector in Gaza, as detailed hereunder.



**Table 11: SWOT analysis for the health sector in the Gaza Strip**

<b>INTERNAL ASSESSMENT</b>	
<b>Key Strengths</b>	<b>Main Weaknesses</b>
Health indicators reflecting the health status	<b>The Ministry of Health is more a service provider than a health service organization</b>
Comprehensiveness of primary health care services in the fields of maternal and child health, antenatal care, vaccinations and preventive medicine is efficient and effective	<b>Weak coordination and cooperation among the stakeholders leading to duplication and wasted potentials</b>
Easy access to primary and secondary health care services as well as community mental health services	<b>Weak scientific research</b>
Variety of health service providers (Ministry of Health, UNRWA, NGOs and private organizations)	<b>Lack of complete clear system of services rationalization</b>
Rapid response to the community health needs during crises	<b>Deficit of essential drugs and needed medical equipment</b>
Availability of comprehensive health infrastructure	<b>Lack of equipment maintenance capacity and shortages of equipment spare parts due to the blockade</b>
Availability of an updated emergency plan including all stages	<b>Impact of regional and political changes on foreign relations, communication and networking</b>
The organizational and administrative structures of the health system are in place	<b>Absence of a central body regulating national health policies</b>
Presence of a previous strategic plan	<b>The job description is not applied in a comprehensive way</b>
Administrative, financial and medical computerized work programs	<b>Unsustainable financing</b>
Health Information Systems	<b>Weak human resources planning</b>
Technical standards, protocols and guidelines	<b>Lack of adequate community involvement in implementing and evaluating health programs</b>



Willingness of health policymakers and service providers to maintain the provision of health services despite the harsh conditions	<b>The system of accountability needs to be developed and evaluated</b>
Availability of qualified and trained staff in many fields and subspecialties	<b>Coordination among organizations has to be reinforced</b>
Health education (board programs, continuing education, universities, health professions colleges)	<b>Lack of some sub-specialties</b>
Cooperation between governmental and non-governmental institutions in the health sector	<b>There is no link between performance measurement indicators and the MOH plans</b>
	<b>Deficit in human and financial resources</b>
<b>EXTERNAL ASSESSMENT</b>	
<b>Key Threats</b>	<b>Main Opportunities</b>
Limited impact of the health system on political and social agendas resulting in a loss of influence and support.	<b>Better coordination with some UN agencies, donors and local organizations</b>
Siege, closure of crossings, recurrent crises and instability	<b>Interest of many donors in supporting the health sector in Palestine</b>
Impact of the internal political divide on the healthcare system, services, and the absence of formal institutions	<b>Willingness and commitment of stakeholders, health service providers, and local NGOs interested in supporting the health sector</b>
Increased expectations of service users / recipients	<b>Working with new partners and sectors such as the PCBS, national research bodies, universities, NGOs, and ministries opens a new horizon for improvement.</b>
Financial dependence on donors	<b>Coordination with health service providers reduces duplication and improves the efficiency of services provided</b>
The global economic crisis and donor inactivity / idleness decrease financial support and concern to the Palestinian cause.	<b>Focusing on social determinants of health and improving their infrastructure can lead to long-term improvement of the health situation at limited costs (poverty reduction,</b>



	<b>water, education, awareness, hygiene and sanitation)</b>
Harsh living conditions and deteriorating socio-economic situation negatively affect health outcomes	<b>Investing in advanced IT skills available in Gaza to promote the use of information in decision-making, and the use of an evidence-based approach using final basic measurements</b>
Brain drains	<b>Reinforcing work with the local community, focusing on community participation and mobilization can open new horizons towards improving the health status</b>
Exposure of the region to successive crises of epidemics, disasters and wars	<b>Comparison and measurement with other experiences in similar countries</b>
Limited local financial and human resources for the health sector	<b>Investing in external relations and communication makes the health sector more influential on political and social agendas</b>
The global economic crisis and donor inactivity / idleness decrease financial support and concern to the Palestinian cause.	<b>Focusing on social determinants of health and improving their infrastructure can lead to long-term improvement of the health situation at limited costs (poverty reduction, water, education, awareness, hygiene and sanitation)</b>
Enhancing coordination by establishing the National Health Policy Committee to sustain strategies	<b>Lack of qualified staff in the field of engineering, maintenance and development</b>
Community commitment and support leading to a strong community commitment to health for both families and local communities	
Establishing partnerships at the governmental, non-governmental and private levels	
E-learning and distance learning	
Taking advantage of political changes to strengthen the health sector	



(Political climate and changes)	
Existence of the Palestinian Medical Council, the Palestinian Nursing Council, and board programs	
Strengthening monitoring system that leads to a significant improvement in the health system performance	
Providing integrated interventions by proper links between health facilities serving communities	
Some health determinants are strong in a positive way such as literacy rate, social support, and family commitment	

## STRATEGIC DIRECTION

The situation analysis influenced our thinking towards the following issues:

- Developing a responsive health system that meets common concerns and interests of stakeholders, various actors and partners, and meets the current and potential health needs of the Palestinian community under normal circumstances and during emergencies, taking into account demographic changes in the number of the population and its structure.
- Promoting equity in access to health services and information, taking into consideration the special needs of marginalized groups, especially people with disabilities, adolescents and children.
- Investing in primary health care, health promotion, and working to enhance its determinants such as safe water, hygiene, sanitation, housing, nutrition, economy, awareness, and other.
- Control of communicable and non-communicable diseases through adequate health promotion, prevention, early detection, treatment, and effective follow-up.
- Filling the remaining gaps in health services coverage, especially secondary and tertiary care services.
- Providing high-quality healthcare services by enhancing quality practices, regulating services, and strengthening monitoring.



- Promoting client-centered health services by increasing community participation in planning, implementation and evaluation of health care programs.
- Capacity building, strengthening and empowering human resources, as well as intensifying training to fill the remaining gaps in some specialties and subspecialties.
- Balancing between time and energy investment in provision and management of services and policy formulation.
- Containing costs, and optimizing the use of available resources
- Supporting financial sustainability
- Promoting effective coordination and integration between various health actors, and synergies across sectors.
- Increased documentation and codification of official health care system procedures, including development of concept papers, framework and illustrative models for health services.
- Promoting evidence-based practices, use of information in decision-making, increasing effectiveness of health information systems, and using indicators for performance monitoring and improvement.
- Gradual strengthening of adequate /appropriate financial practices and enhancing financial independence and self-sustainability of the healthcare system.
- Improving the governance of the health system, especially minimizing the degree of bureaucracy, and gradual strengthening of delegation, decentralization and effective human resources management.
- Adopting a system thinking approach.

## GOAL

Enhancing the health and wellbeing of the Palestinian people, by enriching the delivery of comprehensive, integrated, and high-quality health services and information that meet needs and expectations of the Palestinian community at primary, secondary and tertiary health care levels.

## STRATEGIC GOALS, OBJECTIVES AND PROGRAMS

**Goal I: To strengthen comprehensive and safe health services at primary, secondary and tertiary levels**

**Objective 1: Promoting healthy behaviors, nutrition services, school health and environmental health**

**Programs:**

1. Anti-smoking campaigns
2. Proper nutrition and physical activity
3. Safe environment in health institutions



**Objective 2: Enhancing services for communicable and non-communicable diseases****Programs:**

1. Early detection of and intervention for breast and colon cancers
2. Control of DM and hypertension
3. Upgrading diagnostic services
4. Upgrading specialized therapy and invasive therapy services
5. Communicable / Infectious diseases

**Objective 3: Enhancing reproductive, maternal, child & neonatal health care services****Programs:**

1. Preconception care
2. Antenatal care
3. Safe childbirth services at hospitals
4. Postnatal care services
5. Family planning services
6. Neonatal health care services
7. Child health services

**Objective 4: Promoting comprehensive mental health services****Programs:**

1. Integration and complementarity of mental health services at different health levels.
2. Promoting mental health of youth, children and adolescents
3. Fighting drug addiction
4. Psychosocial rehabilitation of target groups

**Objective 5: Improving rehabilitation services and palliative care****Programs:**

1. Enhancing palliative care services
2. Upgrading rehabilitation services for the injured
3. Strengthening health services and rehabilitation for people with disabilities.

**Objective 6: Enhancing health services for women, the elderly and adolescents, especially the vulnerable ones****Programs:**

1. Women's health
2. Health of the elderly
3. Adolescents health

**Objective 7: Upgrading and modernization of infrastructure (equipment, appliances and buildings)****Programs:**

1. Upgrading and rehabilitation of health facilities.
2. Equipment and appliances



**Goal II: To enhance preparedness and effective management of emergencies and health disasters****Objective 1: Developing health emergencies management policies, strategies and protocols****Programs:**

1. Strengthening the role of the National Health Emergency Committee with participation of stakeholders
2. Developing emergency management policies, strategies and protocols

**Objective 2: Improving the health system capacity of high-quality management of emergencies "preparedness - response – recovery"****Programs:**

1. Upgrading human resources capabilities to deal with health crises and emergencies
2. Ensuring provision of essential services during emergencies
3. Prepositioning of an adequate supply of needed materials for emergency services, particularly drugs and medical disposables (at least for a period of 3 months)
4. Developing emergency communication system
5. Developing health emergency information system and strengthening communication and information exchange mechanism
6. Upgrading the health system monitoring and evaluation during emergencies
7. Activating emergency rooms in primary health care centers
8. Health system rehabilitation and recovery

**Objective 3: Strengthening coordination and integration between stakeholders to meet the population health needs during emergencies and disasters****Programs:**

1. Maximizing the benefit from the relevant organizations (local and international) in emergencies
2. Implementing joint training programs on contingency plans
3. Promoting complementarity and coordination of services for the injured after their discharge from hospitals

**Objective 4: Enhancing community health and psychological resilience to respond to emergencies and disasters****Programs:**

1. Developing community training program to respond to emergencies
2. Strengthening the role of psychological support programs in emergencies
3. Community media guidance before, during and after emergencies

**Goal 3: Strengthening Human Resources Management****Objective 1: Promoting health sector human resources policies and strategies****Programs:**

1. Development of legislation related to human resources for health
2. Job description updating and activation
3. Developing career succession strategies
4. Encouraging creative initiatives, innovation and excellence
5. Developing a reward and incentives policy
6. Establishing partnerships with relevant universities and national educational institutions



7. Regulating voluntary action in the health sector
8. Linking the career to capacity development and training

### **Objective 2: Provide adequate and effective health personnel**

#### **Programs**

1. Identifying needs and specialization of graduates with job requirements
2. Establishing a system and mechanisms for localizing and attracting highly qualified cadres
3. Enhancing utilization of trained health personnel at different levels
4. Making the most of the available personnel
5. Developing tools for human resources performance measurement

### **Objective 3: Capacity development and upskilling of human resources**

#### **Programs:**

1. Developing a system for on-going identification of training needs of various staff categories inside and outside the Ministry of Health
2. Maximizing the benefit from internal and external scholarships and visiting delegations
3. Opening new horizons for external scholarships with the concerned organizations

### **Objective 4: Promoting professional ethics among the personnel.**

#### **Programs:**

1. Promoting a culture and activating a role model of professional ethics
2. Implementing the Code of conduct
3. Control of media and professional health advertising

## **Goal IV: Strengthening governance in health system management**

### **Objective 1: Strengthening health planning and policies, and decision-making mechanisms**

#### **Programs:**

1. Developing a system for setting up, monitoring and evaluation of strategic and operational plans
2. Health policies development
3. Developing an evidence- and information-based system of decision-making
4. Development of performance indicators in the Ministry of Health

### **Objective 2: Promoting effective laws, rules, regulations and procedures in the health sector**

#### **Programs:**

1. Review, development and implementation of laws, rules, regulations and procedures in the health sector
2. Finalizing the Medical Liability Law requirements and the Public Health Law implementing regulations
3. Developing the referral system in the health sector

### **Objective 3: Strengthening the leadership, monitoring and regulatory role of the Ministry in the health sector**

#### **Programs:**

1. Developing guidelines for supervision procedures in the health sector
2. Regulating and controlling health services in the health sector

### **Objective 4: Strengthening the quality of services in the health sector**

#### **Programs:**

1. Standardization of health services



2. Patients' safety
3. Occupational safety
4. Community participation in development of health services
5. Enhancing health information and media

### **Objective 5: Promoting the computerized workflow system in the health sector**

#### **Programs:**

1. Strengthening computerized systems infrastructure
2. Employing computerization and electronic services for the benefit of health services

### **Objective 6: Strengthening information systems in the health sector**

#### **Programs:**

1. Informational integration / information complementarity in the health sector
2. Development of a health data dictionary
3. Establishing a national unified medical file
4. Development of geographic information systems
5. Development of health resources monitoring system

## **Goal V: Increasing the efficiency and effectiveness of financial resources management**

### **Objective 1: Strengthening the sources of health financing**

#### **Programs:**

1. Increasing the contribution of the Ministry of Finance for health expenditures
2. Controlling and developing health revenue systems
3. Strengthening and developing mechanisms for communication with donors and projects marketing (fundraising)
4. Restructuring the health insurance system aiming at rationalization of expenditures on health services
5. Enhancing skills of the personnel working in the field of health financing

### **Objective 3: Rationalization of expenditures on health**

#### **Programs:**

1. Updating the lists of the Ministry of Health essential needs (drugs, medical consumables, laboratory materials, medical equipment, etc.)
2. Setting up standard costs for health services
3. Controlling and rationalizing operational expenses

### **Objective 3: Developing financial control systems**

#### **Programs:**

1. Developing and strengthening financial control systems in the health sector
2. Developing procedures manuals for the financial control systems
3. Institutionalizing the system of financial control workflow in the health sector
4. Activating the role of control over expenditures

### **Objective 4: Ensuring provision of drugs and medical disposables**

#### **Programs:**

1. Increasing the proportion of financial resources allocated for provision of drugs and medical disposables
2. Enhancing coordination between health service providers
3. Improving administrative procedures and storage conditions for drugs and medical disposables



4. Promoting pharmaceutical industries for drugs supply

**Objective 5: Enhancing performance of health economy indicators****Programs:**

1. Building national health economy indicators
2. Developing standard criteria for the MOH facilities estimated budget
3. Building national standards for economic efficiency on the basis of equitable distribution of health services

**Goal VI: Enhancing coordination and complementarity with various partners****Objective 1: Developing health policies****Programs:**

1. The National Permanent Health Platform
2. Ensuring implementation of health protocols

**Objective 2: Strengthening coordination and cooperation between the health care providers****Programs:**

1. Restructuring the Health Cluster
2. Joint information system program
3. Joint initiatives program (reproductive health, emergency, non-communicable diseases).

**Objective 3: Increasing coordination, cooperation and joint work between the Ministry of Health and other ministries****Programs:**

1. Food and Environment Safety Program
2. Occupational and Traffic Safety Program
3. Anti-addiction Program



## MONITORING AND EVALUATION

Believing in the Ministry of Health leadership role in following-up the administrative process in general, and the planning function in particular, it was recognized that the Ministry of Health identifies its priorities on an ongoing basis through a five-year strategic plan, starting with developing an operational plan for one year; and these plans follow each other in a coordinated, sequential way, i.e. divided into five plans each one for a year.

Throughout one operational plan, performance-related reports are issued in accordance with the plan and achievements made through the periods determined by the report, for example, quarterly, mid-term, three-quarters and the annual report.

This would deepen the understanding of a proper follow-up and evaluation of the operational plan, and in its turn, it would be an indicator of progress in the strategic plan achievements.

Within a framework of the strategic plan as a whole, an evaluation will be conducted by the end of the second year or the second operational plan in order to determine the extent of commitment to the course of the plan, and re-evaluation would look again at the priorities and rearrange them in light of the progress achieved.

\* Developing evaluation tools through questionnaires to determine the extent of public satisfaction with the services as well as employee's satisfaction.

\* Developing and promoting the use of indicators and attaching them to the achievements of the plan.

\* Involving a number of non-MOH experts for them to have an understanding of performance evaluation, twice during the course of the five-year strategic plan, by identifying the performance, the achievement, strengths and weaknesses, and trying to involve the largest possible number of indicators, general evaluation, in addition to re-monitoring and re-prioritization.



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