The Reality of Health Development in Algeria in Light of the Current Challenges

Kettaf Rezki*
Mohamed Lamine Debaghine University, Setif 2, Algeria,

Email: r.kettaf@univ-setif2.dz

Laboratory STRATEV, University of Mostaghanem,

Dous Fateh
Batna 1 University, Social Dynamics Laboratory in Aurès, Algeria,

Email: fateh.dous@univ-batna.dz

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Abstract:

Health development is fundamental for achieving comprehensive development. Algeria, like other countries, has formulated programs and policies to improve health by endorsing the Millennium Development Goals.

This study examines the current health situation in Algeria, highlighting key health indicators and identifying obstacles hindering meeting the health needs of individuals in light of environmental challenges and threats.

The study concludes that health development in Algeria has not reached the desired level due to: the healthcare policy established by higher authorities, geographical disparities, inequality in the distribution of health services, and the failure of certain health programs to meet the health needs.

* Corresponding Author.

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Introduction:

Immediately after gaining independence, the Algerian society experienced a massive population explosion, resulting in nearly a threefold increase in population. This rapid growth led to additional pressures in all fields, especially in educational and healthcare services, housing, and employment opportunities. Social and health needs consistently surpass the prepared programs and expectations set to address them. Despite the resources, projects, and achievements in the healthcare sector, the growing population needs remain a significant obstacle to health development amid an increasing population over time. The national healthcare system struggles to respond adequately to these rising health needs.

As humans are central to development, individual health stands as a fundamental component for any society, being a basic requirement for life and a human or divine right rather than just a global right. It is crucial for enhancing an individual's productivity to contribute to the progress and well-being of societies, aiming for both economic and social development. Elevating individuals' health status thus becomes a primary and fundamental goal for any state.

Despite international efforts by organizations and reports issued by the World Health Organization, many people's lives today are increasingly reliant on healthcare systems and health development, especially given the changes witnessed since the beginning of the third decade of the 20th century. This period saw the outbreak of the coronavirus (COVID-19) pandemic, revealing deficiencies in the healthcare system. Today, the health sector strives to address these deficiencies by preserving individuals' health, protecting them on one hand, and achieving health advancement and coverage resulting from population growth on the other.

In this context, healthcare systems must ensure the provision of health care services to enhance, improve, and protect individual health, which is both a goal and a requirement for development. Algeria, among countries experiencing disparities between population growth and health development, faces challenges in achieving a necessary balance between the two. Despite gains in the healthcare system through health policies and reforms implemented since independence, there's been a decline in infant and maternal mortality rates and an increase in life expectancy at birth. However, these indicators still lag behind international standards despite efforts to increase overall healthcare coverage, ensuring the care of all age groups, from ensuring the birth of healthy children to providing dignified care for the elderly.

This research aims to observe the relationship between population growth and development, specifically highlighting the imbalance between population growth and health development in Algeria. It analyzes Algeria's health situation, focusing on the state's efforts to address these imbalances.

SECTION I: Theoretical Framework:

First Requirement: Problem Statement:

Development is a crucial goal for all countries and governments due to its significant impact on the social, economic, and political aspects of populations' lives. Population growth remains a present challenge for countries, particularly developing ones witnessing substantial population increases. These nations require solutions to numerous problems faced by their societies.

Like other developing nations, Algeria consistently strives to overcome all factors leading to underdevelopment. It aims for comprehensive social and economic changes within its society, placing significant importance on the relationship between population growth and health development in its strategies and developmental plans. Despite noticeable improvements and increased attention to the healthcare sector, it still faces numerous challenges hindering the achievement of set goals within various programs. It falls short, not necessarily at an international level,

but in terms of satisfaction, general acceptance, and the equitable provision of healthcare services, especially to vulnerable and underprivileged societal segments.

Given the problems and challenges Algeria faces in promoting health and moving away from the deteriorating health situation resulting from health crises and setbacks, this research paper aims to explore the main indicators of health development in Algeria. It aims to examine the current state of health under the healthcare policy implemented by relevant authorities to answer the following problematic question:

- What is the extent of population growth's impact on health development in Algeria under the current healthcare policy?

Second Requirement: Study Concepts:

1. Population Growth:

1.1. Linguistically:

"Growth" in Arabic, according to "Ibn Manzur," signifies an increase and proliferation, making something flourish. (Almaany Comprehensive Dictionary)

1.2. Technically:

Population growth refers to the change in the population size resulting from natural increase and global migration. It involves an increase in population due to decreased death rates, increased birth rates, and incoming migration.

It is also defined as: “that surplus in the number of births relative to deaths among the population in a certain period of time.” (Population Reference Bureau, 1980, p. 36)

1.3. Operational Definition:

Population growth denotes the escalating rise in the population within a specific time frame. It's essentially the difference between birth and death rates, known as the "natural increase rate."

2. Health Development:

It involves a spectrum of programs within the health sector, addressing various aspects such as service quality, equipment utilized, and adopted technologies. The aim is to develop and

elevate the health sector to higher standards. (Jefal & Sidi Dries, 2014, p. 23)

Different international organizations use diverse indicators to define health conditions, impacting a country's level of health development. For instance, UNICEF relies on the infant mortality rate as an indicator, while the World Health Organization focuses on adjusted life expectancy and available information regarding the health environment, disease history, infant mortality rate, access to health services, and health expenditure rate. (Abdelkader, 2003, p. 11)

3. Health Policy Concept:

Defined by the "International Encyclopedia of Social Sciences" as a set of declared goals and fundamental programs in the health sector, coupled with actions implemented through legislative decisions, intended to determine how general health objectives are made and executed, affecting both private and public sectors in the healthcare field to efficiently achieve overarching health goals. (Khroubi, 2011-2012, p. 16)

Or it is: "a set of interconnected and integrated relationships of decisions and activities, which form part of the strategy for providing health care services." (Salah, 2009, p. 216)

4. Health Concept:

According to the World Health Organization, health signifies a state of complete physical, mental, and social well-being, not merely the absence of disease or infirmity. The Alma-Ata conference in 1978 defined it as a holistic state encompassing physical, mental, and social aspects. (Khroubi, 2011-2012, p. 14)

SECTION II: Health Development and Population Growth in Algeria:

First Requirement: Relationship between Development and Population Growth:

Considering development as organized efforts, coordination, and planning between human and material resources within a specific social environment, aiming for higher living standards and social life quality in various aspects like education, health, family,

and youth, and eventually achieving the highest possible level of social welfare (Mona Attia , 2012, p. 34). The primary goal of development is to satisfy the growing and basic needs of society members. For this goal to be accomplished, the pace of development must be rapid and in line with the occurring population growth in the community.

The issue of imbalance between population growth and development has become a genuine concern for many countries globally, particularly for developing nations facing high demographic growth. Consequently, a wave of intellectual inquiry has emerged, studying the relationship between population increase and development. This has become an important issue drawing the interest of many scholars and researchers. Critics of rapid population growth fear the widening gap between population size and the material experiences produced in society. They argue that population growth negatively impacts economic, social, and health development, advocating for stringent policies to curb rapid population growth. Conversely, optimists believe that population increase leads to an increase in the workforce, which, if utilized effectively, becomes a positive factor impacting national income rates. (Mohamed, 2000, pp. 224-225)

From the above, it can be deduced that high population growth rates exert pressure on development by increasing population demands and the additional requirement for social, educational, and health services. Simultaneously, the human resource can be leveraged to achieve effective development, positively contributing to social and economic progress in countries if effectively utilized.

Second Requirement: Health Development in Algeria:

According to the World Health Organization's report, France ranks first in the healthcare system, while Oman tops the list in health status. However, most African countries are ranked at the bottom. Interestingly, this ranking doesn't show a clear correlation between healthcare system levels, healthcare expenditure, and health status. For instance, despite the USA ranking first in

healthcare spending per capita, it ranks 72 and 37 in health status and healthcare system, respectively. (Boumaaraf & Ammari, 2009-2010, p. 32)

Algeria ranks 45 in health status and 81 in the healthcare system, indicating that the population's health status is more associated with social, cultural, and economic variables rather than the healthcare system itself. There's inequality between Algeria's ranking in health status and the healthcare system. Additionally, Algeria holds the 84th position in life expectancy out of 192 WHO member countries. Regarding the level of healthcare service distribution, it ranks 110 for the population's needs response, and 91 among all member countries. (www.hopital.dz.com, n.d.)

Abdelatif Benachenhou mentioned that public health institutions in Algeria are still far from achieving optimal performance, especially in terms of poor conditions for receiving and accommodating patients, medicine scarcity, long waiting times, inadequate cleanliness, and delayed patient treatment. Consequently, Algeria is positioned 75th concerning healthcare system financing fairness. (Kourta, 2005)

Despite noticeable improvements, infant mortality rates remain high compared to other countries and are far from the Millennium Development Goals. There are clear discrepancies in accessing healthcare services. Moreover, in goal achievements, 98 countries rank better than Algeria. Regarding healthcare expenditure levels, Algeria holds the 114th position out of 192 countries. (Boumaaraf & Ammari, 2009-2010, p. 38)

During the World Health Organization's opening of an informational day about its strategy for cooperation with countries from 2016 to 2020, Katia stated that Algeria, among a few countries, has prioritized healthcare, pointing out commendable progress. The collaborative strategy between the WHO and Algeria resulted from consultations between the health and foreign affairs ministries, involving other UN agencies and civil society partners in education, higher education, and the community. (Ben Loussif)

Algeria, like other nations, values the health sector's significance, acknowledging that sustainable development cannot be achieved without a healthy population, considered key to productivity (economic, social, and cultural prosperity). A decline in health adversely affects health development, as emphasized by the United Nations, the G8, the Economic Forum, and the OECD in their discussions of health issues in development agendas. The Rio Conference on Environment and Development concluded that humans fall within the realm of concerns related to sustainable development. They have the right to lead healthy and productive lives in harmony with nature. Sustainable development cannot be achieved amidst widespread debilitating diseases. Upholding population health requires sustainable development from both economic and social perspectives. (Boumaaraf & Ammari, 2009-2010, p. 28)

Third Requirement: Evolution of Key Demographic Indicators:

1. Population Evolution in Alegria:

After gaining independence, Algeria immediately witnessed a considerable increase in its population. The population doubled from 12 million in 1966 to 23 million in the 1987 census in a span of around 20 years. Subsequently, this figure nearly tripled, reaching approximately 34 million and then around 43 million in 2019, as depicted in Table (1).

Table.1: Development of the population of Algeria from 1966-2018.

Year	Population in the middle of the year	Year	Population in the middle of the year	Year	Population in the middle of the year
1966	12096	1986	22512	2003	31748
1970	13309	1987	23139	2004	32364
1971	13739	1988	23783	2005	32906
1972	14171	1989	24409	2006	33481
1973	14649	1990	25022	2007	34096
1974	15164	1991	25643	2008	34591
1975	15768	1992	26271	2009	35268

1976	16450	1993	26894	2010	35978
1977	17058	1994	27496	2011	36717
1978	17600	1995	28060	2012	37495
1979	18120	1996	28566	2013	38297
1980	18666	1997	29045	2014	39114
1981	19262	1998	29507	2015	39963
1982	19883	1999	29965	2016	40836
1983	20522	2000	30416	2017	41721
1984	21185	2001	30879	2018	42578
1985	21863	2002	31357		

Source: (National Office of Statistics) (ONS)

This rapid increase was a result of the state's policy to compensate for human losses post-independence, along with improvements in the country's social, economic, and healthcare conditions, contributing to continuous population growth due to strenuous healthcare policies.

2. Birth Rate Evolution:

The birth rate refers to the total number of live births during a calendar year, where a live birth signifies evidence of life such as breathing or a beating heart in an infant.

Table. 2: Development of birth rates from 1967 to 2018:

Year	Corrected live births number in the thousands	Crude birth rate in thousands	Year	Corrected live births number in the thousands	Crude birth rate in thousands
1967	……	50.12	1993	775	28.22
1968	.....	47.70	1994	776	28.24
1969	.....	49.81	1995	711	25.33
1970	689	50.16	1996	654	22.91
1971	687	48.44	1997	654	22.51
1972	697	47.73	1998	607	20.58
1973	717	47.62	1999	594	19.82
1974	722	46.50	2000	589	19.36
1975	738	46.05	2001	619	20.03
1976	751	45.44	2002	617	19.68
1977	796	45.02	2003	649	20.36
1978	817	46.63	2004	669	20.67

1979	774	42.80	2005	703	21.36
1980	797	42.70	2006	739	22.07
1981	791	41.04	2007	783	22.98
1982	808	40.60	2008	817	23.62
1983	830	40.40	2009	849	24.07
1984	850	40.18	2010	888	24.68
1985	864	39.50	2011	910	24.78
1986	781	34.73	2012	978	26.08
1987	800	34.60	2013	963	25.14
1988	806	33.91	2014	1014	25.93
1989	755	31.00	2015	1040	26.03
1990	775	30.94	2016	1067	26.12
1991	773	30.14	2017	1060	25.40
1992	799	30.41	2018	1038	24.39

Source: (National Office of Statistics) (ONS)

Table (2) illustrates the evolution of birth rates from 1967 to 2018, indicating three stages during this period marked by various circumstances and changes leading to fluctuations in birth rates.

2.1. First Stage: (1962-1985):

During this period, birth rate evolution witnessed an increase, rising from 10.52% in 1963 to 39.5% in 1985. This rise was attributed to increased marriage rates, decreased divorce rates, and improved social and economic conditions post-independence. (Doudou, 2010, p. 119)

2.2. Second Stage: (1986-2000):

This phase was characterized by a decline in the number of births. The crude birth rate was estimated at 34.73‰ in 1986, continuing to decrease until 2000, reaching 19.36‰. Factors contributing to this decline included the government's policy of birth spacing initiated in 1983, increased contraceptive use (61‰ in 2006 from 8‰ in 1971), and delayed marriage ages for both genders. (Issad & Benzaid, 2016, p. 10)

Additionally, attention was given to guiding demographic growth and establishing multiple birth control service centers. (Baza, 2008-2009, p. 47)

2.3. Third Stage: (2001-Present):

This stage is associated with a resurgence in birth rates. The crude birth rate was estimated at 20.36‰ in 2003, continuing to rise until 2016, where the highest number of live births was observed at 1.67 million births, with a rate of 26.12‰. The reasons for this increase include:

- Increased marriage rates between 2000 and 2010, rising from 177,548 to 345,000.
- Improved social and economic conditions impacting the demographic behavior of the population. (Issad & Benzaid, 2016, p. 12)

3. Total Fertility Rate Trends (1978-2016):

Table. 3:displays the trends in total fertility rates:

Year	Total fertility rate (child/woman)	Year	Total fertility rate (child/woman)	Year	Total fertility rate (child/woman)
1978	7.15	2003	2.5	2011	2.9
1982	6.31	2005	2.5	2012	3.02
1987	4.38	2006	2.27	2013	2.93
1990	4.5	2008	2.81	2014	3
2000	2.4	2009	2.8	2015	3.1
2002	2.5	2010	2.9	2016	3.1

Source: From 1970 to 1987 (Hafad, 2016, p. 41) (ONS, p. 20)

The Total Fertility Rate (TFR) is a stronger indicator of fertility levels than the crude birth rate. A rate of 2.1 children per woman is the replacement rate for population growth—increases lead to population growth, while decreases result in population decline.

The table indicates a decline in the Total Fertility Rate, recording 2.4 children/woman in 2000, down from 7.15 children/woman in 1978. This decline is attributed to changes in reproductive behavior and programs implemented by specialized bodies (birth spacing policies, contraceptive use). Subsequently, the Total Fertility Rate started to rise from 2002, reaching 3.1 children/woman in 2016.

4. Crude Death Rate Evolution:

Table (4) showcases the evolution of the crude death rate (1970-2018):

Year	Corrected deaths in thousands	Crude death rate (‰)	Year	Corrected deaths in thousands	Crude death rate (‰)	Year	Deaths Corrected by the thousands	Crude death rate (‰)
1967	……	15.87	1985	183	8.40	2002	138	4.41
1968	.....	17.37	1986	165	7.34	2003	145	4.55
1969	.....	17.01	1987	161	6.97	2004	141	4.36
1970	226	16.54	1988	157	6.61	2005	147	4.47
1971	241	17	1989	153	6.00	2006	144	4.30
1972	229	15.68	1990	151	6.03	2007	149	4.38
1973	246	16.25	1991	155	6.04	2008	153	4.42
1974	234	15.07	1992	160	6.09	2009	159	4.51
1975	249	15.54	1993	168	6.25	2010	157	4.37
1976	258	15.64	1994	180	6.56	2011	162	4.41
1977	241	14.36	1995	180	6.43	2012	170	4.53
1978	238	13.48	1996	172	6.03	2013	168	4.39
1979	212	11.70	1997	178	6.12	2014	174	4.44
1980	203	10.90	1998	144	4.87	2015	183	4.57
1981	178	9.44	1999	141	4.72	2016	180	4.42
1982	180	9.10	2000	140	4.59	2017	190	4.55
1983	181	8.80	2001	141	4.56	2018	193	4.53
1984	173	8.60						

Source: (National Bureau of Statistics) (ONS)

The Crude Death Rate (CDR) measures the number of deaths per population in a year, usually expressed as per 1000 individuals.

The table illustrates a notable decrease in the Crude Death Rate (CDR), dropping from 1.7‰ in 1971 to 4.42‰ in 2016. This reduction is attributed to various factors previously mentioned, such as improved living and health standards for the population.

Forth Requirement: Evolution of Health Indicators:

1. Infant Mortality Rate:

Understanding infant mortality rates contributes to evaluating the health situation and highlighting deficiencies in caring for this segment of society, requiring special attention. The infant mortality rate reflects the social, cultural, economic, and environmental conditions experienced by infants. Therefore, the

World Health Organization has included it among the indicators adopted in its various development plans. Algeria, being a member of this international organization, has given importance to measuring this vital rate and has included its measurement in most surveys conducted.

Table. 5: Evolution of Infant Mortality Rate (1990-2018):

Year	Number of infant deaths	infant mortality rate (‰)	Male infant mortality rate (‰)	Infant mortality rate (female)‰)
1990	36270	46.8	49.2	45.8
2000	21072	36.9	38.4	35.3
2001	22450	37.5	38.9	35.9
2002	20608	34.7	36.1	33.3
2003	21090	32.5	34.6	30.3
2004	20300	30.4	32.3	28.5
2005	21334	30.4	32.4	28.2
2006	19845	26.9	28.3	25.3
2007	20513	26.2	27.9	24.4
2008	20793	25.5	26.9	23.9
2009	21076	24.8	26.6	22.9
2010	21046	23.7	25.2	22.2
2011	21055	23.1	24.6	21.6
2012	22088	22.6	23.9	21.2
2013	21586	22.4	23.6	21.2
2014	22282	22	23.5	20.4
2015	23150	22.3	23.7	20.7
2016	22271	20.9	22.4	19.3
2017	.....	21.0	22.6	19.3
2018	.....	21.0	22.5	19.5

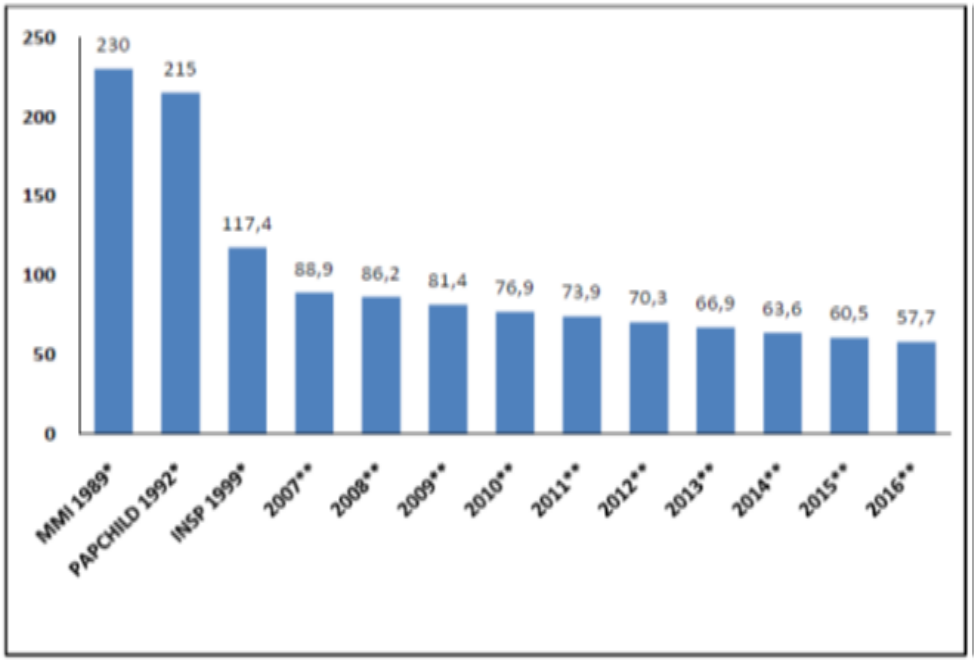
Source: (ONS, p. 20) (ONS)

The table demonstrates a continuous decrease in the infant mortality rate, dropping from 46.8‰ in 1990 to 21‰ in 2018, which represents a decrease of approximately 50% within 28 years. However, this rate still remains distant from the Millennium Development Goal, urging a reduction to 12 deaths per 1000 live births, as outlined by the World Health Organization. Despite

improvements, rural areas show higher rates compared to urban areas, with rates remaining elevated in the southern region compared to the north-central region, raising questions about underlying reasons for this disparity. (Bouhafs, 2021, p. 559)

2- Maternal Mortality Rate:

The maternal mortality rate is a key health indicator reflecting a country's health system development of any country as being declared in the Millennium Developmental fifth goal.



Curve No. (1): Evolution of the maternal mortality rate in Algeria (1989-2016):

Sources: (Algerian Government, June 2016, p. 80)
(Ministry of Health, July 2017, p. 13)

From 1989 to 2016, Algeria witnessed a continuous decline in the maternal mortality rate, reducing from 230 deaths per 100,000 live births in 1989 to around 58 deaths per 100,000 live births in 2016. This decrease is attributed to state policies aimed at reducing this rate through the approval of Millennium Development Goals, establishment of specialized hospitals for maternal and child health, specific health programs, and improved maternal health

care, though it still falls short of the defined goals. (Maash, 2020, p. 23)

3- Life Expectancy:

Table. 6: Probabilities of Survival:

Year	Overall probability of survival at birth	Probability of survival when born male	Probability of survival at birth female
1990	66.9	66.3	67.3
2000	72.5	71.5	73.4
2001	72.4	71.9	73.6
2002	73.4	72.5	74.2
2003	73.9	72.9	74.9
2004	74.8	73.9	75.8
2005	74.6	73.6	75.6
2006	75.7	74.6	76.7
2007	75.7	74.7	76.8
2008	75.6	74.8	76.4
2009	75.5	74.7	76.3
2010	76.3	75.6	77.0
2011	76.5	75.6	77.4
2012	76.4	75.8	77.1
2013	77.0	76.5	77.6
2014	77.2	76.6	77.8
2015	77.1	76.4	77.8
2016	77.6	77.1	78.2
2017	77.6	76.9	78.2
2018	77.7	77.1	78.4

Source: (ONS)

Life expectancy reflects the reality of a healthcare system. In Algeria, life expectancy increased from 45.5 years in 1960 to 66 years in 2000, approaching rates seen in Latin American and Asian countries, despite collaboration between Arab nations. Notably, life expectancy has significantly improved, reaching 77.7 years in

2018 (77.1 years for men and 78.4 years for women), compared to 66.9 years in 1990 (66.3 years for men and 67.3 years for women). This improvement is attributed to the significant attention given by the state to health and healthcare development as part of sustainable development.

Fifth Requirement: Challenges in Achieving Health Development in Algeria:

1. Health Structures:

The increasing population in Algeria has strained healthcare facilities. While the population grew to approximately 39 million in 2014 and 41.2 million by early 2017, the number of healthcare facilities relative to the population increased only by about 2.8%. There's a significant disparity in healthcare distribution across regions, with Algiers holding 55% of healthcare facilities compared to only 22% in the east, 20% in the west, nearly 2% in the southeast, and 1% in the southwest. (Boumaaraf & Ammari, 2009-2010, p. 33)

2. Health Expenditure:

Governments allocate substantial financial resources for healthcare. However, increased availability of healthcare services amplifies the need for specific services, escalating financial allocations. Yet, heavy healthcare spending doesn't always reflect the quality of services provided. The focus seems more on quantity rather than ensuring citizens' satisfaction with the quality and delivery of these services and its value. In this context, health expenditure rate in Algeria, though increasing, doesn’t reflect the quality of services in comparison with health expenditure rates in Arab countries which seems to be less. (Ministry of Foreign Affairs, n.d.)

The state guarantees free treatment to the majority of individuals, which is represented by national solidarity and social harmony on the one hand and the continuity of the privileges of power, and on the other hand it is due to the absence of mechanisms for regulating expenses, and thus the absence of its rationalization. The budget is granted in advance and it does not

reflect the volume and nature of health activities performed. (Boulfoua, p. 51)

3. Health Policy:

Algeria has undertaken substantial reforms to develop the healthcare system. However, questions arise about the stakeholders shaping these policies, their awareness of healthcare realities, and whether these policies genuinely address the demands of Algerian citizens dissatisfied with overall healthcare services. (Boulfoua, p. 51)

4. Management and Governance:

There's a lack of a comprehensive strategy to manage financial and human resources. Issues like favoritism, non-compliance with internal regulations, and manipulation in patient care negatively impact the sector. (Haroush, 2008, p. 223)

5. Health Determinants:

Economic, social, environmental, and cultural factors affect health stability and hinder health development. Algeria grapples with economic downturns affecting individual incomes, thereby impacting purchasing power. Challenges in meeting citizens' basic needs for housing, healthcare, and employment persist, alongside social disparities, unequal access to healthcare across regions, environmental pollution, population density, and insufficient health education contributing to the prevalence of fatal and chronic diseases. (Moulay)

Sixth Requirement: Evolution of the Healthcare System in Algeria:

Table. 7: Evolution of the Number of Doctors and Doctor-Population Ratio from 1962 to 2017:

Year	Total doctors	Number of population per doctor	Year	Total doctors	Number of population per doctor
1962	1279	7835	1988	19814	1200
1963	1319	7922	1989	21467	1137
1964	1301	8376	1990	23550	1063
1965	1419	8007	1991	24791	1034

1966	1356	8738	1992	25796	1038
1967	1453	8649	1993	27317	1055
1968	1613	8029	1994	27652	1066
1969	1668	7861	1995	27317	1027
1970	1760	7562	1996	27652	1033
1971	1885	7289	1997	28344	1025
1972	1985	7139	1998	29970	985
1973	2467	5938	1999	30962	968
1974	2672	5675	2000	32332	941
1975	3212	4909	2001	33654	918
1976	3875	4245	2002	35368	887
1977	4321	3948	2003	36347	876
1978	5363	3282	2004	37720	858
1979	6346	2855	2005	.....	.....
1980	8512	2193	2006	39459	849
1981	9359	2058	2007	.....	.....
1982	9916	2005	2008	47995	721
1983	11378	1408	2009	52071	677
1984	12132	1746	2010	56209	640
1985	13221	1654	2015	73431	544
1986	15361	1466	2016	74937	545
1987	17760	1303	2017	78838	529

Source: (ONS) (ONS)

The table demonstrates a continuous increase in the number of doctors since independence. However, there's a significant and continuous decrease in the doctor-to-population ratio, indicating educational improvements and the government's focus on establishing specialized universities and schools for medical training.

We notice from Table No. (7) the continuous increase in the number of doctors since independence until today. The population of each doctor also witnessed a noticeable and continuous decline at the same time, as the number of doctors in 2017 reached (78,838) compared to the year 1962, where the number of doctors

was estimated at Only 1,279 doctors, while the population per doctor in 2017 reached 529, compared to 7,835 residents per doctor in 1962. This is due to the improvement and development of the educational level, as well as the state's efforts to establish universities and schools specialized in training doctors and other medical personnel.

Table .8: Evolution of the Number of Pharmacists and Pharmacist-Population Ratio from 1963 to 2017:

Year	Total pharmacists	Number of population per pharmacist	Year	Total pharmacists	Number of population per pharmacist
1963	204	51225	1988	1811	13133
1964	266	40966	1989	1839	13273
1965	186	61091	1990	2134	11725
1966	216	54856	1991	2575	9958
1967	244	51504	1992	2984	8804
1968	247	52433	1993	3189	8433
1969	265	50369	1994	3425	8028
1970	.....	.....	1995	3691	7602
1971	338	40648	1997	3866	7389
1972	354	40031	1998	4022	7222
1973	396	36992	1999	4299	6864
1974	542	27978	2000	4600	6514
1975	901	17501	2001	4814	6318
1976	805	20435	2002	4976	6206
1977	906	18828	2003	5705	5582
1978	1047	16810	2004	6082	5321
1979	1051	17240	2005	……	…….
1980	1105	16892	2006	7267	4607
1981	1141	16882	2007	……..	…….
1982	1175	16922	2008	8019	4314
1983	1194	17188	2009	8503	4148
1984	1286	16474	2010	9081	3962
1985	1359	16088	2015	11475	3483
1986	1584	14212	2016	11888	3435
1987	1752	13207	2017	12337	3382

Source: (ONS) (ONS)

The table shows a significant increase in the number of pharmacists, signifying advancements in pharmaceutical services and education. The pharmacist-to-population ratio has also reduced, indicating better accessibility to pharmaceutical care.

Table .9: Evolution of the Number of Dentists and Dentist-Population Ratio from 1963 to 2017:

Year	Total dental surgeons	Population per dental surgeon	Year	sum Dental surgeons	Population per dental surgeon
1963	151	69205	1988	6097	3901
1964	135	80718	1989	6892	3542
1965	127	89472	1990	7199	3476
1966	171	69292	1991	7563	3391
1967	164	76628	1992	7833	3354
1968	195	66415	1993	7885	3411
1969	212	62292	1994	7763	3542
1970	255	52192	1995	8056	3483
1971	274	50142	1996	7837	3645
1972	308	46010	1997	7966	3646
1973	372	39379	1998	7954	3710
1974	494	30696	1999	8062	3717
1975	617	25556	2000	8197	3711
1976	763	21560	2001	8408	3673
1977	933	18283	2002	8618	3639
1978	1137	15479	2003	8651	3681
1979	1426	12706	2004	8842	3660
1980	1691	11038	2005	.....	.....
1981	1936	9949	2006	9648	3457
1982	2144	9274	2007	.....	.....
1983	2310	8884	2008	10649	3248
1984	2435	8700	2009	11135	3167
1985	2750	7950	2010	11633	3093
1986	3754	5997	2015	13645	2929
1987	5648	4097	2016	13747	2971
			2017	14263	2925

Source: (ONS) (ONS)

The table reflects that in 1963, the number of dentists was 151, with a dentist-population ratio of 69,205. There were declines in the number of dentists in 1964 and 1965 due to the return of foreign doctors to their home countries. Subsequently, there was a continuous increase, reaching 14,263 dentists by 2017, with an average of 2,925 inhabitants per dentist compared to 69,205 inhabitants per dentist in 1963.

Conclusion:

The healthcare sector in Algeria has witnessed significant development over the past two decades. However, the continuous population growth poses a considerable challenge to health development. As the population increases, so does the need for healthcare services, including doctors, pharmacists, dentists, and fundamental structures like equipment, treatment rooms, beds, and pharmacies. Despite efforts made since independence to provide quality healthcare services, the national healthcare system struggles to meet individuals' health needs adequately, both in quantity and variety due to insufficient healthcare structures and their unequal distribution.

Therefore, for sustainable development amid population growth, robust programs are necessary to enhance healthcare levels by fostering responsible partnerships and innovations across health-related sectors. Here are some recommendations:

- Implement a responsive healthcare policy that adapts to evolving services impacting individuals' health status, such as high population growth.
- Improve healthcare by increasing and equipping healthcare facilities based on population size.
- Follow a population policy regulating population growth due to internal migration and natural increases, linking population policies with development schemes and projects.
- Address the disparities in distributing healthcare institutions, hospitals, and medical staff among different geographical regions of Algeria.

- Consider population growth not as a burden but as a force for development across economic, social, and healthcare domains.
- Apply comprehensive quality management in healthcare structures to improve service quality and reduce healthcare and financial wastage in hospitals and across Algeria.
- Develop quality standards and efficiency indicators for healthcare structures to ensure patient care and safety, addressing healthcare disparities within and among states.

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