

8 HEALTH SERVICE DELIVERY

8.1 Service Delivery Data for Health services

Table 8-1 Service Delivery Data and Trends

TOTAL (percentages)	1990	1995	2000	2004
Population with access to health services	-	-	-	-
Married women (15-49) using contraceptives	-	-	65.5	62.2
Pregnant women attended by trained personnel	72.0	-	91.5	96.0 (2006)
Deliveries attended by trained personnel	71.3	-	89.3	94.5 (2006)
Infants attended by trained personnel (doctor/nurse/midwife)	-	-	-	-
Infants immunized with BCG	99.4	97.2	97.4	98.6 (2006)
Infants immunized with DPT3	91.0	92.0	97.0	98.0
Infants immunized with Hepatitis B3	-	83.0 (1996)	94.0	96.0
Infants fully immunized (measles)	88.0	91.0	95.0	97.0
Population with access to safe drinking water*	-	69.1 (1994)	-	83.4
Population with adequate excreta disposal facilities	-	39.5 (1994)	-	53.5

Source: MoPH and NIS

URBAN (percentages)	1990	1995	2000	2004
Population with access to health services	-	-	-	-
Married women (15-49) using contraceptives	-	-	67.0	-
Pregnant women attended by trained personnel	-	-	96.8	-
Deliveries attended by trained personnel	-	-	97.5	-
Infants attended by trained personnel	-	-	-	-
Infants immunized with BCG	-	-	-	-
Infants immunized with DPT3	-	-	96.8	-
Infants immunized with Hepatitis B3	-	-	-	-
Infants fully immunized (measles)	-	-	-	-
Population with access to safe drinking water	-	-	-	-
Population with adequate excreta disposal facilities	-	-	-	-

RURAL (percentages)	1990	1995	2000	2002
Population with access to health services	-	-	-	-
Married women (15-49) using contraceptives	-	-	62.6	-
Pregnant women attended by trained personnel	-	-	84.2	-
Deliveries attended by trained personnel	-	-		-
Infants attended by trained personnel	-	-	78.5	-
Infants immunized with BCG	-	-		-
Infants immunized with DPT3	-	-	95.0	-
Infants immunized with Hepatitis B3	-	-		-
Infants fully immunized (measles)	-	-		-
Population with access to safe drinking water	-	-	80	-
Population with adequate excreta disposal facilities	-	-	26	-

Source: MoPH

Planning is limited to the public facilities at all network level (see section 3). The distribution of infrastructures is defined regarding population's needs for curative care and preventive coverage of health programs. The private sector does not obey any national process of planning.

The only process for certifying needs before the installation and technology is that which governs the creation of haemodialysis centers and the installation of the heavy equipment, submitted to certification off needs. The MoPH publishes and revises regularly deployment standards of the heavy equipment, on the basis of which, the investors formulate requests, examined by a commission implying others departments sitting at the MoPH. Also, the installation of retail pharmacies (Day's or night working) is submitted to numerus clausus according to ratio of population, regularly reviewed. Only MoPH can give authorization, based on waiting list of pharmacists. Apart from these particular cases, installation of health professions in the private sector is free and not restricted. In the public sector, deployment is subject to national process of planning and the annual budgets.

All Health facilities, especially inpatient ones, should respect some technical and safety requirements to do their activities. The respect of these requirements is regularly monitored from various State departments (MoPH, Civil protection, municipality services...).

Capital investments are funded and controlled by:

- State for public facilities (investment budget), without differences between in hospitals and primary care facilities.
- National Social Security Fund for its ambulatory polyclinics
- and private's initiatives for private sector. It's separated from reimbursement delivery. For private sector, bank's credits are used to invest on health facilities. There are no public private partnerships for investment in capital facilities.

Access and coverage

Access to primary care:

95% of population have access to health facilities within at least 5 Km distance. In addition, in the public sector, the only valid restrictions are related to financial contributions that citizens must pay to get curative care (user fees). All the personal care with preventive character is freely delivered to all Tunisian citizens: immunization, - tracking examinations - family planning services - treatment of endemic diseases [tuberculosis, STD-AIDS ...]). However, all delivered health care on the private sector is subject to payment.

Access to secondary care:

Access to specialists is direct for ambulatory care delivered at primary health care centers, in particular in the urban centers which offer certain categories of specialized ambulatory care, such as pediatrics, gynecology-obstetrics, ophthalmology and ORL.

For medical emergencies, patients can reach all public levels of care, without any restriction.

Elsewhere, patients examined at the first line are referred to specialists' physicians in hospitals where it's decided to provide ambulatory care or hospitalization. In this case the patient may choose the reference facility but in general does not choose the doctor. This passage by the general practitioner, become of use, although that it is not obligatory in a lawful way, shows the significant role played by the general practitioner in primary health care centers. The referral pathway in the public sector is based on GP as first point of access to the health care system. However, this die is always respected, neither by the patients, nor by care facilities.

The access of the citizens to in the private sector is direct. It is subjected to no constraint and the patient has the whole freedom of choice of the doctor. He also chooses the private medical facility if a hospitalization is required. GP gate keeping non-existent in the private sector, will be gradually set up within the framework of the health insurance reform, but strongly disapproved by the medical community.

The patients' referral system in the public sector has some problems:

- a very high confidence on capacities and competence of specialists is part of Tunisian culture,
- the low capacities of diagnostics and treatment on the majority of primary health care centers,
- the amalgam of proximity and reference missions of university hospitals where professionals usually complain about the extent of ordinary care that they provide regarding the possibility of providing this same health care at in lower levels facilities. It is especially the problem of big cities that haven't intermediate level facilities between primary health care centers and university hospitals.

Overall, the distribution of primary health facilities and physician health can be considered as relatively balanced through the country. However, the number of physicians is higher in urban area than rural area. Until December 31, 2004, at the public sector, in particular at first levels, we have:

- 1632 physicians from which 366 are working at local hospitals (22.43%) and 1266 at the primary health care centers (77.57%). The number of inhabitants per physician varies from 9331 to 4024 according to regions, with an average of 6073 per physician.

- 248 dentists with a not homogeneous geographical distribution: It varies from one dentist at the governorate of Zaghouan to 26 dentists for Nabeul, 22 for Sousse, 20 for Sidi Bouzid and 18 for Monastir.
- A Total of 106 pharmacists going from zero pharmacist in governorate of Tozeur to 13 pharmacists at Monastir. The number remains very weak as compared to the number of health districts (202) and it doesn't cover the totality of local hospitals.
- 11 380 paramedical which concern all specialties and it give one paramedical professional for 871 inhabitants (per capita).
- Radiology and laboratories equipment as well as dental chairs are implanted essentially in urban areas and particularly at local hospitals level.

8.2 Package of Services for Health Care

Tunisia never explicitly defined package of health services. In public sector, all citizens have access to all categories of care (diagnosis, treatment, prevention, health promotion, rehabilitation, mental health, palliative care, accident-related care...). Nevertheless, the refund regime (complementary insurance) of the NRCF limits the access to care to only long term diseases and surgical interventions and by annual ceilings of refunding. Private insurance regimes make the same with the restricted refunding, fixed at the contracts of adhesion.

In the public sector, only medical assisted procreation is fully paid and it is not covered by any insurance systems. Occupational health care and prevention is covered free for all employees, financed by employers within medical services of labor. Job related accidents and occupational diseases are insured by social security bodies: care is free for all patients in this case, both in public and the private sector.

In absence of a defined benefit package, decisions about benefits are made using sanitary legislatives and rules, decided by the chamber of deputies and government departments: health care coverage to all citizens with regard to their enrolment to social security funds or assistance regimen. No explicit official decision of rationing is made, but patients' can appeal against availability and affordability of services using newspapers and complaints.

The current setting up initiative is related to health insurance reform: All social insured persons will have straight to basic coverage of all kinds of morbidity, through a unique and obligatory regime which will cover only a part of different components of health care fees: consultations, exploration acts, medicines, hospitalization. The social insured persons can get a complementary insurances scheme to cover fees not include into the obligatory regime.

The quasi totality of population benefits currently from a total coverage, through the social health insurance or through regimes managed by the State. Perspectives of development of this coverage are limited and oriented according to two major issues:

- An improvement of social security coverage extended to the maximum of population,
- A levelling (setting up) of the public sector whose services must be improved to satisfy the needs for the population on the various levels of the pyramid for care.

As, mentioned in the beginning of section 8.1 some measures are in place to regulate and control deployment of new technologies and drugs sale. But, steering the appropriate usage of technologies (heavy equipments) is weak; the MoPH examines with sporadic way the heavy equipment use at public facilities. No particular action is

addressed to the private sector. These measures are ineffective, because not based on opposable and non-systematic technical reference frames.

8.3 Primary Health Care

For the primary health care, patient chooses the physician in the private sector but not in the public sector. Patient go to the nearest primary health centre from where he can be transferred, if needed, to the local hospital located at the same health district.

At these facilities, patients have access to very varied services, covering the totality of primary health needs.

- Curative care of general medicine through external consultation as well as hospitalization at local hospitals;
- Deliverance of medicines for preventive and curative objectives;
- Maternal health care: supervision of pregnancy, simple deliveries, neonatal resuscitation without complications, postnatal consultation, prevention of anaemia, family planning and so on...
- Infants health care: prevention and treatment of diarrhoea and respiratory infections, supervision of growth, vaccination defined on the national extended program of immunization (tuberculosis, diphtheria, tetanus, poliomyelitis, measles, viral hepatitis), prevention of domestic accident;
- Prevention and treatment of chronic diseases: diabetes, arterial hypertension ;
- Mental health;
- Health Education;
- Specific health care to handicapped in specialized units (19 units), grouping physicians, physiotherapy technicians, social workers.

District hospitals are publicly opened 24 Hours; in particular for emergencies, whereas the primary care centers function only during the day. However, it is necessary to specify that the presence of a doctor in the centers is not every day regular in all the centers. To December 31, 2004, on the 2067 primary care centers, only 1995 offer medical consultations (96.51%). Among these centers 45,38% offer a daily consultation, 50,13% offer medical consultations at a rate of at least two days per week and 21 centers of health (< 1%) provide medical consultations for one times per week to one times per month.

Rhythm of medical Consultation in the primary care centers

Rhythm of the medical consultation	Number of primary care centers'	Percentage
6 days/6	412	19,93 %
5 days /6	96	4,65 %
4 days /6	59	2,85 %
3 days /6	128	6,20 %
2 days /6	341	16,50 %
1 day /6	938	45,38 %
1 day /12	19	0,91 %
1 day /24	2	0,10 %
Zero consultation	72	3,49 %
Total	2067	100 %

Source: MoPH- Basic (Primary) Health Care Department

The no daily availability of physician in centers is strongly criticized by population. It contributes to lack of citizen confidence towards these facilities and decreases their credibility. Reproductive health services, like family planning are provided by 1893 centers (91.58%) by well trained midwives. For 174 centers, these services are not provided.

Rhythm of reproductive health services at the primary care centers

Rhythm of consultation	Number of centers	Percentage
6 days/6	301	14,56 %
5 days /6	24	1,16 %
4 days /6	31	1,50 %
3 days /6	39	1,89 %
2 days /6	125	6,05 %
1 day /6	1136	54,96 %
1 day /12	191	9,24 %
1 day /24	46	2,22 %
Zero consultation	174	8,42 %
Total	2067	100 %

Source: MoPH- Basic (Primary) Health Care Department

Infrastructure for Primary Health Care

Primary Health Care is provided:

- In the public sector by directly employed providers, in primary health care centre publicly owned and hospitals.
- In the private sector, by self employed (independent) health professionals.

Health care personnel involved and its roles and missions are shown in the following table below.

Roles and functions of health care professionals by area

Health care personnel involved	URBAN	RURAL	Roles and Functions	
General practitioners	++	++	Curative medical care Preventive care	
Specialists Pediatricians Obstetricians Others		+		
Dentists	+			Dental care
Pharmacists	+			Drug provision and stock management
Midwives	++	++	Reproductive health and family planning Preventive care	
Dietitians	++	+	Nutritional education and counseling	
Nurses	++	++	Preventive care Curative care	
Workers	++	++	driving, cleaning ...	

Source: The authors according to their experience

Public/private, modern/traditional balance of provision

Such as defined in the guide of this health profile [the first point of contact of the health system with the individual consumer and includes general medical care for common conditions and injuries], primary health care centers can public or private, while in

Tunisia the appellation PH Center is devoted to public sector where these facilities are state owned. GP cabinets, personal ownership of physicians, are considered private PH centers in the private sector.

In the public sector all facilities provide primary health care services according to their main activities related to their level:

- Level I- Primary health centers and local hospitals
- Level II- Regional hospital for proximity population and for certain activities, like vaccinations, reproductive health services, tracking acts...
- Level III - Universities hospitals, general or specialized

Primary care delivery settings and principal providers of services; new models of provision over last 10 years

We observed over the last ten years progressive changes of primary health care, related to demographic and epidemiologic changes: from focusing on communicable diseases, we introduced diagnostics and preventive programs for chronic and non communicable diseases, and focusing on family planning, integrated programs of reproductive health were implemented at the majority of health facilities.

Furthermore, the strengthening of medical density has contributed to increase medicalization of primary health care, notably in the public sector. Some PH centers, located at urban areas (agglomerations) have increasingly a technical exploration plants and equipments (X-ray and Lab.) and specialist physicians.

The network system of primary health care is regularly reinforced by implementation of new PH centers (see table above) with a voluntary reducing implementation of local hospital, especially for their hospitalization capacity.

Numbers of PHC Centers (1970-2004)

Year	1970	1980	1996	2000	2004
Number of PHC Centers	435	765	1841	2008	2067

Source: MoPH- Basic (Primary) Health Care Department

Public sector: Package of Services at PHC facilities

All available primary health care is offered at public primary facilities, without restriction. There's no defined package (refer to section 8.2).

Private sector: range of services, trends

All available primary health care is offered at for profit private facilities, without restriction. There's no defined package. There are no incentives for private sector to function in disadvantaged area.

Trends on privates facilities providing primary health care

Private Health Facilities	Number 1990	Number 2004
Medical Cabinets	1717	4641
GP Cabinets	1028	2635
Specialist Cabinets	689	2006
Dentist Cabinets	625	1125
Paramedical Cabinets	334	1006
Pharmacies	1055	1530

Source: MoPH

The private sector contributes certainly to promote the provision of primary health care, but there is no information available to analyze its activities. We argue its contribution by the trends on facilities over the last ten years.

Referral systems and their performance

Basically, health care centers should transfer patient to the local hospital, located at the same district or to the reference local hospital. Several local hospitals of the same governorate refer to the regional hospital of the governorate or to its known reference, if there's more than one regional hospital. Regional hospital refer to university hospitals regarding geographical reference criteria (North: Tunis, Centre: Sousse and Monastir; South: Sfax).

In urban non-university agglomerations, the regional hospital has double functions, as regional and local facility. At the university urban area, the teaching hospital has three functions: in addition to its specific missions, it has also activities of regional and local facilities. The PHC centers can then refer directly to university or regional facilities. Obviously this schema is not respected for emergency needs.

The referral mechanisms described above are shown on regular rules and texts, but aren't formally identified as obligatory reference mechanisms. It's devoted to insure the continuity of care, especially for chronic pathologies and some transmissible diseases, such as tuberculosis, but the feedback information is a major weakness of the referral system, although MoPH often remind the importance of these mechanisms.

Utilization: patterns and trends

Data available for consultation frequency show that utilization of urban primary health centers is higher than rural centers.

For the year 2004, 8 539 090 consultations have been realized at different primary health centers, distributed on 271 304 sessions which gives an average equal to 31 patient per session. This average number hides regional disparities, weekly rhythm of activities and according rural or urban centre. The number of treated patients by only one physician per sessions can reach 100 for some centers. The average number of consultation by citizen is 0.86 (year 2004).

Differences in utilization between public and private, if any, can't be evaluated facing the unavailability of data private sector, notwithstanding differences on activities, availability, practice and geographic location of the PHC facilities.

Current issues/concerns with primary care services

The major issues with personal health care services are summarized in the questions below:

- How better adapt the benefit of services to the evolution of morbidity and to include a provision more adapted to non communicable diseases?
- How to ensure continuous availability of medicines for curative use?
- How to warrant a sufficient and adequate financing for primary health services?
- How to improve the quality of primary health care, on the base of performance indicators regularly followed?
- Given the improved accessibility to private facilities (reform of health insurance), how to insure the durability of public sector provisions and benefits?

Some tracer conditions can inform about technical quality of care at the first level of care:

- Mechanisms of obligatory declaration of communicable diseases are implemented and regularly followed for all levels of public facilities. The adherence of private sector remains and need to be improved.
- Tuberculosis treatment (2005): 97.5% of patients have behaved to term their treatment. Since, the DOTS strategy, the proportion of treatment observance has clearly improved, regarding the decline of the rate of failure, going from 15.2% in 1993, to 5.3% in 1998 and to 2.1% in 2004 (Source : MoPH / Basic health care department)
- Availability of drugs in the PH centers: punctual inquiries and surveys estimated the demand satisfaction rate to 50-60%.

Planned reforms to delivery of primary care services

There's no specific reform for primary health care. Nevertheless, the country is focusing on implementation of health insurance reform which will allow social insured choosing between public and private sector. The impact of this reform will be firstly seen on the first level public facilities and will upset its utilization and performances. The major challenge is how to maintain the strong elements, given competitive context, especially by implying these facilities at various national programs under a coherent and integrated approach. General discussions are elaborated for the public sector, but no approach is currently envisaged.

8.4 Non personal Services: Preventive/Promotive Care

Accessibility of the population to improved water is indicated in table below.

Table 8-7 Households according to the principal drinking water resource

	Percentage (%)	
	1994	2004
Water of tap	69,1	83,4
Private resource	13,0	6,4
public resource	14,2	7,9
Others	3,7	2,3
Total	100,0	100,0

Source: NIS (General Census 2004)

Water of tap is provided by a public society: National Company of Water Exploitation (SONEDE).

Accessibility of the population to improved sanitation is shown in the table below; connection of the residences to the sewerage system is maintained by a public body: National Office of Sanitation (ONAS).

Connection of the residences to the sewerage system

	Percentage (%)	
	1994	2004
Communal	59,8	75,4
Non communal	1,8	4,8
Total	39,5	53,4

Source: NIS (General Census 2004)

According to general census of 2004, updated on September 2005, distribution of the residences according to the mode of drainage worn (sanitation facility) is as following:

Residences according to drainage worn (sanitation facility) -2005

ONAS	52%
Septic tank	30%
Gutter or Nature	16%
Non-declared	3%
Total	100%

Source: NIS (General Census 2004)

Outside geographical barrier, to serve some isolated rural and feebly populated areas, the drinking water is financially accessible to the quasi totality of population.

In the same way, there is not problem of acceptability or expectation regarding in matter of sanitation.

Organization of preventive care services for individuals

Dealing with the transition context, some programs have been developed for the early detection of pathology:

- Diabetes and Arterial Hypertension: covering all the whole country
- Tracking of the cancer of cervix uterus, to reduce the evolutionary forms.
- Breast cancer and introduction of the mammography into some areas, with for objective the reduction of the size of the breast tumors at the diagnosis.
- These activities of early detection of cancer are exposed to difficulties related to shortage of well trained personnel.

Environmental health

Organization bodies having responsibility for environmental health, food safety, and sanitation are:

- Ministry of Environment (ONAS)
- Ministry of Interior and local development
 - Local and public collectivity (municipalities)
 - Municipal Police
- Ministry of Commerce (Quality and consumer protection department)
- Ministry of Industry (Agroalimentary industry department and the Technical Centre of Agroalimentary industry)
- Ministry of Tourism (Offices of Hydrotherapy and Tourism)

To ensure the linkage with the health system, the MoPH has a department of hygiene and environment protection which ensure the necessary interface with all other organisms; having in totality or partly a relationship with environmental health. Otherwise, this collaboration between these departments is strengthened through the national agency for environmental control of the products (MoPH agency) and the National Institute of Standardization or the Technical Centre of Agroalimentary Industry). In this context formal mechanisms are in place and functioning between all these departments²⁴.

Health education/promotion, and key current themes

Occupational health, managed by Ministry of social affairs ensures a risk protection of employees, especially in the industrial activities. This activity, mandatory by law, covers all the employees. Medical services, fully financed by employers, carry out all the preventive and promotive health programs. Nevertheless, difficulties are described to cover the agricultural employees.

MoPH carry out several classic activities of health education, collaborating with the national media (television) about many issues such as immunization, STD_AIDS, reproductive health smoking. Otherwise health education take place in all health care facilities, and extended to specific activities such as anti-tobacco consultations implemented in some hospitals.

Pupils and students in schools and universities are specially targeted by health promotion programs conducted by the MoPH department of scholar and university health. All the schools and universities are covered by this department's programs: medical visit, immunization and health education.

Programs of life-style promotion are developed by municipalities to reach the objective of having one exercise trail at least in each municipality by the year 2009 to offer best conditions for all citizens to practice daily physical activities.

Changes in delivery approaches over last 10 years

Changes in delivery approaches, if any, are related to morbidity changes: larger attention is given to non communicable diseases and life style. Otherwise, non-significant changes can be noted.

Current key issues and concerns

Out of matter of primary health care, the principal current concerns can be summarized as follows:

- Maintain the performances acquired and to reinforce them in the areas which still record reliable coverage rates as regards motherhood and childhood: maternal mortality, antenatal coverage and assisted childbirth.
- Adapt the primary health care programs and intervention modes to the requirements of the health insurance reform, by reinforcing the private sector integration in the health policy and its implementation.
- Develop programs adapted to the morbidity evolution and the increased prevalence of the degenerative diseases which take account of the resources available for the whole health system in its several levels. These programs have to integrate promotion, risk protection, early tracking and affordability of adequate treatment. A particular attention will have to be given to mental health.
- Mobilize adequate financing necessary to the first line operations in order to likely improve its services' quality and to promote its attractivity and its credibility.
- Develop the health system awareness to face the emerging diseases and with the risk of reintroduction of certain eradicated diseases.
- Revise and adapt the missions of the structures and organizations concerned, in particular those of the National Family and Population Office.

Planned changes

For the next five years, no planned change is formally envisaged. However the questions indicated above are in the course of discussion and could lead to changes.

8.5 Secondary/Tertiary Care

Secondary and tertiary care services are organized as mentioned in the earlier sections 4.2 [Organizational structure of public system, Health care provision in the public sector] and 4.3 [Private health care system] and summarized in section 4.4 [Organization of health care structures]

Table 8-2 Inpatient use and performance

	1991	1995	2000	2004
Hospital Beds/1,000				
<i>Teaching Hospitals (III)</i>	0.90	0.87	0.82	0.80
<i>Regional Hospitals (II)</i>	0.63	0.61	0.58	0.57
Admissions/1000				
<i>Teaching Hospitals (III)</i>	2.87	3.13	2.85	3.01
<i>Regional Hospitals (II)</i>	2.42	2.52	2.38	2.31
Average LOS (days)				
<i>Teaching Hospitals (III)</i>	8.3	7.6	8.0	7.0
<i>Regional Hospitals (II)</i>	5.5	5.2	4.6	5.3
Occupancy Rate (%)				
<i>Teaching Hospitals (III)</i>	75.0 (1992)	75.0	75.5	77.0
<i>Regional Hospitals (II)</i>	57.2	58.8	51.7	53.6

Source: MoPH- Planning & Hospitals' Departments

All the public hospital beds indicated in the table 8-2 above are beds in acute hospitals and there of the sole psychiatric hospital in Tunisia (Razi hospital -640 beds). The hospital sector doesn't include long term care institutions yet.

Specialized ambulatory medical services are provided by:

- outpatient departments of public hospitals, provided according to the integrated referral system, by directly employed physicians.
- specialists working in their own practices (the main form) and polyclinics of specialties in the private sector

Inpatient operating indicators, shown in table 8-2, indicate the following trends:

- Decrease of average length of stay in the teaching hospitals where a high occupancy rate is registered. These indicators presume a better efficiency in this level explained by human resources availability and the development of medical equipments and financial resources. In addition this level of hospital care benefited of a special World Bank project to develop management abilities and staffing.
- Low average length of stay and occupancy rate in the regional hospitals. These trends can be explained by the insufficient number of medical staffing, unable to assure all kinds of care needed and preferring refer difficult cases to teaching hospitals. Otherwise, in some regions an over supply is registered in governorate of Medenine: four regional hospitals -712 beds- for 433 000 inhabitants, compared to Governorates of:
 - Kairouan: One regional hospital – 331 beds- for 546 000 inhabitants
 - Kasserine: One regional hospital – 283 beds- for 412 000 inhabitants).

Hospitals: Main categories, Functions and Distribution

Public hospitals categories		Functions	Distribution
District Hospitals (circumscription)		Normal Delivery General medical care Emergencies	Cover one or more administrative delegations
Regional Hospitals		Specialized medical care (basic specialties) Act as district hospital with the proximity (closeness) population	At least one by governorate, except in the academic regions
Teaching Hospitals (bound to the existence of medical school)	General	Act as district and regional hospital with the proximity (closeness) population High specialties delivery	North : Tunis Center: Sousse + Monastir South : Sfax
	Single specialized	Maternity, Cancer, Pediatrics, Neurology, Orthopedics, Ophthalmology, Nutrition, Psychiatry, Lung diseases.	Only in Tunis District

Public/private distribution of hospital beds

The hospital sector is essentially public, being a matter for the Ministry of the public health (85% of the hospital beds). The non-profit private sector doesn't exist.

The geographical distribution of secondary and tertiary hospital beds is indicated in the following table, related to the population of the six economic regions of the country.

Population and Hospital Beds according to the socioeconomic regions

	2005 Population (%)	2005 Regional Hospital Beds	2005 Teaching Hospital Beds	Total II & III Hospital Beds
Tunis District	23%	2%	60%	34%
North East	14%	20%		9%
North West	12%	19%		8%
Center East	23%	13%	40%	28%
Center West	14%	12%		5%
South East	9%	20%		9%
South West	6%	14%		6%
Total	100%	100%	100%	100%

Source: MoPH- Planning & Hospitals' Departments

Governorates of Sousse, Monastir and Sfax are in the same center east economic region while Sfax is considered, for the health system as southern region. So teaching hospital beds in this region can be learned, in the table below as follows:

- North : Tunis 60%
- Center: Sousse + Monastir 24%
- South: Sfax 16%

A recent survey (2002) has been driven by the ministry of the public health and the national institute of public health to measure the perception of the technical and clinic quality in the regional hospitals by users themselves. This survey valued the satisfaction discerned by 4130 patient according to the following aspects: reception, the comfort of

the hospital room, expertise of the staff, care received, patient-nursing relation and ambulatory care.

Results of the quality health care survey (2002)

Satisfaction with emergency care	Rather satisfied	Very satisfied
Reception	51,5 %	4,4 %
Completion of administrative formalities	47,7 %	4,0 %
Relation with care providers	53,3 %	4,0 %
Waiting period for doctor	35,0 %	2,6 %
Length of medical consultation	41,7 %	1,8 %
Competence of Doctors	58,4 %	4,9 %
Doctors' explanation	39,6 %	2,3 %
Laboratory procedures	56,8 %	2,4 %
X-Ray procedures	57,6 %	2,4 %
Satisfaction with outpatient care	Rather satisfied	Very satisfied
Completion of administrative formalities	37,1 %	3,1 %
Waiting time	22,9 %	1,4 %
Politeness of agents	55,0 %	2,9 %
Length of medical consultation	41,3 %	1,8 %
Competence of doctors	65,1 %	4,4 %
Doctors' explanation	43,4 %	2,7 %
Laboratory procedures	54,8 %	2,9 %
X-Ray procedures	54,8 %	3,0 %
Satisfaction with inpatient care	Rather satisfied	Very satisfied
Information before the hospitalization	33,8%	-
Reception	56,0%	8,6%
Completion of administrative formalities	50,0%	7,5%
Waiting time	42,8%	5,2%
Rooms comfort	51,0%	-
Nurses attitude	17,6%	2,3%
Competence of doctors	69,9%	10,7%
Doctors' explanation	48,6%	6,5%
Patients' support (aid)	70,0%	-

Source: National Institute of Public Health

Regional hospitals do not offer many of the basic medical specialties. Even when some services are offered, they are perceived to be of low quality by the population who skips that level of care to seek treatment in the more costly teaching hospitals.

Key issues and concerns in Secondary/Tertiary care

- Primary health care constitute the main point of all the care system, notably in its public component. Thus, relationship between the hospital sector and primary health care structures are very strong. In the setting of primary health programs of action are conceived with the hospital physicians, also implied in their assessment.
- Patient's complaints are gathered in dedicated boxes in the hospitals and in citizen relation office in MoPH. They are used to solve some acute problems.

- In absence of patient safety agency, medical errors are not recorded, except in managing cases of patient complaints. To improve patient safety, MoPH is reviewing its strategy to prevent cross infection in hospitals.
- With regard to adverse drug reactions, drug vigilance centers (national and regional pharmaco-vigilance centers) manage adverse drug reactions reported by patients, doctors or pharmacists.
- In terms of user advocacy, some hospitals employ "social workers" to support (help) some users with external bodies (social affairs, justice, social security ...). One NGO (consumer defense) operate as member of board of teaching hospital.
- Direct-to-consumer advertising of drugs, medical devices or doctors' services permitted is not allowed.

Reforms introduced over last 10 years, and effects

The major changes that occurred in recent years are related to provision of health services and in to financing mechanisms.

Provision of health services: There were efforts to improve provision of care at the primary and tertiary health care levels. At the tertiary care level, major organizational and management reforms were introduced in teaching hospitals. The July 1991 law has changed the legal status of teaching hospitals into autonomous entities both administratively and financially - "établissements publics de santé" (EPS). Although autonomy is not total for some aspects such as human resources, experience to date demonstrates a marked improvement in the EPSs' performance: activities have increased by 15-20%, particularly in the outpatient department with no significant increase in personnel, and the average length of stay has dropped from 8.5 to 7.5 days. A number of management tools were introduced such as management procedures manual, accounting and financial management system, and a computerized management information system. A new billing system for inpatient and outpatient services has been introduced using a simplified version of a Diagnostic Related Grouping system. This newly piloted payment mechanism and billing system have enabled the hospitals to increase their revenues.

Financing mechanisms: A reform of the health insurance funds under the Social Security System was decided by the Government, based on the following principles: basic coverage combined with optional supplementary coverage; and equal access to all providers. The tariffs applied in public hospitals were revised to bring them more in line with the real costs of services. The social security funds have entered into agreements with public hospitals which allow for lump-sum payments for the services provided to both outpatients and inpatients with social insurance coverage, established on the basis of cost studies. This has also made it possible to increase the contributions of the social security funds to the hospitals' budgets.

Planned reforms

The health insurance reform and all its implications on the public hospitals and the private sector are currently implemented.

8.6 Long-Term Care

This provision mode is not still identified like a component of the care system. Some social services offer services to the aged people and the disabled of all nature. They are weakly integrated to health services.

8.7 Pharmaceuticals

Public reimbursement of pharmaceuticals can be summarized in the following key points:

- In the public sector facilities, drugs are furnished by the primary health care centers and the hospitals;
- In the private sector, drugs are sold only in retail pharmacies.
- The price, unique every where over the country, is fixed for all the drugs between MoPH and Ministry of Commerce.
- All the drugs can be reimbursed by insurance bodies at their selling price.
- The health insurance reform will introduce new mechanisms and rates of reimbursement.

The maximum rate of the gross margin applicable to pharmaceutical products is fixed for wholesalers, all taxes included, to 8.7% of the purchase price.

For the pharmacists (retail selling), rates of the raw margin applicable pharmaceutical products are fixed, all taxes included, as follows:

- 42.9% of the purchase price for products of which the price of purchase is equal or lower than 1,022 TND.
- 38.9% of the purchase price for products of which the price of purchase is between 1,023 TND and 1,596 TND.
- 35.1% of the purchase price for products of which the price of purchase is between 1,597 TND and 9 TND.
- 31.6% of the purchase price for products of which the price of purchase is superior to 9 TND.

Essential drugs list: by level of care

There's no official list of essential drugs.

Manufacture of Medicines and Vaccines

Local industry of medicines, with 28 units (2005), covers 45% of the local consumption and export for several countries.

Vaccines are currently imported, waiting the development of Pasteur Institute Capacities to introduce vaccine production.

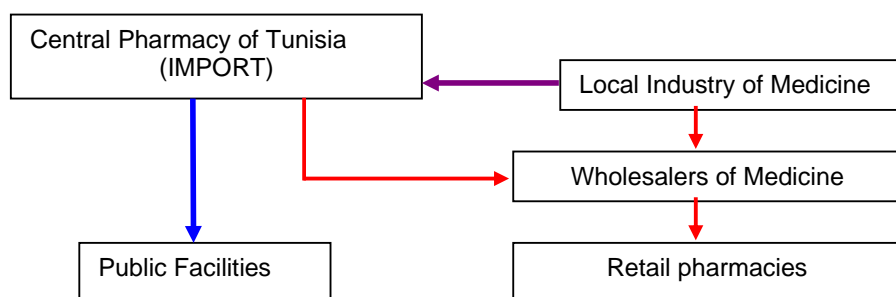
Regulatory Authority: Systems for Registration, Licensing, Surveillance, quality control, pricing

- A national regulatory authority is managed by the MoPH, through its drug and pharmacy unit coordinating its activities with the national lab of drug control, the pharmacy inspection unit and the vigilance drug centers. This unit manages also many technical commissions with various medical and administrative expertises.
- This unit is the only authority habilitated on the authorization or the withdrawal of the merchandising of drugs and pharmaceutical products.
- It is also a WHO collaborative center.
- Price is fixed by government, controlled through a complex system, since the local production or the import. This scheme is the same for "princeps" or generic drugs.

- Only some products (fixed as counsel products) can be sold over-the-counter by the pharmacists. The majority of medicines are submitted to medical prescription.
- The pharmaceutical sector is regulated through several mechanisms:
 - National nomenclature of drugs, in which a specific nomenclature of public hospitals is identified;
 - No product can be commercialized if it not has previous authorization of market placement;
 - Prices are unique and fixed by government;
 - Installation of private pharmacies is restricted to the MoPH authorization and numerus clausus criteria. Mail-order and internet pharmacies aren't permitted;
 - Regulation of advertising of prescription drugs, not permitted for direct-to-consumer;

Systems for procurement, supply, distribution

The process of purchasing/ procuring pharmaceuticals is summarized in the figure below.



- Central Pharmacy of Tunisia, public body related to MoPH, is the sole entity allowed to import drugs for the country, dealing with international tenders. It sells local and imported products to private wholesalers and public facilities.
- Private wholesalers can buy drugs from the central pharmacy or directly from local manufactures, and sell them to private retail pharmacies.

Reforms over the last 10 years

No major reforms have taken place over the last ten years. However, two actions were implemented:

- Revision of numerus clausus rules to downsize population required to permit installation of private retail pharmacy.
- Reduction of wholesalers' and retail pharmacists' margins.

Current issues and concerns

- Drugs are approved for use and controlled as previously indicated in section 8.7.3
- Given the system of procurement, supply and distribution (section 8.7.4), availability of drugs is not a major concern for the country.
- No drugs are officially banned, but we refuse until now to introduce Viagra and similar.

- There is any evidence of availability of counterfeit drugs in accordance of the traditional surveillance mechanisms in place of the medicines' market.
- The most important current concern in the country is to maintain the mission, roles and activities of the Central Pharmacy of Tunisia, as unique importer of drugs. Other countries' experience with full liberalization of drug import enhance the wisdom that in similar countries, drug policy and procurement must be considered as strategic and governed by public and governmental bodies.

Planned reforms

The health insurance reform will introduce new mechanisms and rates of reimbursement of drugs (in accordance to a reference price fixed by CNAM). This will have a major influence on the activities of private pharmacists, on drug prices and prescription.

8.8 Technology

- Information Technology use decrease from the tertiary level to the secondary level to primary care where it is very weak. A national strategy is developed for the public sector and began in the teaching hospitals and extended to regional hospitals. During the next years, it will be extended to district hospitals and primary care facilities.
- Coordination in purchasing/ procuring IT systems is guaranteed for the public sector by a national body: Informatics Center of the Ministry of Public Health, mandatory technical reference for all public facilities for software as well as hardware. There is no regulation of IT in the private sector.
- Introduction of electronic medical records is experimented in some facilities and for some medical specialties. MoPH has under study to develop a standardized unique electronic medical record, in relationship with the health insurance reform.

Trends in supply, and distribution of essential equipment

Supply and distribution of essential equipment is driven by MoPH headquarters within its annual budget according to three approaches: replace the redeemed and depreciated equipment, purchasing for new health facilities and acquire new technologies.

- All equipment and medical accessories are sold by private agencies (stores) or/and represented in the country.
- All equipment of public facilities is financed by State budget and acquired according to defined regular procedures, without any difference according to the categories of health care facilities.
- The maintenance is insured by MoPH and hospitals employees (technicians) or by private technicians or equipments suppliers. There's also a national center of technical studies and bio-medical and hospital maintenance with three regional centers providing a consistent training, good conception and implementation of the national maintenance policy.

Effectiveness of controls on new technology

The law of sanitary organization provides a definition of heavy equipments submitted to preliminary authorizations. The list of these equipments is defined by decree of jointly Ministers of Finances, of Trade and of Public Health. The MoPH defines index of needs of the population for each type of equipment.

The following table indicates what heavy equipments are concerned and their public-private distribution (1995 – 2004). This list is essentially applicable for the private sector. For the public sector, the main regulation way remains the annual investment budget, all the more regional and teaching hospitals were excluded from the regulation through certification of needs.

Public/Private distribution of heavy equipments (1995-2004)

Equipments	1995		1997		2003		2004	
	Public	Private	Public	Private	Public	Private	Public	Private
MRI	1	0	2	0	3	5	4	6
CT-Scanner	7	20	8	29	15	54	20	54
Lithotripsy	3	3	3	5	3	12	3	13
Tele-Cobalt	1	4	2	6	4	5	4	5
Digital Angiography	nd	nd	2	9	6	10	6	10
Cardio-vascular Catheterism	4	1	7	4	9	10	10	10
Extra-Corporeal Circulation	4	nd	4	6	6	12	6	12

Source: MoPH- Planning Department (carte sanitaire)

Reforms in the last 10 years, and results

No major reforms have taken place over the last ten years, except some revisions of index of needs of the population for each type of equipment.

Current issues and concerns

- Numerous heavy equipments were installed, especially in the private sector without any regulation neither of their use nor their prescription. As result, misuse is likely expected. An evaluation system implying public and private facility is needed to help decision makers in introducing new technologies and equipments.
- How can the country follow (or resist to) the development rhythm of technologies in high income countries?

Planned reforms

An overhaul of the health and hospital information system is projected and currently under study. Its main objectives are:

- Update, modernize and integrate the full administrative and financial management system,
- Medicalize the management information in order to setting up unique medical records, shared by all health professionals.
- Use of demographic data that allows steady regular of health population needs.

Feasibility Studies have been achieved and a progressive setting up is anticipated, and waiting now for necessary financings.