

INFORMATION PAPER
on
Main eHealth activities outside of the EU

Annex 10
Main Tunisia eHealth policies and activities

LIST OF ABBREVIATIONS

ACRONYM	DEFINITION
CIMS	Centre Informatique du Ministère de la Santé IT Centre of the Health Ministry
CNAM	Caisse Nationale d'Assurance-maladie, National health insurance fund
ENP	European Neighborhood Policy
HIS	Hospital Information Systems
HP	Health Professional
INPDP	Instance Nationale de Protection des Données Personnelles National Authority for Protection of Personal Data
MSP	Ministère de la Santé Publique, Public Health Ministry (2017 Ministère de la Santé – Ministry of Health)
PACS	Picture Archiving and Communication System
RAFT	Réseau en Afrique Francophone pour la Télémédecine, Telemedicine Network in Francophone Africa
STTeS	Société Tunisienne de Télémédecine & e-Santé Tunisian Society of Telemedicine and eHealth

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Preamble

Object

The present document is an Annex to Joint Action to support of the eHealth Network (JAsEHN) Deliverable 8.1.4 in WP8 "Report on main eHealth activities outside of the EU". It has been prepared by Norbert Paquel (external, director of Canope cabinet – France) under the control of Michèle Thonnet (Work Package leader-FRNA), then corrected and approved by the sPSC.

The objective of D8.1.4 is to observe the situation in various countries in order to better understand the development factors and main trends in the worldwide movement towards a tighter integration of ICT tools in healthcare but also to be able to initiate cooperation when advisable and possible. To that end, concrete projects have been identified as potentially interesting for eHN Member States (MS) exchanges or cooperation. These opportunities would need deeper analysis, through direct contact with experts, notably local representatives of the concerned MS or participants in EU projects.

Methodology

As explained in the main D8.1.4 document, the research was based on a desk study carried out between 2017/02 and 2017/08. It is important to note that time runs often very fast in the eHealth and mHealth domains. Accordingly, contrary to healthcare organizations and fundamental policies trends, concrete programmes and projects can change rapidly. However, if they correspond to clear needs and sustainable methods, they should not disappear. Moreover, when possible, some of the main important developments that have occurred since August 2018 have been taken into account.

Tunisia, a small country and a crossroad: basic information on the country

Tunisia is a small country, with a population of 11 254 000 (2015). For a long time, Tunisia has been a place where multiple traditions and cultures meet. Recent history has confirmed the country as a crossroad of Middle-Eastern, African, Mediterranean and French influences. The healthcare system as well as eHealth approach are strongly influenced by this situation and by the French system, the most recent organizational imprint. Most important: despite contemporary difficulties, Tunisia has been able to maintain a natural openness to the world and a real proximity with Europe.

- I -

Health and Healthcare background

1. Elements on health situation

According to WHO Health indicators, Tunisia was in 2012 in the upper range (as for example in life expectancy data) – compared to global mean and median. There are still progresses to make compared to more developed countries, especially for child mortality, but the situation is improving rapidly. In the present health and demographic situation, Tunisia is starting to be confronted to a growing elderly population and to the progression of non-communicable and chronic diseases.

2. Healthcare system

By and large, Tunisia comes from a centralized national health system and aims, despite political and social difficulties, at defining a national governance whilst actors, public or private, operate the system and innovate, with support from the State.

The Public Health Ministry (MSP) gives figures in 2016. There are three levels of care: primary - 81 clinics and 2091 basic health centres; secondary - 109 district hospitals; tertiary - 33 regional hospitals and 24 modern University Hospitals. The public sector remains by far the primary healthcare provider, with 31 936 beds (87% of total). Public system continues to expand, but the development of the private sector is faster.

Tunisians working in public services and private sector are affiliated to the National Health Insurance Fund (CNAM). For expenses in the public health sector they have to pay a remaining fee. For private doctors and hospitals, they can follow a regulated pathway and pay a remaining fee or make use of any service under contract and be reimbursed according to conventional rate. Complementary and private health insurance covers a growing number of citizens. For poorer populations, as identified by social affairs departments, care in public sector facilities is free of charge; the government provides special assistance to some vulnerable populations. CNAM covers 65%-70% of global expense.

3. Motivations for selecting Tunisia for eHealth study

3.1 Tunisia characteristics

- Crossroad of Middle-Eastern, African, Mediterranean, French influences.
- Despite recent revolution and political conflicts, Tunisia maintains natural openness and proximity with Europe
- A healthcare system with better results than similar level of development countries
- Tight cultural links with EU countries
- Very active in telemedicine since 1996

3.2 Development of rich international relations

[7] [8] [9] EU-Tunisia relations date back to 1976, were reinforced with the Association Agreement in 1995, then strengthened in 2012 through a 'Privileged Partnership' and an ambitious European Neighborhood Policy Action Plan. The Annual Action Programme 2016 (€213.5M) includes "Improved access and quality of healthcare services in the most impoverished region". Tunisia maintains close relations with France and has entered in joint action with the

Netherlands to promote women's rights and sexual and reproductive health and rights in Niger and Mauritania in an exceptional trilateral partnership. More generally, Tunisia starts to try and regain a position of intermediary platform between the industrial world and Sub-Saharan Africa. [6]

Telemedicine platforms are connected to international networks:

- Euro-Mediterranean networks through EU Eumedis (development of information society in the Mediterranean Partner Countries through ICT). Tunisia has connections with Emispher, Emphis...;
- Afro-Arab Telemedicine Network organized by the ITU;
- Distance learning and Telemedicine Network in Francophone Africa (RAFT);
- Other various projects (Spain, Italy, India... Arab countries...).

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Telemedicine and eHealth development

4. Structural difficulties, stable principles and pillars

The main perennial difficulty is access of rural and small towns areas to the healthcare system and to specialized medicine. In particular, the difference with the Tunis capital region is great. A constant objective is to try and organize universal access for the population and to foster communication between Health Professionals (HPs), notably through visio-conference and scientific and training distant learning.

Tunisia has to develop communication between hospitals at Regional and District levels, which is traditionally feeble. Moreover, organization of regional councils is not in line with the wide autonomy of these hospitals.

Tunisia has also to build or develop the technical background and networks infrastructure. Despite support by the World Bank, Hospital Information Systems have slowly progressed.

A very useful tradition: Tunisian behavior to group different businesses and professions in common reflections is very profitable for introduction of all new tools.

Another important principle: maintain international relations, notably between reference hospitals and the international medical and scientific community.

5. Development and organization

Telemedicine experiments started in 1996, when telemedicine was included in the MSP digital strategic plan – to be introduced in public structures. First visio-conference, tele-radiology, telepathology were launched. Joint projects with foreign hospitals were experimented – Marseille, Toulouse, Nice, Rome.

Telemedicine and eHealth were considered an important tool for healthcare main objectives: social protection and health of poor people, health of the elderly, public-private complementarity, emergency services, prevention and reduction of regional disequilibrium.

The 2016 Strategic Plan "Digital Tunisia" included an eHealth Strategy Plan. A human and financial support was established with France. The plan was mainly centred on hospital applications, which are a necessary basis, especially health records. Objectives are "quick wins" and simultaneously setting the foundations for eHealth long term strategy [5].

5.1 Key actors

- **The Ministry of Health (MSP in this document) and other public actors**

(Names and attributions have changed – the names here under are 2017 ones)

The IT Centre of the MSP (Centre Informatique du Ministère de la Santé – CIMS) is often Project owner or Delegate Project owner and often developer. Other main public authorities are Ministry of Higher Education and Scientific Research, Ministry of Communication and Digital Economy, Ministry of Social Affairs. There are also important Agencies (*see under*) and public companies, as Tunisie-Telecom, the main telecom operator (public administration until opening of the market in 2002).

- **The Tunisian Society of Telemedicine and eHealth (STTeS)**

Created in 1999, this scientific society regroups medical doctors and professors with IT specialists. Professor Haziz el Matri, its founder, has remained the chair since. Partnering with the Ministry and private actors, the Society organizes with the press national and international seminars and participates in international associations.

The STTeS has played a key role in development of eHealth with theMSP, ensuring continuity albeit political evolutions and revolutions. The Society is also a strong advocate for positioning Tunisia as a platform for Teleradiology and eHealth services towards Sub-Saharan Africa, if possible in partnership with Europe.

- **Public health insurance**

The CNAM is also an important actor. The Ministry and CNAM announced in 2016 the launch of a smart health card. CNAM Information system development will start with electronic treatment form, definition of national protocols for fully reimbursed disease (linking reimbursement to therapeutic protocol), electronic hospital discharge summary. The objective is also to facilitate care coordination between HPs, traceability of patient care pathway, provide classification tools, contribute to evaluation and studies.

- **National Authority for Protection of Personal Data**

Tunisia was a precursor in the domain of privacy, creating the "Instance nationale de protection des données personnelles" (INPDP) in 2002. This was confirmed by the 2014 Constitution which inscribed private personal data among fundamental rights of the citizen of the new Republic.

- **Private sector**

The private sector has already built data exchanges between physician's offices, radiology centres, and clinics. Doctors can follow their patients and keep track of various personal data.

5.2 A situation still to be improved

- **Infrastructure**

The National Health Network connects 280 public structures. Its deployment and capacity are insufficient. A new high-speed network should be deployed shortly. The Ministry has announced that time has come to extend the network to the first line of the system (district hospitals) in order to allow connection to second and third lines and extend the network rate to allow for inter-establishments services.

- **Information Systems**

Hospital Information Systems (HIS) deployment remains low, especially in District and Regional Hospitals, due to lack of human resources, not enough IT practice of users and resistance to change but also not enough adaptation to local conditions. Training courses are developed.

Absence of standardized medical procedures is an impediment to HIS development and interoperability.

- **Pharmacy**

Traceability of medication circuit needs to be improved at all levels (from the National Central Pharmacy to the circuit inside hospitals).

- **Security, privacy**

The INPDP (*see above*) considers that the personal data protection culture does not exist. Indeed, no one has requested authorizations that are mandatory to develop data exchanges.

5.3 The eHealth Strategy Plan at Horizon 2020: main orientations

EHealth has been proclaimed an important component and tool for the modernization of the Tunisian Health System and its proposed reform. [5] Some key points:

- **Priority projects**

- EHR in all hospitals - present records created in different units, with not integrated HIS and no unique identifier do not allow to know the patient pathway.
- Secure and controlled medication circuit - Daily drug digital distribution in all levels of health system (National hospitals, regional hospitals, primary care centres)
- Picture Archiving and Communication System (PACS) deployment
- Digital medical archives in hospitals

- **Priority legal and institutional tasks**

As expressed by the Ministry, it is critical to establish legal rules for medical records

- **Territorial approach**

In relation with the creation of digital health clusters.

- **Actors reinforcement and support**

- Support CNAM services digitalization (Joint Committee Ministry of Health and Ministry of Social Affairs) - Personal Insurance Card, Electronic Data Interchange between CNAM and Healthcare Providers.
- Cooperation and coordination with the private sector. The risk here is that there is no legal basis for these developments, especially for data protection. A consultation is organized.
- Stimulate eHealth dynamic, supporting initiatives and innovation – already many pilot projects exist, such as automatization of drugs and medicines distribution.

- **Define a national deployment policy in all care structures**

This needs procedures, training, communication, user groups, diffusion of project management techniques.

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Main conclusions

6. The possible advance of those who seemed late

Tunisia had many assets allowing for fast enter in a connected health world. In the beginning, resistance and especially ignorance of HPs, Institutions managers and the public nearly blocked deployment. National policy was too much centralized and favored a top-down approach. After this first phase, there are still huge challenges and eHealth is not yet well developed in remote, rural and poor areas. However, capacity of cooperation between different stakeholders and specialists allows for a renewed dynamism. There can now be more innovation than in countries where traditional Information systems are entrenched in hospitals and where exchanges are conceived as a complement. In particular, Tunisia can fully exploit mHealth.

7. Good practices

7.1 Openness and discussion

Observation confirms that traditional capacity of discussion and cooperation between different stakeholders as well as between HPs and ICT specialists is a systematic good practice in Tunisia. It is an antidote to the top-down approach mostly favored by ancient administration.

Openness is also confirmed with participation to numerous international programmes and projects of development, notably towards sub Saharan Africa.

7.2 A devoted group, an important factor for long range eHealth development

Telemedicine and eHealth have encountered specific diffusion obstacles but their development, as it is elsewhere, was also impacted by economic difficulties and political changes. Through time, the Tunisian Society of Telemedicine and eHealth (STTeS) maintained a clear autonomy and constant orientation, as a partner for government and for international scientific and medical communities. Backed by universities, industry and the Government, the STTeS was able to stimulate eHealth development and act to reactivate programmes which had been endangered or suspended. An important characteristic is the association in a scientific Society of healthcare stakeholders and IT specialists.

- IV -

Potential for cooperation

8. Strategic opportunities

Tunisia is still, in the XXIth century, a crossroad of cultures. Despite the present political turmoil in Arabo-islamic world, this characteristic must not be underestimated. Tunisia has an ancient and high level scientific University and Research laboratories as well as innovative and efficient IT companies. As it has been already the case, cooperation should be mutually useful.

8.1 A strategic link

As envisioned notably by the Tunisia Society for Telemedicine and eHealth, Tunisia hospitals and professionals can be a link with Middle-east and North Africa as well as Sub-Saharan Africa for scientific projects and for telemedicine services. This is reinforced with the Tunisian Government present general action in this direction.

8.2 Fully exploit participation in EU programmes

As noted in the reasons to choose Tunisia as a country studied for D8.1.4, Tunisia was included in Europa Aid programme and is now a partner in European Neighborhood Action Plan 2014 – 2020 [9].

The action plan establishes open market and partenariat (and also technical and financial support) in all domains. Apart from Health itself, most important domains for contributing to eHealth development are ICT, education, training, research, employment. Common projects should be developed in research networks as the Mediterranean EUROMEDCONNECT.

HEALTH is a Pillar in the Plan, with objectives as Health monitoring, better efficiency, reduction of regional disparities, support of HIS development, prevention and control of contagious diseases and NCDs.

9. Programmes and projects

The following paragraphs use basic elements of the provisional grid described in the D8.1.4 main document (II – 12.3). There are four categories:

- Learn: the project is a rich source of information for a country confronted to similar problems or working in a similar international action
- Mutual enrichment: development of exchanges between project actors and concerned parties among eHN MS, active in similar projects in their country or abroad.
- Help and support: which can be technical, promotion, financing.
- Participation: co-construction of the project and similar ones.

Programmes concern main policies while projects are sets of actions that are conjointly managed. It can be a component of a wider policy or programme, or it can be an independent development. (D8.1.4 II-12.2).

Due to accessible information, it is only possible (in this "detection" phase) to give orientations that an exchange with STTeS would allow to precise.

CNAM projects

Smart Health Card – announcement 2016 – *see 5.1*

Objective for following
Help and Support – A difficult challenge that implies many
organization and technical difficulties

Other key projects to be studied in an hospital – announcement 2016 – *5.1*

Electronic treatment form, national protocols for fully reimbursed disease (linking reimbursement to therapeutic protocol), electronic hospital discharge summary). An hospital should be chosen (perhaps Jendouba Regional Hospital, cited by the Ministry [5])

Objective for following
Probably Mutual Enrichment or Participation, because, due
to low HIS development, projects should be followed in a
chosen hospital and allow for innovative solutions

Products

Traceability and distribution for Pharmacy – announced 2016 – *5.2*

Traceability of circuit from the National Central Pharmacy to the circuit inside hospitals - Daily drug digital distribution in all levels of health system - Many pilot projects, such as automation of medicine distribution.

Objective for following
Mutual Enrichment or even Participation, once the detailed
projects are announced.

International

Link with Middle East, North Africa, Sub-Saharan Africa (*see above*)

Objective for following
Mutual Enrichment or even Participation, once the detailed
projects are announced. To be selected by eHN MS
according to their relations with countries of these zones

- V -

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