

### Rolling out Digital Services in Europe : eHealth and Telemedicine in Routine Daily Care

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#### THE NEED OF TELEMEDICINE SERVICES



#### **Objectives and Goals of the National Telemedicine Network**

Objective : The provision of specialized diagnostic and medical information to health care units which are members of the Network, as also the support of Programs of Preventive Medicine, Health Promotion, Education and Training of health professionals and population.

#### • <u>Goals</u>:

- > The ensuring of equality in delivering of health care services countrywide
- The provision of valid and timely health care information and services (specialized medical assistance in diagnosis and treatment) in remote areas in order to avoid unnecessary movements to central hospitals
- to reduce the feeling of isolation and enhance the community' confidence in local health care services
- to improve the quality of life of chronic patients
- to train the population through Health Education and Training Programs for the prevention of diseases, protection and health promotion
- to increase the knowledge and capacity of health care professionals and support them in daily routine
- to provide health care services in acute mass disasters



### **Brief Greek Telemedicine History**

- I987 : Hellenic Red Cross : Call centre provision first aid services and medical guidelines
- 1989 : Pilot Telemedicine Program (Medical School, University of Athens - Sismanoglio Hospital - 4 Primary HC Units)
- 1990 : Establishment of Greek Telemedicine Network Define Telemedicine Centre at Sismanoglio GH (Ministry of Health ACT)
- 1993-1998 : 14 telemedicine HC nodes all over the country (A' phase)
- 1998-2012: 40 Primary HC Units (B' phase)



### **Components of NTN**

- Telemedicine Centre (Sismanoglio GH, Athens) (all the medical specialties)
- Telemedicine Nodes( 40 Health Care Units countrywide : Primary HC Units, Small Hospitals)





# Main e-Health and Telemedicine Services in daily routine

- Teleconsultation
- Telediagnosis
- Regular Teleclinics
- Teleducation
- National platforms –National Registries
- (unique number of Social Insurance, unique number of health professional, ICD10 Classification System)
- e-diagnosis (e-ordering of medical tests)
- e-prescription







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# E-Health and Telemedicine services in routine care

- Acute /Emergency TELEMEDICINE
- Regular Teleclinics (Chronic Diseases and Prevention)
- Dietetics Counselling
- Traveling Medicine
- Education Programmes in Preventive Medicine and Health Promotion to population (diabetes mellitus, COPD, e.t.c)
- Education Programmes to health professionals
- Chronic Disease Patients Training
- Education Programs to Schools of Primary and Secondary level and communities



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# The acute /EMERGENCY Telemedicine service in routine care

- The emergency telemedicine service is addressed to acute cases in isolated areas and provided via Primary Health Care Units personnel (Telemedicine Network nodes guided by Centre)
- All health units countrywide are connected, upon request, with Telemedicine system.
- Before the start of this telemedicine service, the acute cases from isolated areas should move to central hospitals (Emergency Management System – by helicopters)





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### **Regular Teleclinics**

- Regular Teleclinics are scheduled via Telemedicine Network for chronic ill patients, follow ups and prevention
- Operate Regular Teleclinics of all medical specialties.
- The Telemedicine Centre coordinates the schedule and the total management of Regular Teleclinics which is based on HC units demands.
- The expert clinician of Telemedicine Centre communicates simultaneously to the remote site (doctor, patient)
- Time slot : 15min / 45 min.
- Connection to Network
- Authentication of users
- Patient Content
- Use of HER
- Each Health Unit is served by the same medical team
- Storage of all data
- Discussion-Conclusions.





### **Dietetics Councelling**

- Diabetes mellitus
- Hyperlipidemics
- Hypertension
- Heart diseases
- Obesity
- Sleep Apnoia
- C.O.P.D
- Liver diseases
- Kidney diseases
- Psychiatry





# Teleducation of health professionals Continuing Medical Education

These programmes are carried out through an initial introduction followed by discussion. Doctors from many Health Centres countrywide participate remotely in the conference and they all watch appropriately designed teaching materials forwarded before the scheduled session. Initial proposals are usually followed by practical exercises for the better comprehension and application of the knowledge transferred. The duration of programmes is eight months and fifty five sessions (1hour) are held in whole.

#### Continuing Nursing Education

Emergency Nursing Care and Community Nursing. Seventy one - hour sessions are held every year.

#### • Continuing Education of Multidisciplinary Teams

A programme on "Treatment of Emergency Cases" yearly for the entire health staff of Health Centres, duration 10 teaching hours.



# Preventive medicine in Health Centres through Telemedicine Network

# Many Prevention programmes (rural population and communities)

- Heart
- Cancer
- Breast Cancer
- Cancer and prostate
- Nephrolithiasis
- Cervical cancer
- Hepatitis B prevention and vaccination



### **Teleducation of population and other activities**



- Teleducation and training of chronic conditions patients (diabetes mellitus, hypelipidaemia, hypertension, COPD, etc.
- First-AID
- Creation of audio-visual material for supporting preventive medicine and health education programmes.
- Creation of audio-visual material for the training of patients with diabetes mellitus, hypelipidemia, hypertension, COP etc.
- Organisation of virtual seminars, workshops etc. with ministries, agencies, organisations, communities.
- Guidelines about holding of videoconferences and videocongresses.



# Education - Programs of Prevention for schools and communities

- Learn about drinks and alcohol (for children of primary school age 6-12 years old)
- Maternal breast-feeding (young women in remote areas)
- Eating properly (for children of primary school age 6-12 years old)
- Nutritional Games (for pre-school children 5-6 years old)
- Nutrition and dental health (for primary school children 6-12 years old)
- Nutrition in one-day schools
- Nutrition against cancer
- Nutrition and School canteens
- Nutrition in adolescence
- Third Age and Nutrition
- Heart health
- Education of Promotion Health Trainers





### **Telemedicine Services to diplomats worldwide**

Since 2006 the National Telemedicine Network supports health care of all Greek diplomats worldwide – continuity of care





### Outcomes A' operation phase :1992 - 1997 )



thens

### **Strategy and Management**

- The Ministry of Health has decided to deploy the service. (Ministerial Act 1991)
- The Telemedicine Centre Management Group (Sismanoglio) is responsible for the implementation process in cooperation to Directors of HC units (nodes).
- The Ministry of Health finances via Ministry of Finances Sismanoglio Hospital Telemedicine Centre (personell salaries, maintainance cost, etc).
- Many changes in the structure of NHS (for ex.1991 there were 17 Regional Authorities – 2003 become 7) affect directly the operation of Telemedicine Network



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### **Organisation and change management**

- The main effects of the transition phase on staff and work processes is the additional charge of medical staff in daily duties
- Limited regulation framework
- No extra pay for the medical staff for provision extra services.
- No compensation policy of telemedicine services
- No models of cost in application

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- Many changes in Hospitals management and finance the three last years have the result the unactivation of Telemedicine Network
- Different prioritization of top hospital management

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### **Technical infrastructure and market relations**

- Infrastructure of Telemedicine Centre: Call centre -VPN – Platform system - Videoconference System
- Main Server at the Centre (Communication Management - Case Management – EHR - Storage)
- Peripheral equipment at the Nodes (Primary HC Units and small hospitals (Tel – Fax- Workstations, Printers-Cameras- Medical Devices)
- The procurement were organised by the hospital according to technical specifications and the legal framework of competition procedures. Direct procurement of Electronic Health Record S/W from one vendor.
  - Telemedicine services are not integrated with existing IT systems.
  - There is no recent upgrade of equipment and systems from 2000. Any new procurement will be the outcome of a new strategy and organisation where standards and interoperability will play the most significant role in choosing vendors and systems.



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## Legal, regulatory and security issues

### • Legal :

- Law 2432/1997, (Individual Protection from Personal Data Processing)
- Law 3984/27.06.2011,p.12,p.34 (2010/53 EU p.16) Directive (Personal Data Protection
- CODE OF MEDICAL ETHICS
- Y4A/OIK.18421/16.02.2011 Decision of Minister of Health : Cooperation framework between Hospitals and Centers of Greek-NHS with Military Hospitals and the Armed Forces Health Services.

P.10 "....And the cooperation in this field aims at plant operation Telemedicine in the NHS of the daily morning hours, as applicable today the reference center program Telemedicine in the NHS installed on GN Attica "Sismanoglio" and according to the capabilities of the respective units of armed forces."

Y4δ/ $\Gamma$ . $\Pi$ .ork. 66580/14.06.2011 1<sup>st</sup> Change/Modification of the Y4A/OIK.18421/16.02.2011 Decision of Minister of Health

"Responsible for the operation of equipment, connection and its use in remote primary health care unit of the NHS is the physician and staff of the Unit of the NHS. Doctors and other staff of the Unit are obliged to participate in weekly Training Programs on Telemedicine ....". quantity to respond to any incident. "

What was the legal framework for telemedicine? Were changes needed?

- Were changes needed to your data management because of telemedicine?
- What were the terms of liability for clinical staff? Are there guidelines for clinical responsibility? Was special training or accreditation required?
- Patients are informed about telemedicine and have to give their consent written.



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#### List of Patient Transportations Prevented with the Support of the Telemedicine Unit



| YEAR | Transportations<br>Requested | Transportations<br>Carried Out | Transportatio<br>ns Denied | Transporta<br>tions<br>Prevented | MEAN COST<br>(EUROS) |
|------|------------------------------|--------------------------------|----------------------------|----------------------------------|----------------------|
| 1996 | 65                           | 29                             | 1                          | 36                               | 144.000              |
| 1997 | 72                           | 31                             | 5                          | 41                               | 164.000              |
| 1998 | 59                           | 23                             | 2                          | 34                               | 136.000              |



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### **Health Care in Moving**



### Conclusions

Telemedicine and e-health not only promise but are proving daily that the human is the CENTRE of delivering services and absolutely significant reason for exploitation of ICT.

# • The Telemedicine and e-health services actually SAVE LIVES.



### **Dream or Reality ?**



#### ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ & ΠΡΟΝΟΙΑΣ ΔΙΚΤΥΟ ΤΗΛΕΪ́ΑΤΡΙΚΗΣ ΕΘΝΙΚΟΥ ΣΥΣΤΗΜΑΤΟΣ ΥΓΕΙΑΣ



ΜΟΝΑΔΑ ΤΗΛΕΪ́ΑΤΡΙΚΗΣ ΣΙΣΜΑΝΟΓΛΕΙΟΥ Γ. Π. Ν. ΑΤΤΙΚΗΣ



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