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***HOSPITAL-TERRITORIAL INFORMATION SYSTEMS  
CALL CENTER AND HEALTHCARE ON-LINE  
DATA FOR RESEARCH AND EPIDEMIOLOGY***

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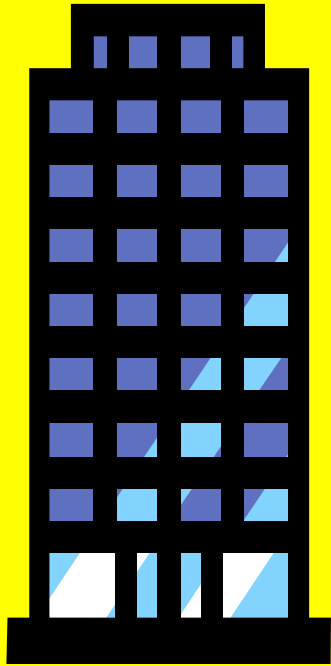
# **IN ITALY AND IN EVERY COUNTRY, IN THE WESTERN WORLD**

**Relevant problems in the Health System:**

**THE TERRITORIAL  
MANAGEMENT OF AGEING**

**BALANCING OF ASSISTANCE  
HOSPITAL AND TERRITORY.**

# NEW MODEL MANAGING PATIENT



***THE HOSPITAL ONLY  
IS NOT ABLE TO ASSURE  
A “CONTINUUM CARE”***

***“The Hospitals in Italy are in majority very old and it needs a program of reengineering: new structures and models of management healthcare <sup>1</sup>.”***

**<sup>1</sup> Veronesi U., Italian Minister of Health: “Relation on the health care situation of Italy in 1999”**

# **HOSPITALS NETWORK: THE NEW HEALTHCARE NEED**

***“Unfortunately many hospitals  
and medical equipments  
are out-of-date.***

***Italy is changed, our network of hospitals  
is designed over people living 50 years ago,  
Today with ederly people and increase cronic diseases  
the need in healthcare are changed” (1)***

**(1) G. Sirchia- Italian Minister of Health: –4th Hospitals European Conference - Roma Nov 03**

# **NEW MODEL MANAGING PATIENT**

**ORGANIZING PROCESS IN HEALTH EVOLVE  
TO INTEGRATION WITH NEW HEALTHCARE  
PROCESS**

**Basis Healthcare**

**Rehabilitation**

**Prevention**

**ITALY:**  
is the oldest country in the world;  
over 60 years is 24,5%.

***Different ways for assistance:***

- ***Telemedicine,***
- ***Teleassistance***
- ***Telediagnosis at home.***

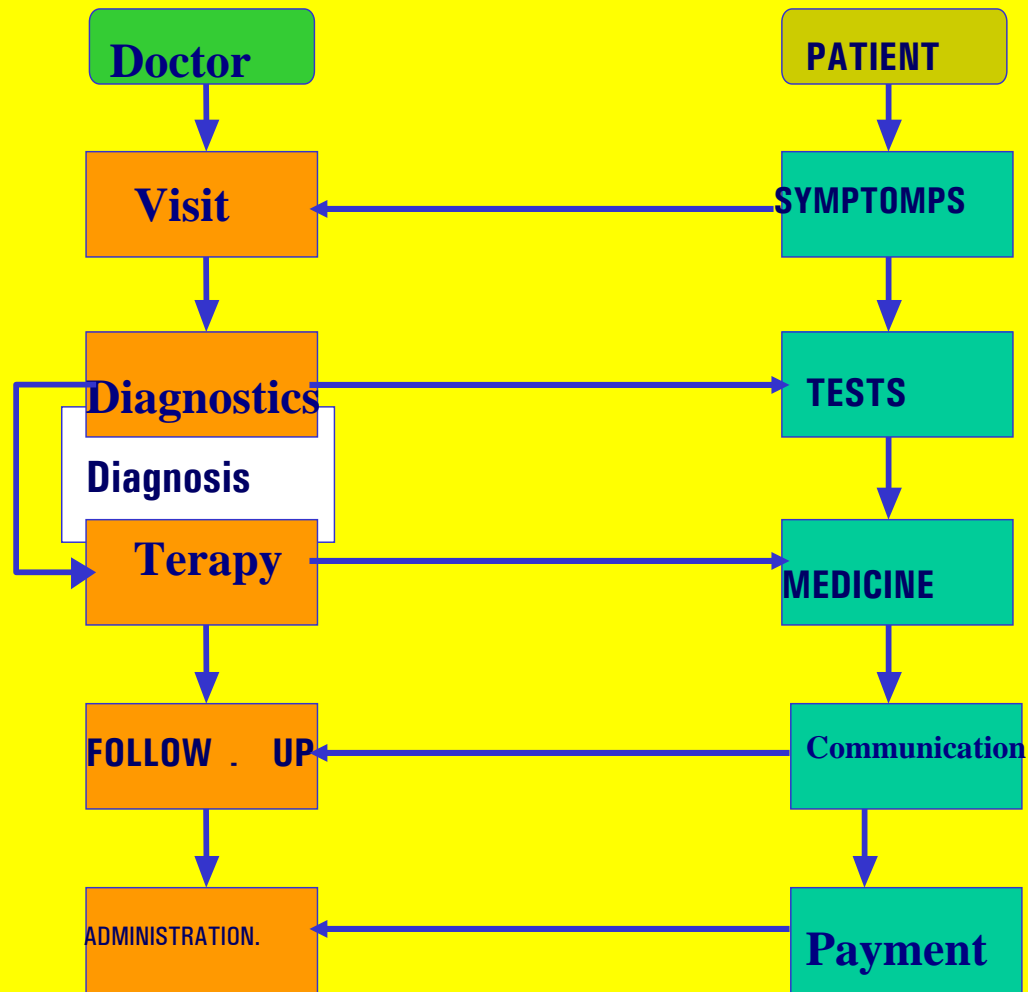
# **EACH DISTRICT OF TERRITORY**

**Requires many more healthcare information  
and interventions**

***PLANNED HOME ASSISTANCE***

***INTEGRATED HOME ASSISTANCE***

# THE TRADITIONAL PROCESS HEALTHCARE ASSISTANCE

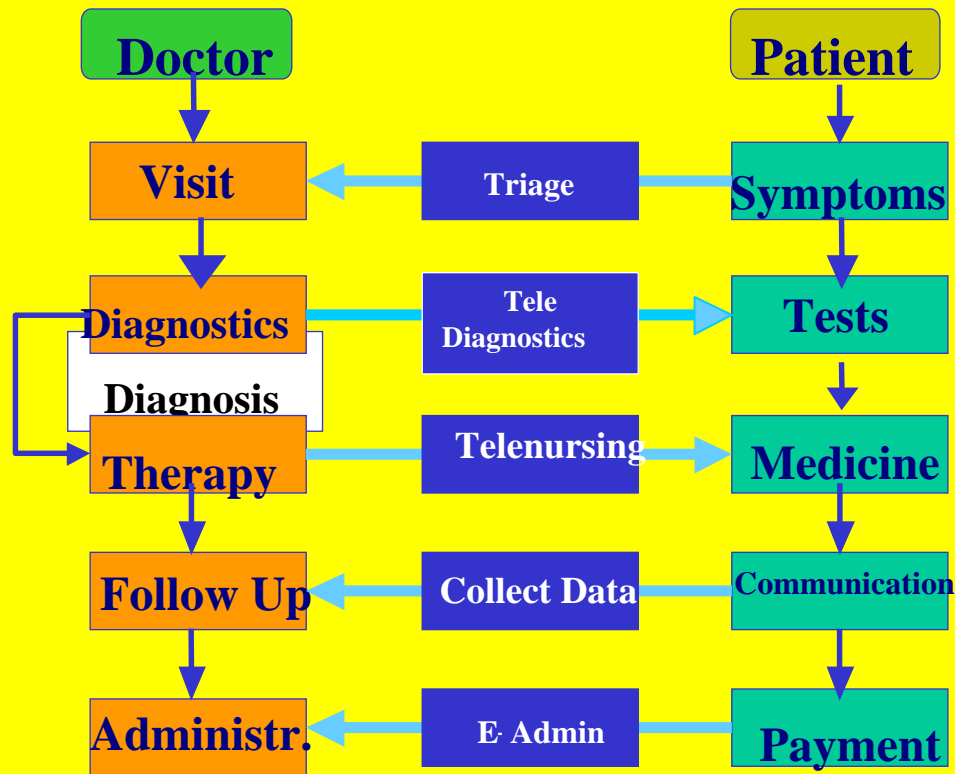


ITC APPLICATIONS GOES  
TRANSFORMING IN A NEW  
"SYSTEM OF VIRTUAL  
HEALTH ASSISTANCE"



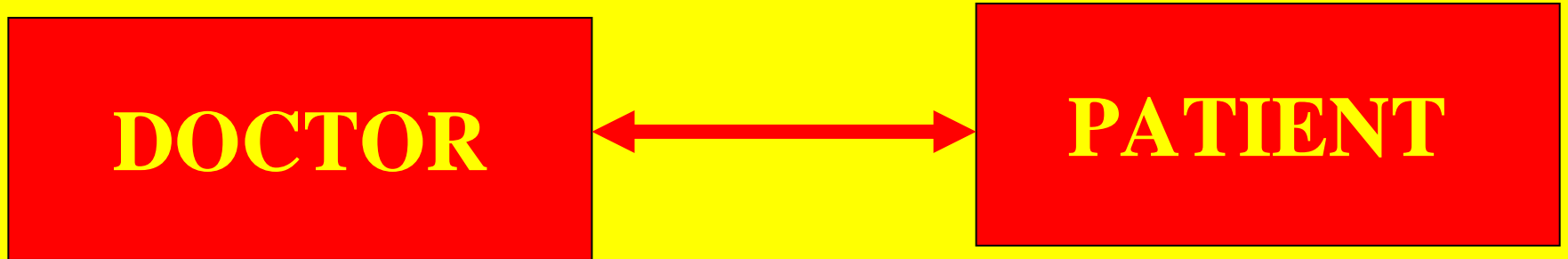
# " VIRTUAL HEALTH ASSISTANCE" ITC IN HEALTHCARE PROCESS

IN EVERY PHASE, TELEMATICS APPLICATIONS AND  
PARTICULARLY TELEMEDICINE



# **THE NEW VIRTUAL SYSTEM**

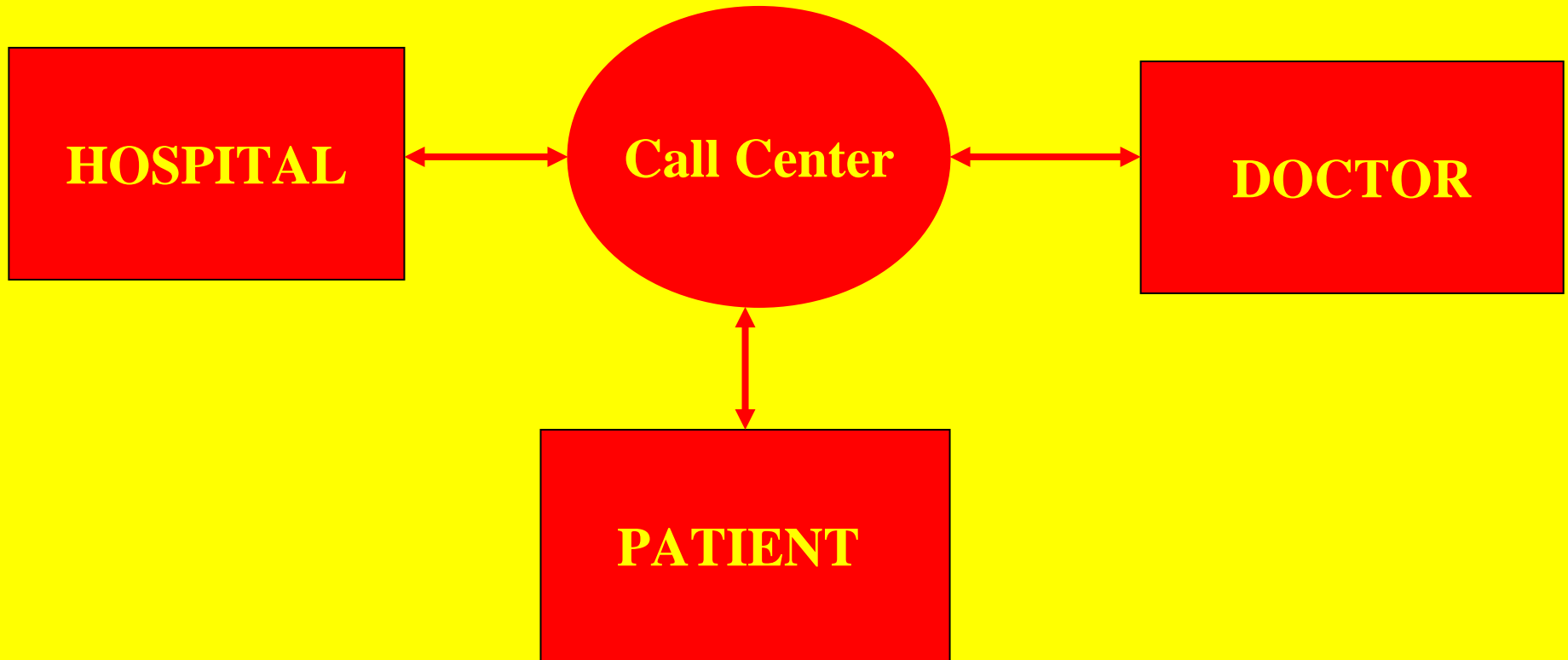
**Many ways communications**



**Many subjects involved  
and above all it makes easier  
the contacts between the different component  
of the virtual system.**

# CALL CENTER

## “New protagonist” between principal subjects



# **CALL CENTER**

## **Definition**

**THE TECHNICAL POINT OF VIEW**

**A TOOL**

**AN OPERATING SYSTEM**

# **CALL CENTER "Market" in Italy**

**IS AT THE BEGINNING**

**IT DOESN'T APPEAR AS  
A HOMOGENEOUS SECTOR**

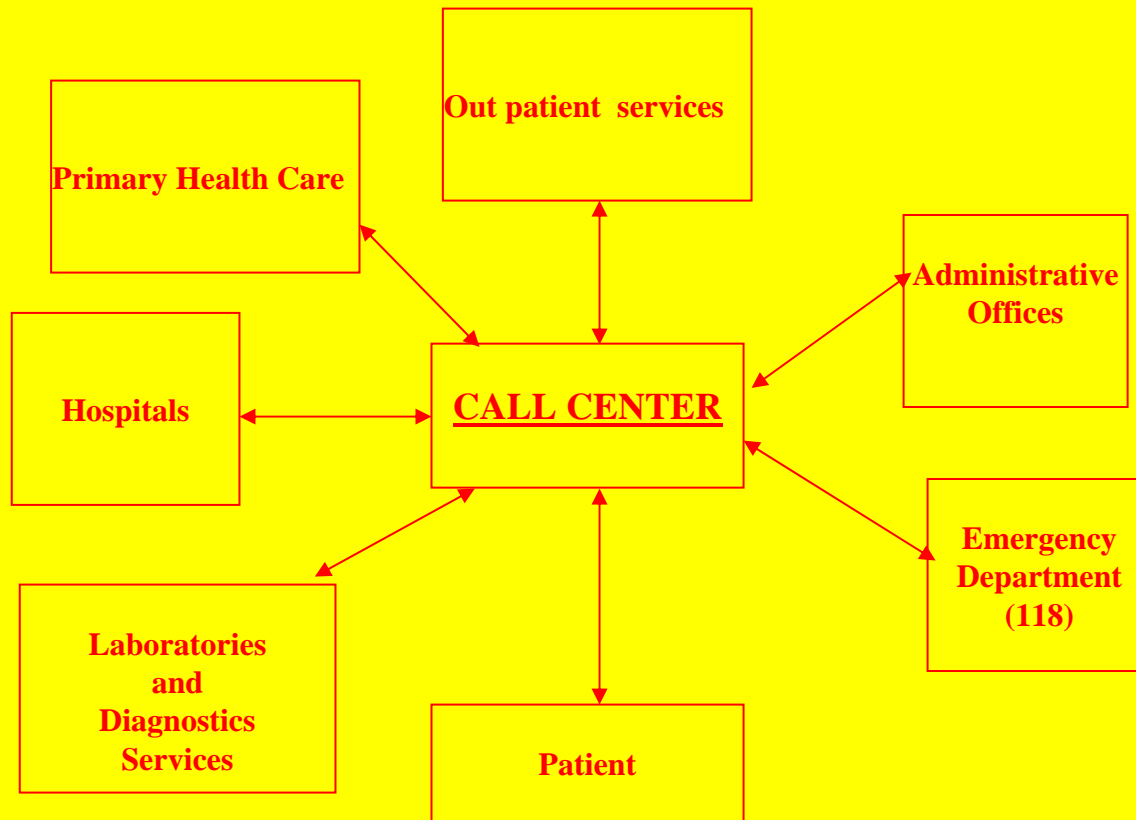
# CALL CENTER Development

**Family Doctor**

***BRIDGE***

**Patient**

# CALL CENTER Rules



# **OBJECTIVES PROGRAMS**

**ON-LINE CONSULTATION**

**DIAGNOSTICS TESTS**

**MANAGEMENT  
CHRONIC DISEASE**



# **OBJECTIVES PROGRAMS**

**POST-OSPITALIZATION  
CONTROLS POST-OPERATING**

**EMERGENCY OPERATIONS**

**VIRTUAL MEDICAL  
EXAMINATION**

# ➤ **ON LINE HEALTHCARE INFORMATION**

## **About:**

- **HEALTHCARE STRUCTURES IN THE TERRITORY OF THE COUNTRY ON DIFFERENT LEVELS OF ASSISTANCE**
- **SERVICES AND PERFORMANCES IN HEALTHCARE ASSISTANCE**
- **WAITING LIST**
- **SIGNAL COMPLAINTS**
- **CHOICE AND REVOCATION OF THE FAMILY DOCTOR**
- **REFUND OF EXPENSES AND EXEMPTIONS**

## ➤ **ON-LINE CLINICAL DATA**

**▪ *STORE AND FORWARD*  
ASYNCRONOUS TELEMEDICINE,  
NOT INTERACTIVE.  
PATIENT AND DOCTOR  
AREN'T IN SAME PLACE AND TIME;  
DATA STORE  
LATER ON INTERPRETATION  
BY SPECIALIST.**

# ➤ **SELF-MONITORING**

- **CHRONIC DISEASE,**
- **PATIENT INABLE TO MOVE**
- **POST ACUTE CRISIS**

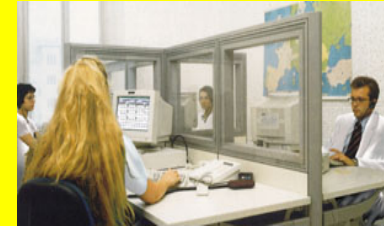
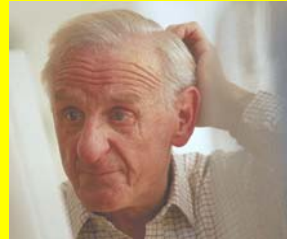
**HANDY TOOLS TO STORE  
BIOMEDICAL DATA  
OF THE PATIENT**

# ➤ **WEB VISIT**

**INTERACTIVE MEETING  
BETWEEN  
PATIENT AND DOCTOR**

**IT'S APPRECIATED ESPECIALLY  
FOR EMERGENCY AND  
CARDIOLOGY PURPOSES.  
IT CAN REDUCE COSTS  
AND DIFFUSE CHECKUP**

# E-Health e Call Center



**Patient/ Doctor.  
Transmission and  
registration data  
and biomedical  
signals**

**The operators receive the  
data, assume the priority  
and give the assistance at  
the Patient on line**

## **A.S.L.**

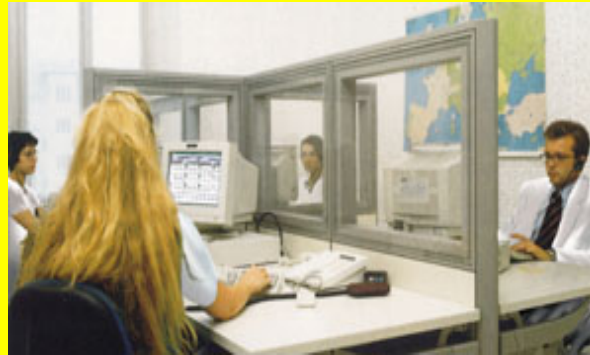
**Doctor of Family or  
Specialist can read the file  
clinic data**



## **CLINIC CENTER**

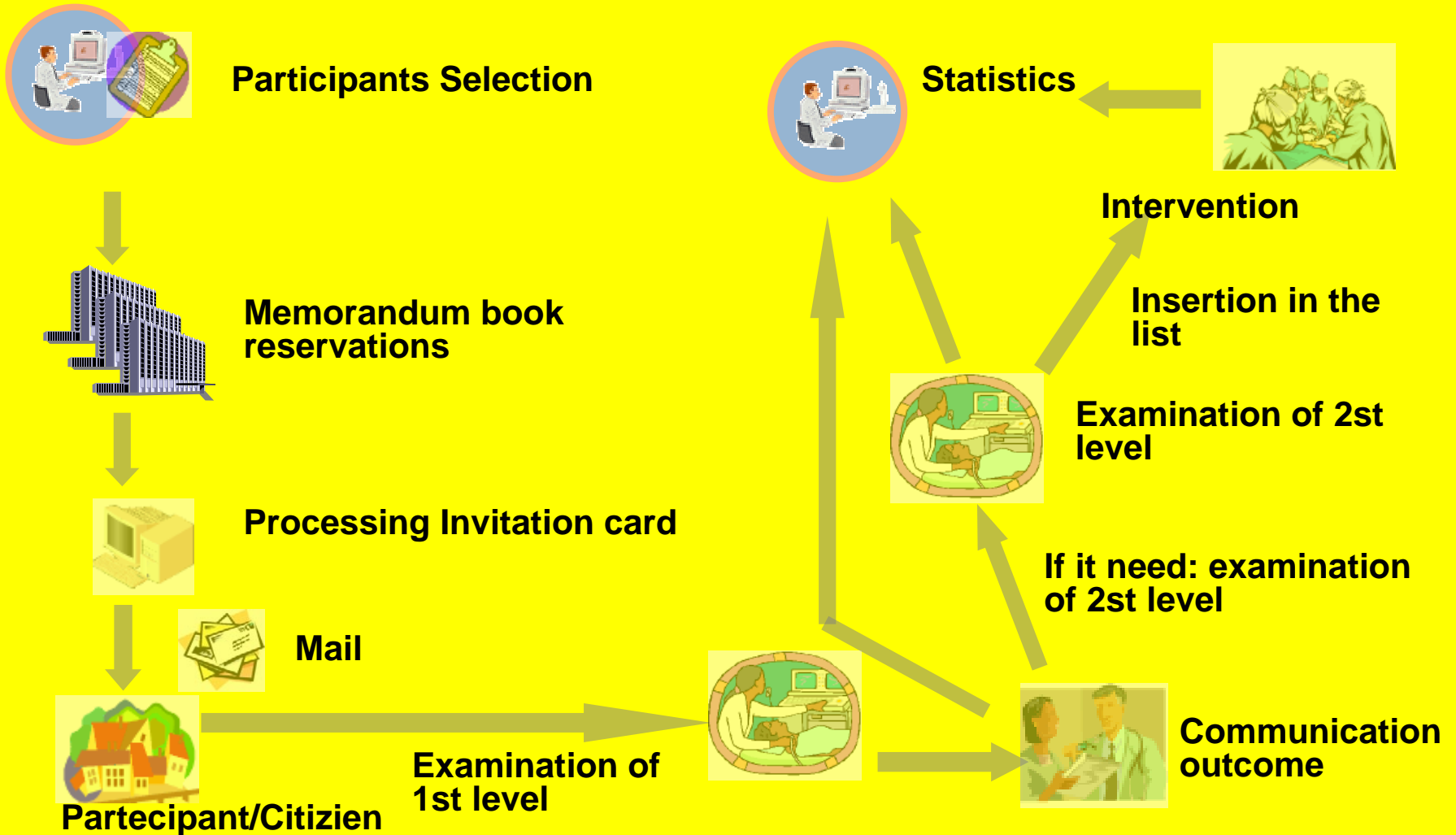
**The data of personal  
file in Central Server**

# **CALL CENTER CONTACTS AND INFORMATIONS**



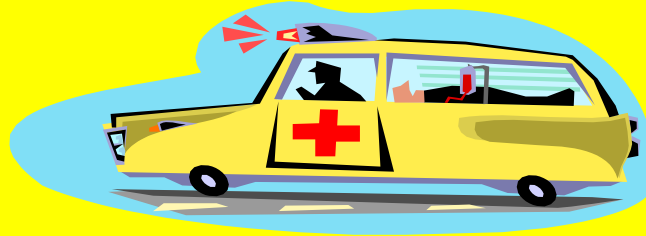
**IT WOULD HAVE TO ABSORB PARTLY  
THE FUNCTIONS CURRENTLY DEVELOPED  
FROM THE EXCHANGE  
OF INFORMATION  
BETWEEN PHYSICIAN AND PATIENT  
THROUGH THE CLINIC CENTER.**

# CALL CENTER AND SYSTEM OF SCREENING



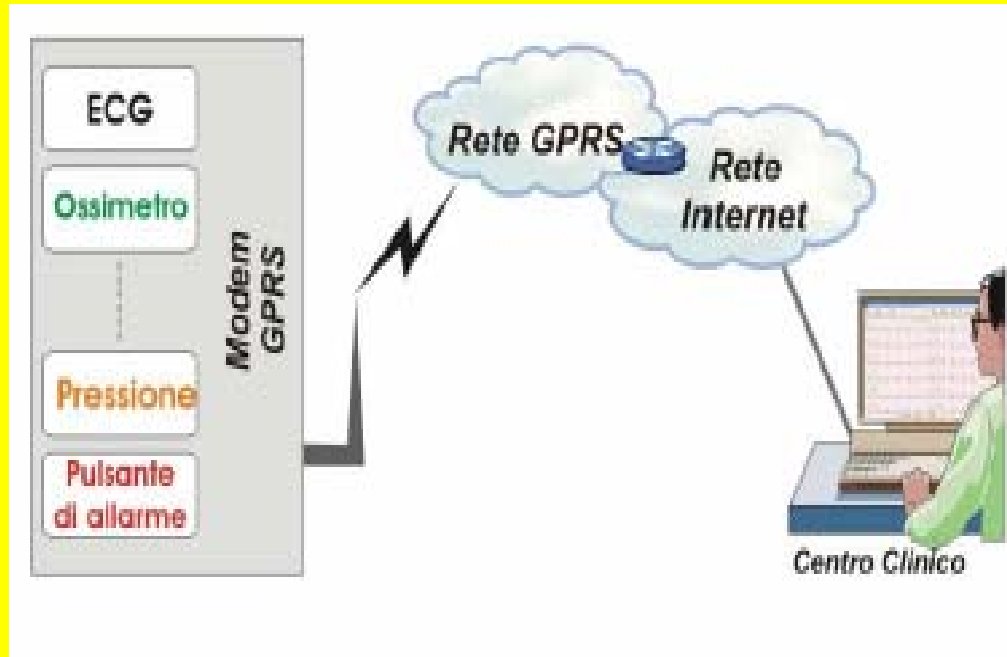


# **CALL CENTER AND THE EMERGENCY**



**IT WOULD HAVE TO ABSORB PARTLY THE  
FUNCTIONS CURRENTLY DEVELOPED BY  
THE *CUP* (*UNIFIED CENTERS OF BOOKINGS*),  
FROM THE SERVICES OF OPERATOR FOR  
THE EMERGENCY (IN ITALY: 118)**

# Network Telematic : Patient - Clinic Center- Doctor- Hospital



## Clinic Center

- **Accepts informations/reservations**
  - **Files (clinical digital folder)**
  - **Informs the Doctor of family**
- **Puts in action emergency procedures**

**In near future but also now...**

**Monitoring multiparametric 24h  
with automatic identification  
of alarms and significant events  
for patient assisted at home**

# References and Keywords

## References:

1. Engelbrecht Rolf: Telemedicine aspects for health care. XVIIth MIE 2002 - Budapest, August 25<sup>th</sup> 2002
2. Giannone A.: Healthcare and Telecommunication: expectations and models in the Call Center (Forum Health in the Future - Ministry of Health - Cernobbio, April 10<sup>th</sup> 2001).
3. Giannone A.: The policy “e-Europe 2005”and e-Health: aspects and problems in Italy and in South. Webbit- Information Systems and Platform ICT: training and network in Health- Padua, May 7<sup>th</sup> 2004
4. Serio A.: Telemedicine and Telehealth: technical, medical and ethical aspects. COM-PA - The communication and healthcare services on line for citizen. Bologna, November 5<sup>th</sup> 2004.

**Keywords:** Call Center, Bridge, Healthcare on-line, ICT

# Thanks for your attention

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  - Consultant in Management and in Telecommunications applications in Health structures. Industry Manager since 1977 and former General Manager of public and private health companies, since 1992 (turnover: 200 million Euros).
  - Member of the Council of AIIM (Italian Association for Medical Informatics) and Member of the Scientific Committee for Televitaitalia, Onlus in socio-medical assistance, founded by Father Alfredo Imperatori.
  - *Project Manager* in various experimental Tele-medicine Projects, and in particular, collaborated in carrying out one of the first trials of “Cardiology Surgery via Telecommunications” in a public health structure; in the Tele-video-Consultation programme in Paediatric Surgery for a hospital group linked with various health structures in some Mediterranean Countries; in applications by system of diagnosis ultrasonic digital system .
  - Teacher in “Management and Quality Systems in Companies” at the University of Bari and in “Telecommunications applications in Health structures” at the European Services Institute of Rome. He taught Training Courses to Doctors in General Medicine, to Cardiology Specialists and, in other disciplines, to Managers of various companies.
  - Scientific Manager (hi)Health&ICT of Ogs, italian company specialized in organization of events.
  - Author of numerous articles, published in specialist magazines for Company Management and Health Organisation systems, of various books and publications: “*Management in Hospital Businesses and in Local Health Businesses*” (ed. Cacucci); “*Organisational Changes in Companies, Health Structures and Management*” (ed. ISSS); “*Planning and Programming in Business Matters*” (ed. Pirola).
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