The telehealth in primary care: a report from the Telehealth Centers Network in Pernambuco - RedeNUTES

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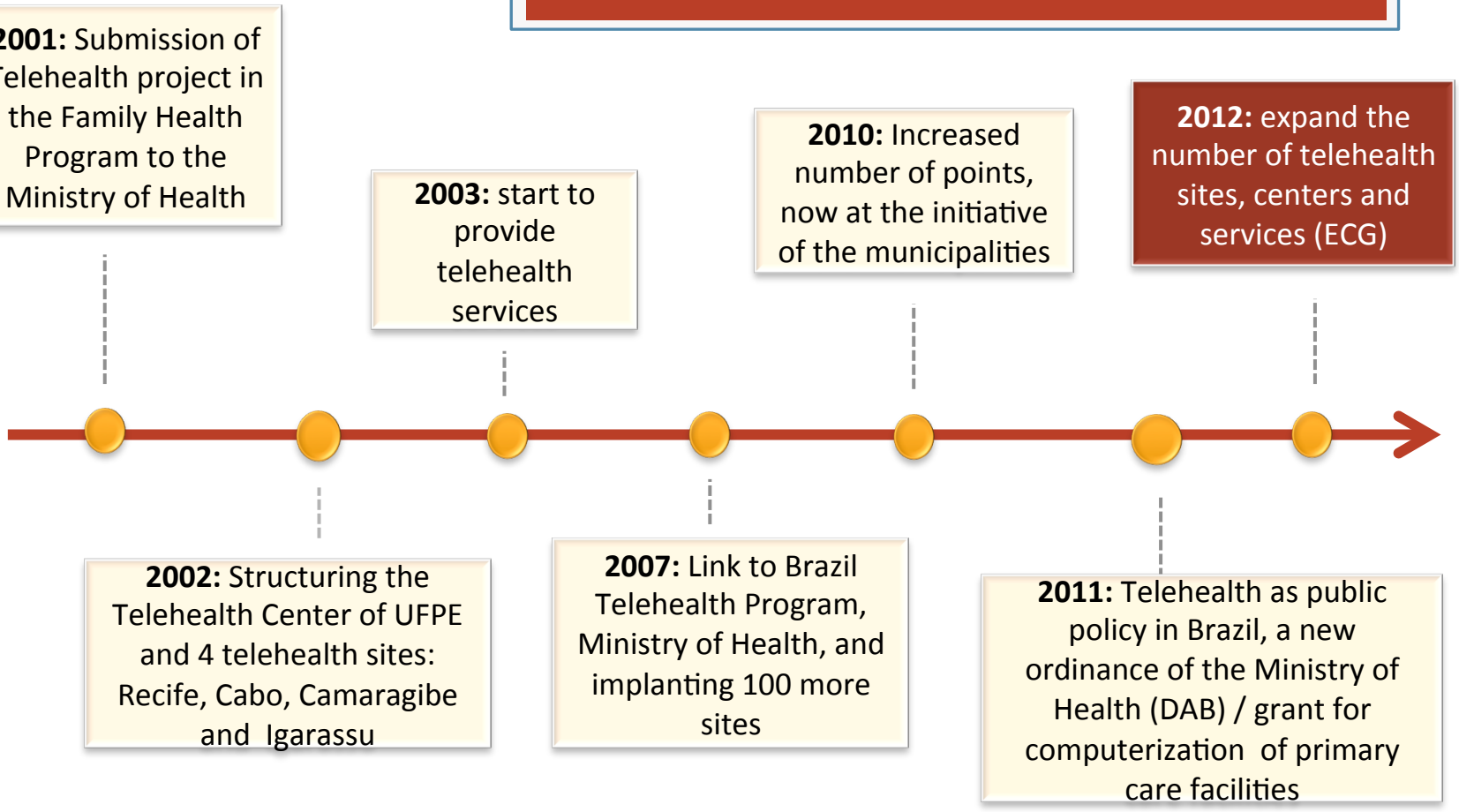
The State of Pernambuco

- Location: Northeast of Brazil
- Capital: Recife
- Area: 98.938 Km2
- Number of Municipalities: 184 + Fernando de Noronha Territory
- 8.796.032 (IBGE, Census 2010)
- Demographic Density: 80,47 habitant/Km2
- Climate: Tropical (Coast) and semi arid (backlands)
- HDI: 0,705 (18° in the ranking of Brazilian states)
- Main productive sectors: medical centers, IT, tourism

- **Some problems:**
  - Difficulty in keeping health professionals, especially doctors, in the rural areas
  - Concentration of specialized health services in the capital and the metropolitan area
  - Poor infrastructure of many health services

Source: http: www2.pe.gov.br/web/portal-pe/dados

RedeNUTES: history of development



Methodology

Contact the city manager expressing interest
Guidance on the necessary infrastructure
Accession of the municipality / health unit
Identification of demands
Users help-desk

PLANNING

Adequacy of health unit
Technical training if necessary
Installation of telehealth kit in the health unit
Internet tests connection to services
Training of health professionals and teleconsultants
Users help-desk

IMPLANTATION

Use of telehealth services
Identification of demands
Trainings (Technical, Teleconsultants, Health Professionals)
Outcomes Publication
Users help-desk

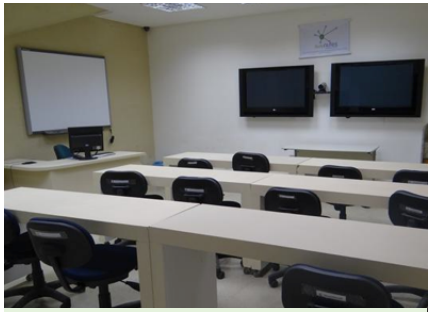
OPERATION

Monitoring, evaluation and intervention

Infrastructure of telehealth sites 2003 a 2006

5 telehealth centers:

- NUTES-HC-UFPE, Hospital das Clínicas da UFPE (núcleo gestor da rede)
- NUTES-Recife, Policlínica Lessa de Andrade
- NUTES-Camaragibe, USF – Bairro dos Estados
- NUTES-Igarassu, USF – Santo Antônio
- NUTES-Cabo de Santo Agostinho, USF – Manoel Vigia



Videoconference Room

NUTES-HC-UFPE
(network manager)

Connection: ISDN

Equipment:

- NUTES-HC-UFPE: multipoint videoconference equipment, I2Mbps SDN connection
- NUTES municipalties: point-to-point videoconference equipment, TV, Digital camera, Microcomputer, Printer and a 384Kbps ISDN connection

USF – Manoel Vigia
Cabo de Santo Agostinho

NUTES-Municipalties

NUTES-RECIFE
Policlínica Lessa de Andrade

Infrastructure of telehealth sites from 2007

Kit telehealth in health facility
Microcomputer multimedia
Camera
Printer
ECG Equipment
Internet Connection of 256 kbps
(minimum desirable)

Meeting rooms/ auditoriums:
Microcomputer multimedia
Projector
Internet connection (desirable)

Teleassistance Services

Teleconsulting (2nd. Opinion) / Telediagnosis (ECG)

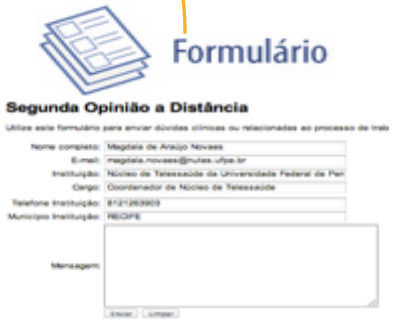
Synchronous
Predefined schedule or scheduled

Teleconsulting individually or collectively by Web Conferencing

Good Internet Connection
> 256 Kbps

Asynchronous
Available 24 hours
Answers up to 48hrs

Good Internet Connection
> 256 Kbps



Low Internet Connection
< 256 Kbps

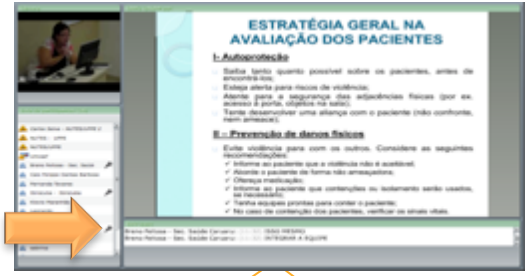
Tele-education Services

Scheduled Times

Seminars
(Video, Web, Streaming)

Teleconsultant

Moderator



Connected Points

Communities and schools

Health units

Recorded Seminars, videos, texts, etc.

Library AVARedeNUTES
(Moodle)

Available 24hrs

Content sent to national web site

Brazil Telehealth Program Website

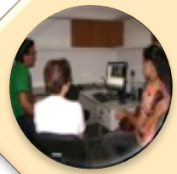
Production Indicators and Service Outcomes

Present in 90 of 184 Pernambuco´s municipalities (September/2012)
Types of registered units:
02 Centers, 281 USF, 5 NASF, 6 CAPS, 3 Policlynics, 4 Hospitals, 2 SAMU, 1 Health Public School

Registered health professionals: over 3.000
Registered teleconsultants: 162

Teleconsulting: 6.954 (October/2008 – September/2012)
Telediagnosis ECG: 277 (in the pilot fase)

68% reduction of referrals to specialists
(September/2012)



Tele-education (April/2008 – September/2012)
480 seminars, 23.204 participants
Average of 14 points online per session
1.117 materials in AVARedeNUTES

Conclusions

- **The RedeNUTES contributes to expand:**
  - digital inclusion of health professionals
  - the solvability of primary care
- **The health professionals have assistance support and access to continuing education in service**
- **Challenges:**
  - Sensitize health professionals to understand telehealth as a tool to assist them on their day to day work
  - Low availability of medical professionals in the health units and, consequently, its low use of telehealth services
    - However, the physician is responsible for patient referrals, so he would have to be the professional that most utilize telehealth, currently the professional nursing is the one that most utilize it.
- Low quality internet connection in most municipalities of Pernambuco
- Sensitize managers to the benefits of telehealth in local health systems, socio-economic impacts
- To Incorporate telehealth procedures in the health productive chain for the qualification and reducing referrals to have the greatest impact on the response of the Unified Health System to the Brazilian citizens.