Painel 10: Interoperabilidade nos fluxos De informação nos sistemas de saúde

Telessaúde Brasil:
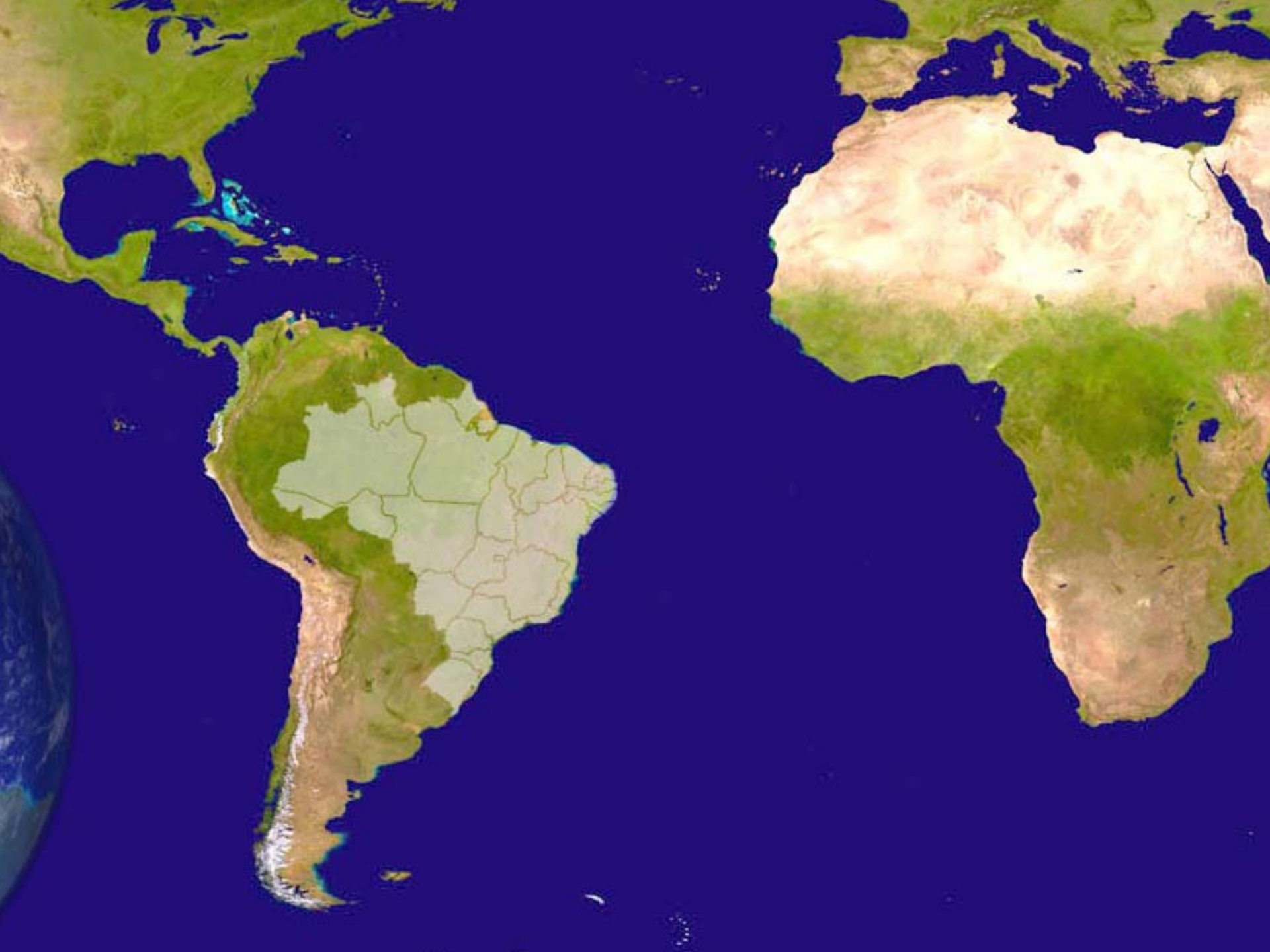## Tecnologias a serviço da Atenção primária em saúde

Brazil

Ana Estela Haddad
Diretora de Gestão da Educação na Saúde
Secretaria de Gestão do Trabalho e da Educação na Saúde
Ministério da Saúde

Ministy of Health

BRASIL
BRAZILIAN GOVERNMENT

Basic Facts about Brazil

- The fourth largest country in the world

- Abundant natural resources

- Extensive sources of water

- Multicultural

- Half of the population is afro-descendent

- Per capita GDP: US$ 10,000

- Among the ten largest economies of the world

Brazil

184.000.000 inhabitants
27 states
5563 cities

40% of the population in metropolitan areas

Brazilian National Unified Health System (SUS)

◆ **Health is a right of all, and a government duty**

  ■ 1988 Constitution

◆ **National Health System**

  ■ Universal Care

  ■ Equitable Care

  ■ Comprehensive Care

  ■ Unified Management

  ■ Hierarchic and Regionalized Services Network

  ■ Social Participation

Health Outcomes

◆ Infant mortality has steadily fallen and life expectancy is increasing. MDG targets to be reached 3 years earlier.

◆ Prenatal coverage increased from 23% to 70% (including 6 doctor visits) over the last 15 years.

◆ 90% vaccine coverage

◆ Free access to antiretroviral treatment and to high complexity care. AIDS quick tests are available for 1/3 of deliveries and free ARV is guaranteed.

◆ Urgency/Emergency available for 90 million inhabitants.

◆ Second country in the world in organ transplantations, first in publicly-funded transplants.

Family Health Strategy

Primary Health Care in Brazil

Primary Health Care in Brazil

◆ **The Family Health Teams are composed by:**

- 1 Medical Doctor, 1 bachelor-degree Nurse, 1 Dentist
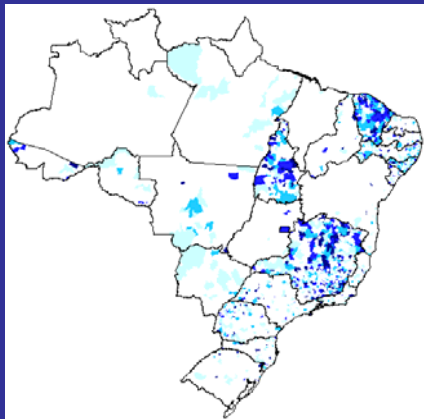- 2 technical-degree Nurses and 4 to 6 Community Health Workers

◆ **PHC in numbers:**

- 30,000 teams, covering 90 million people – one half of Brazilian population
- Played a major role in the reduction of children mortality in the last decade

BRASIL
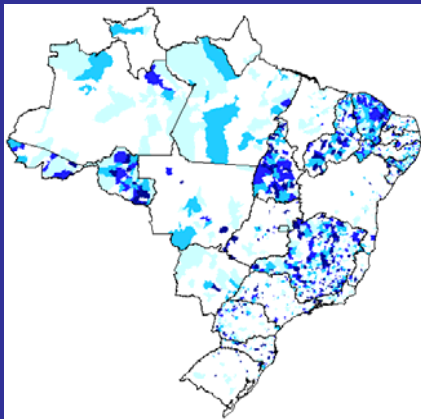BRAZILIAN GOVERNMENT

The rate of change

Actual % of population covered by health family teams – Brazil, 1998 –2005

1998   **1999**   **2000**
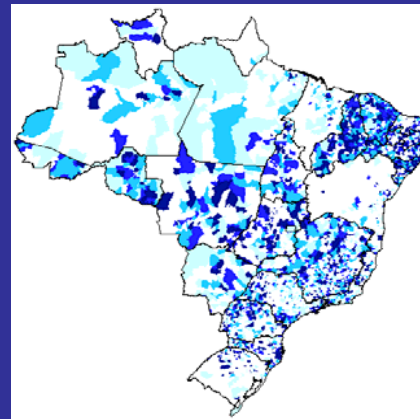
2001   **2004**   **2008**
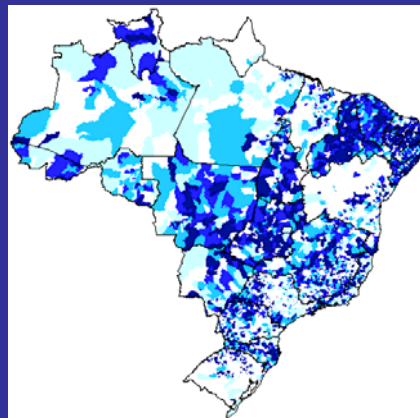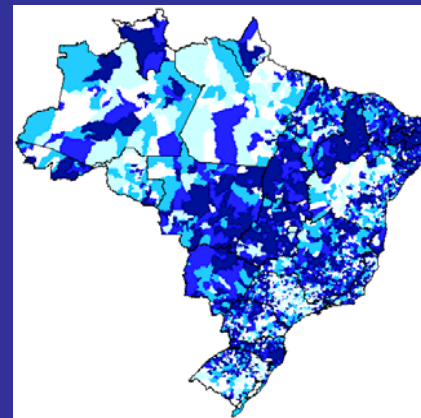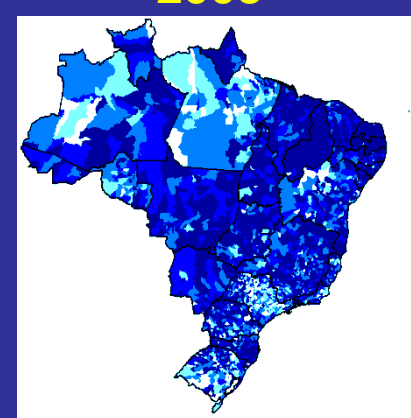
Legend: 0%   0 a 25%   25 a 50%   50 a 75%   75 a 100%

Outcomes of the FHP

Infant mortality rate dropped from 70 to 29 per one thousand, and the best results were found where FHP was operative.

Ministy of Health

"Telehealth Support for Primary Health Care in Brazil - Pilot Project"

Objectives:

◆ Improve quality of primary care

◆ Qualify family health teams workers

eHealth National Pilot Project

Coverage:

Nine State Clusters implementing Telehealth in 900 health units supporting about 2,700 Health Family teams, covering 11,000,000 inhabitants.

Selection criteria for 900 health units

Priority Criteria:

- Municipalities with geographic access barriers
- Municipalities with population less or equal 100,000 habitants
- Municipalities with Health Family Strategy coverage equal or greater than 50%
- Municipalities with IDH less than 0.500 (low human development)

Project coverage in different regions of the state should not be more than 20% in metropolitan areas and at least 80% in municipalities not belonging to metropolitan areas.

BRASIL
BRAZILIAN GOVERNMENT

Formative Second Opinion

◆ **Promotes on-job training.**

◆ **Problem Based Learning (PBL).**

◆ **Evidence-based Health.**

◆ **Adoption of a socially accountable approach to producing graduates that meet regional needs.**

◆ **Strategy to establish a epidemiologic surveillance.**

◆ **Allows the establishment of knowledge stations (Info-poems)**

Brasil
bvs
biblioteca
virtual em saúde

Programa Nacional de Telessaúde
Atenção Primária à Saúde

Telessaúde
Brasil

Ministério
da Saúde

BRASIL
UM PAÍS DE TODOS
GOVERNO FEDERAL

✉ Contato

Redes

Telessaúde

BVS

RNP

RUTE

Núcleos de Telessaúde

Amazonas
Telessaúde
Brasil

Ceará
Telessaúde
Brasil

Goiás
Telessaúde
Brasil

Minas Gerais
Telessaúde
Brasil

Pernambuco
Telessaúde
Brasil

Rio de Janeiro
Telessaúde
Brasil

Rio Grande do Sul
Telessaúde
Brasil

Santa Catarina
Telessaúde
Brasil

Pesquisa

www.telessaudebrasil.org.br

Entre com uma ou mais palavras

[   ] [Telessaúde Brasil ▼] [Pesquisar]

Temas Prioritários

Saúde da mulher
câncer de mama, câncer de colo uterino

Saúde bucal
câncer de boca

Saúde mental
drogas, alcoolismo

Saúde materno-infantil
pré-natal, puericultura

Prevenção de doenças cardiovasculares
cardiopatias, doenças vasculares

Doenças respiratórias
infecções agudas, asma

Diagnóstico em oftalmologia

Hanseniase

Telemedicina

Diretrizes em APS

Cadernos de Atenção Básica
Diretrizes da SBMFC
Diretrizes Clínicas da AMB

Capacitação em APS

Objetos de aprendizagem
Animações do Homem Virtual
Cursos de capacitação

Destaques

III Mostra Nacional de Produção em Saúde da Família - 5 a 8 Agosto 2008

Estudos relevantes para APS

Prática de exercícios físicos para asmáticos

Corticóides para o tratamento da asma

ver mais

Notícias Telessaúde

Telessaúde Brasil é iniciativa selecionada para conferência em Belaggio

BIREME planeja a reestruturação da BVS APS e Portal Telessaúde

Teleconsulta: Pé diabético Manaus/Parintins

Telessaúde SC chega a 58 municípios

Seminário de Telessaúde no Amazonas

Teleassistência em São Gabriel da Cachoeira

Municípios paulistas recebem a equipe do Núcleo São Paulo

Notícias

Telessaúde
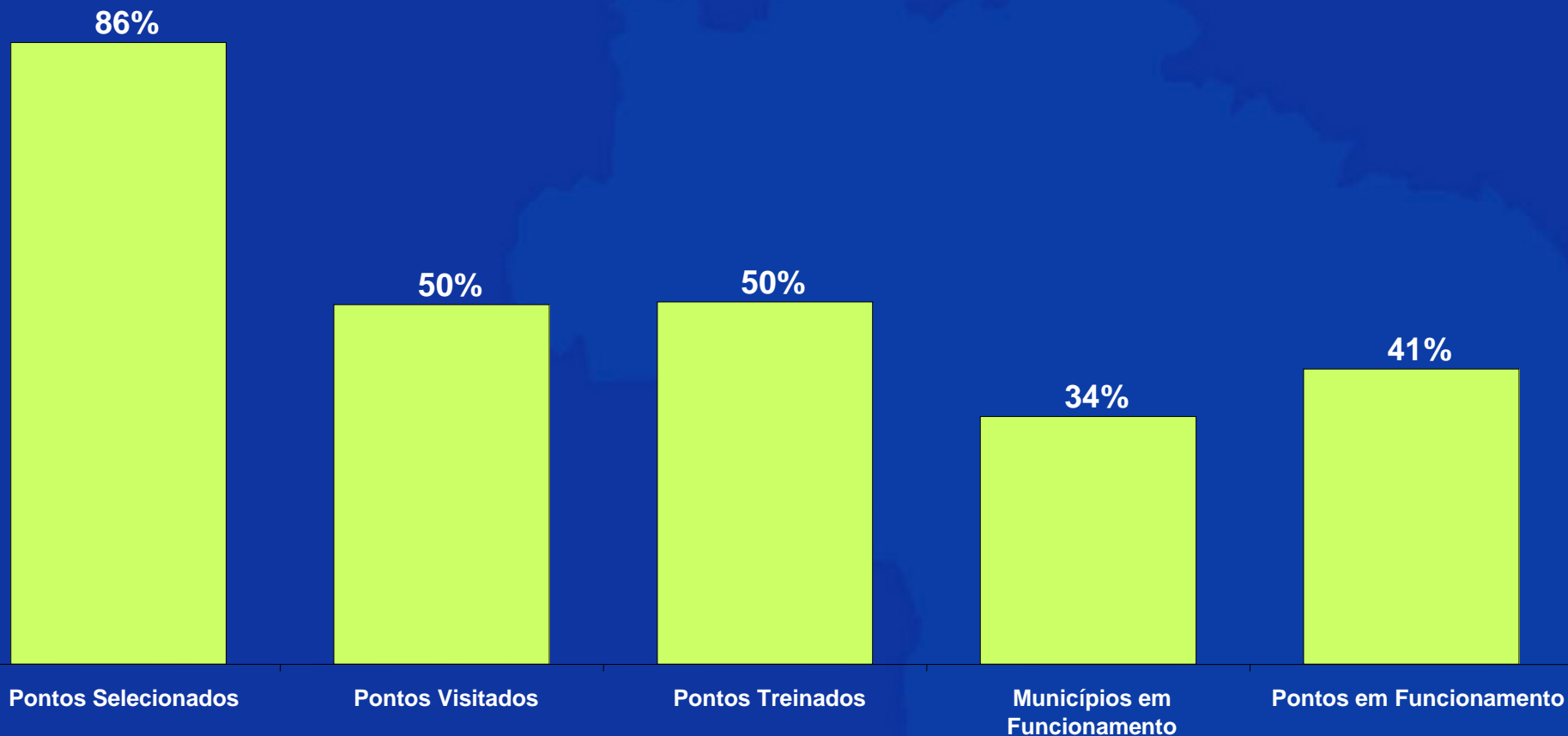Brasil

Espaço de registro, publicação, e acesso integrado à informação de boa evidência em APS e telessaúde, além de informação sobre o Programa Nacional de Telessaúde e a Rede Telessaúde Brasil.

Deployment

MARINHA
DO BRASIL

NAsH Osvaldo Cruz

Telecardiology and tele-electrocardiography

Minas Novas

Teleconsultations on line and off line in some specialties

UH Telehealth Center

UH Telehealth Center

Operational Cost

Number of Villages	82		237	
Human Resources	28.895,00	73,5%	42.150,00	65,3%
Depreciation of Equipments (48 months)	9.242,71	23,5%	21.519,53	33,3%
Others	1.171,88	3,0%	875,00	1,4%
Total	39.309,58	100,0%	64.544,53	100,0%
Cost per Village (US$/month)	479,39		272,34	

Miravânia

790 Km Belo Horizonte

July/2008

MIRAVÂNIA
BREJÃO

CENTRO DE SAÚDE
DE MIRAVÂNIA

PRONTO SOCORRO
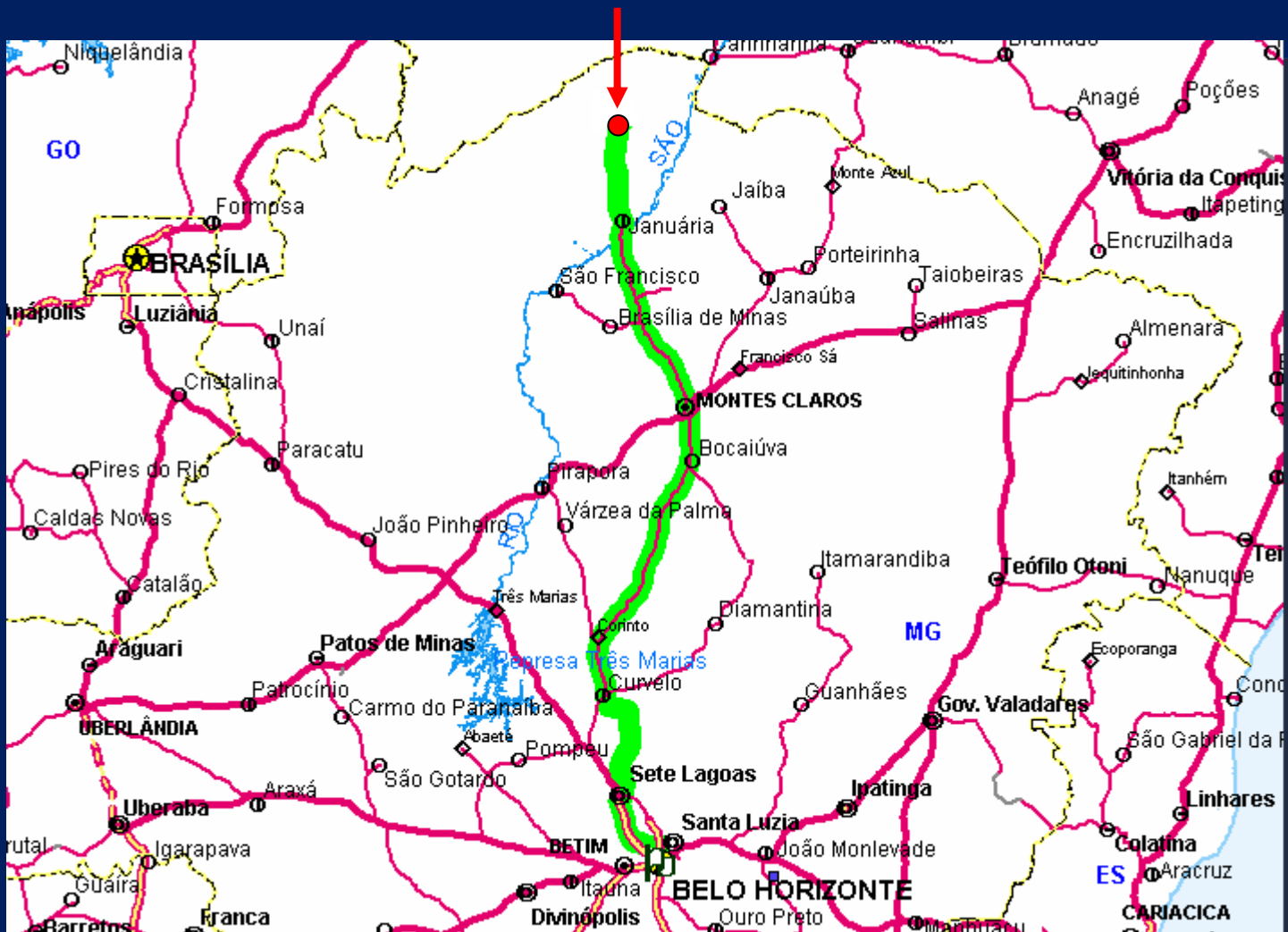
Financial Results - Miravânia

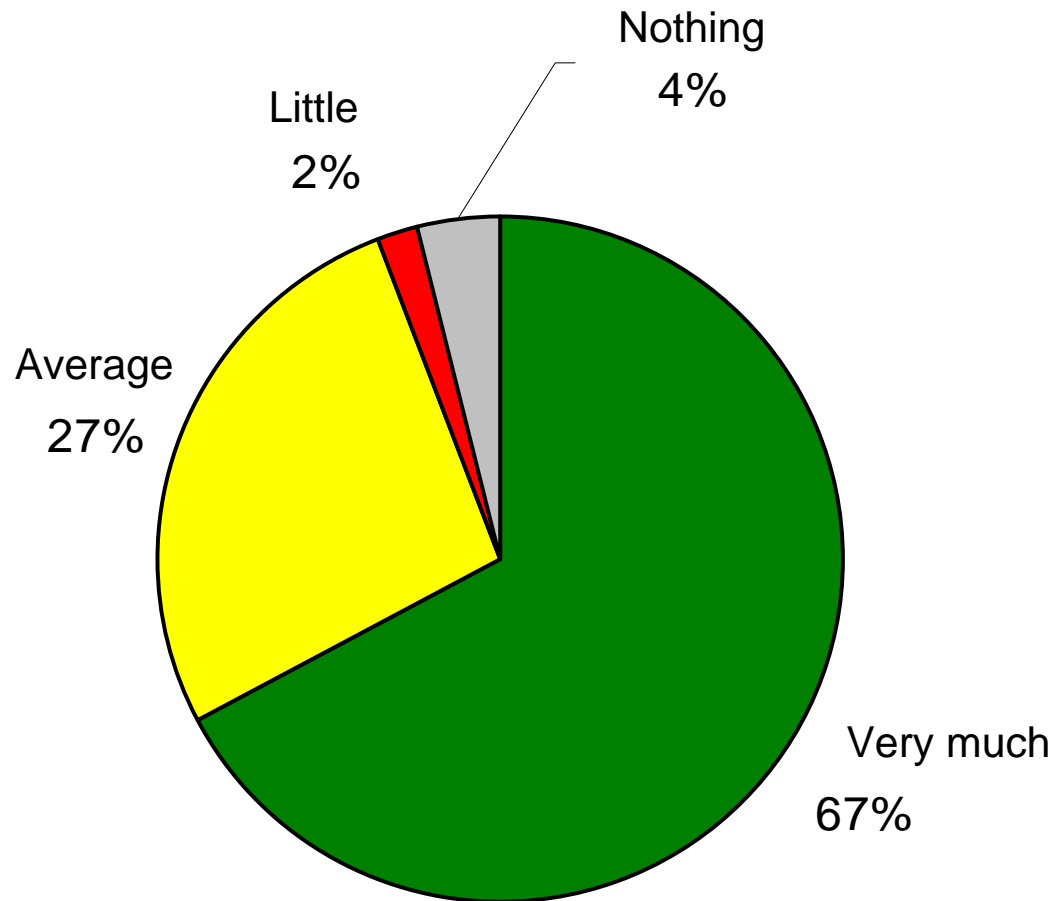|		
Average Monthly Income of the Village - 2007 (US$)	241,831,60	100.0%
Average Monthly Health Expenses - 2007 (US$)	43,734.20	18.1%
Average Monthly Expenses with Outside Treatment (US$)	22,844.29	9.4%
Average Monthly Number of Outside Treatment	767	
Cost per Outside Treatment (US$)	**29.78**	
Reduction of Number of Outside Treatment	43	
Monthly Saved Value (US$)	1,280.71	5.6%
Monthly Operational Cost of HC Telehealth Center (US$)	64,544.53	
Monthly Number of Activities (teleconsultation/urgencies/ECG)	10,500	
Activity Unitary Cost (US$)	**6.15**	
Cost/Benefit Relation	**1 : 5**	

How much training has favored your decision to remain in your job at the village?

- Nothing 4%
- Little 2%
- Average 27%
- Very much 67%

BRASIL
BRAZILIAN GOVERNMENT

Which activity would have highest impact on your daily routine?

Activity	Percentage
Formal Training	35%
Discussion of Clinical Cases	16%
Lectures on Special Topics	15%
Access to the Virtual Library	9%
Surgery / Procedure Simulation	9%
Virtual Scientific Meetings	7%
Educational Videos	5%
Informal Training / Courses	4%

0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50%
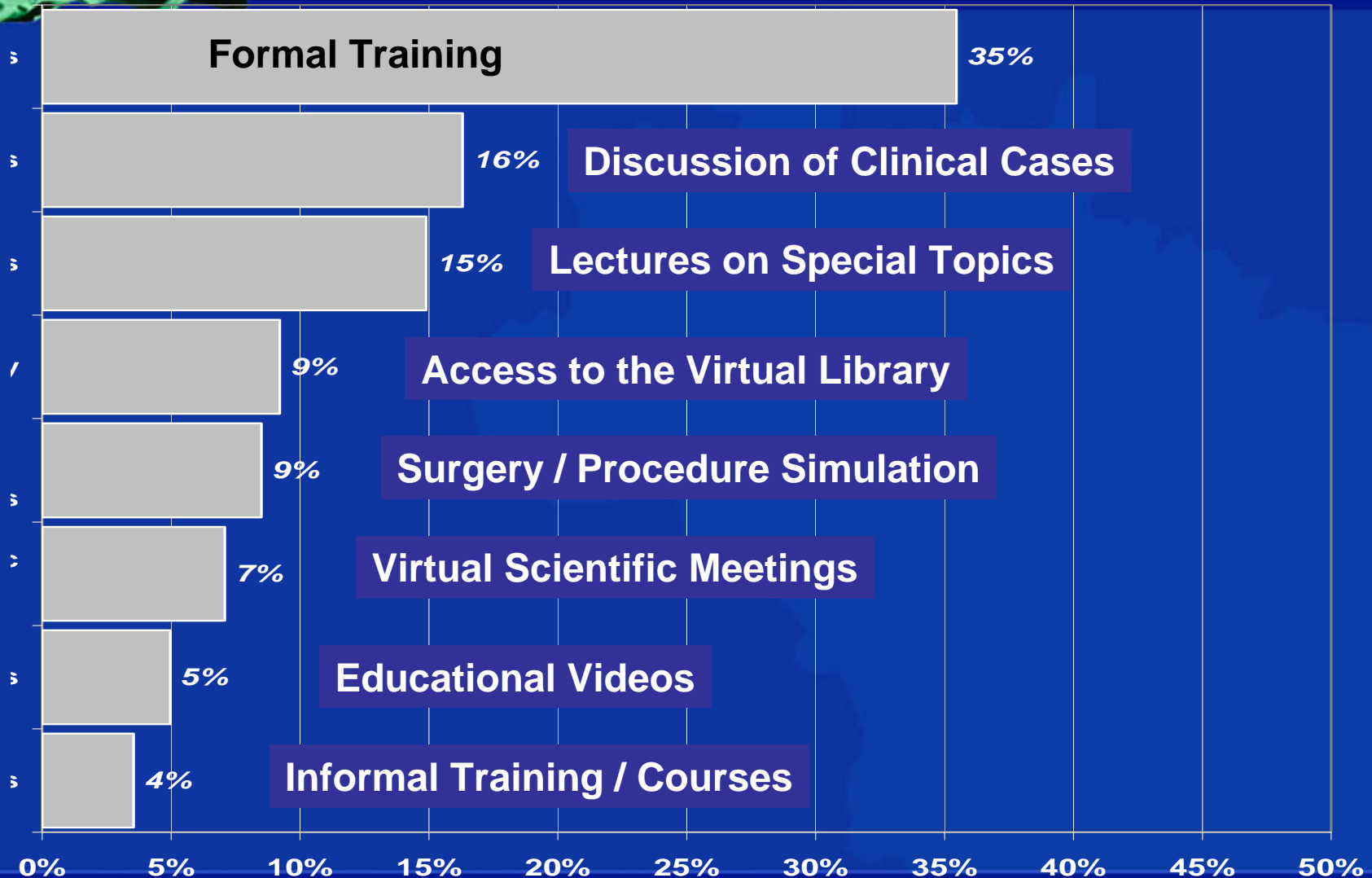
The National eHealth Primary Care Program, remote assistance and continuous education, initially rolled out across nine states and 900 municipalities

FINEP

Ministério da Ciência e Tecnologia

Ministério da Educação

Ministério da Saúde

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UM PAÍS DE TODOS
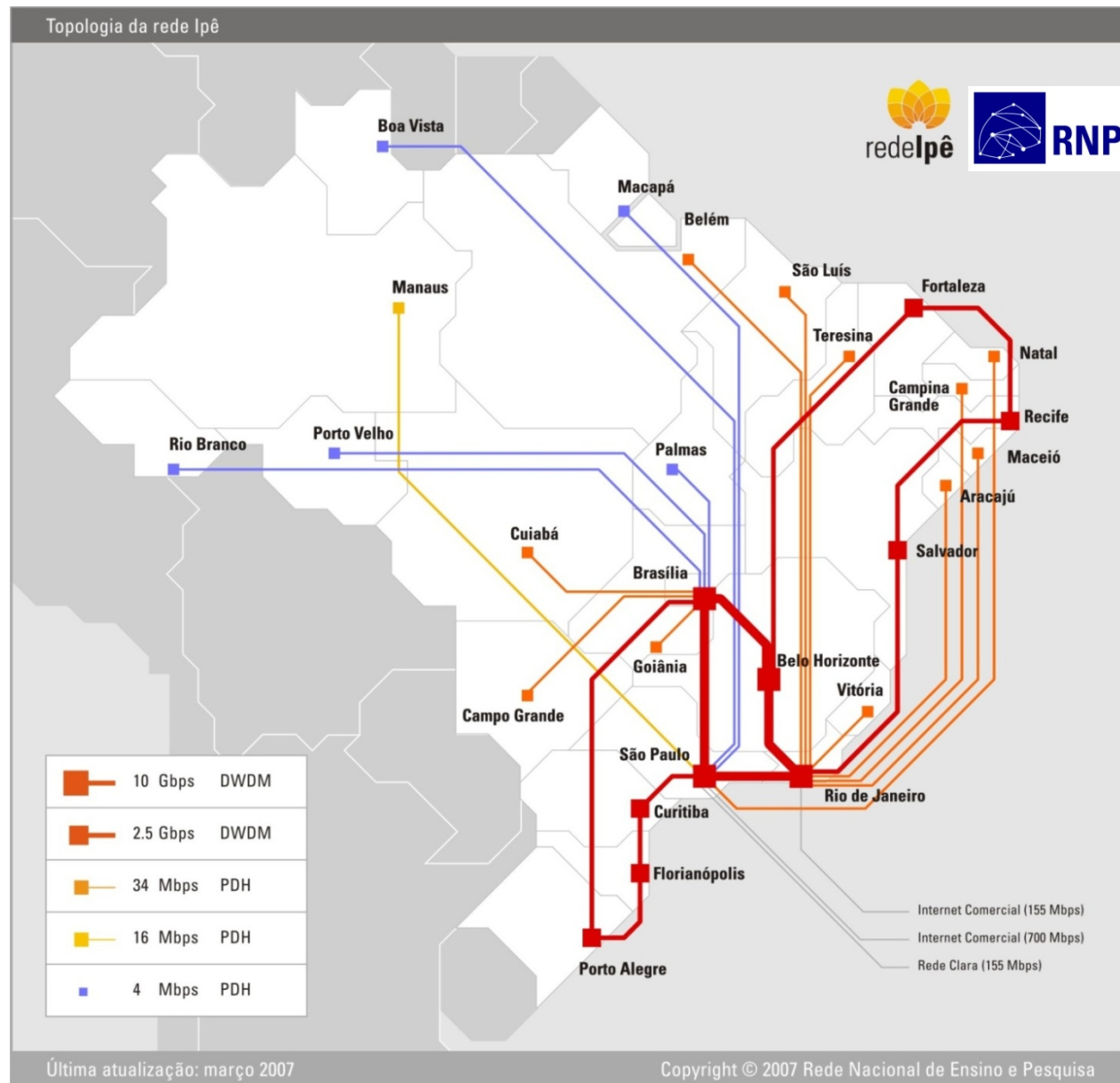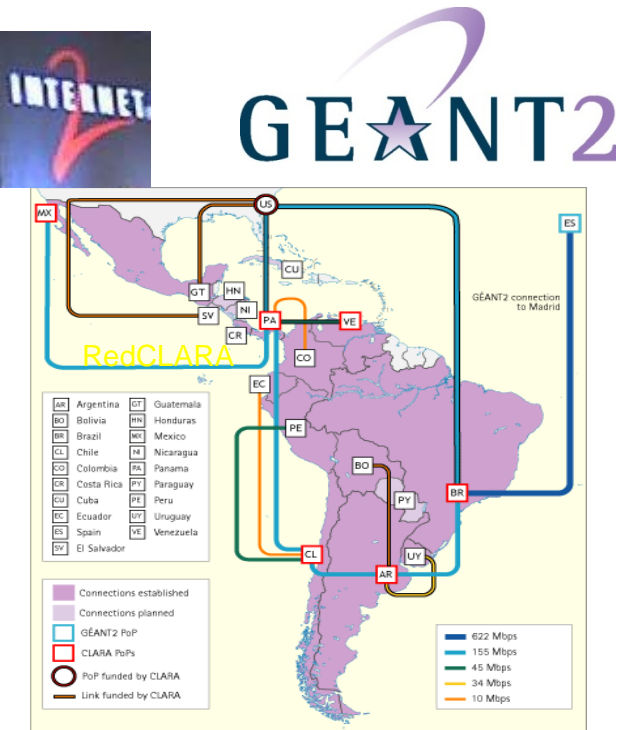GOVERNO FEDERAL

Telessaúde
Brasil

The Telemedicine University Network, RUTE, initially connecting 57 University Hospitals, collaborative research and education across all federal states

RNP))) R·U·T·E
REDE UNIVERSITÁRIA DE TELEMEDICINA

Learning and Research National Network

Topologia da rede Ipê

redeIpê   RNP

GÉANT2

INTERNET2

GÉANT2 connection to Madrid

RedCLARA

AR	Argentina	GT	Guatemala
BO	Bolivia	HN	Honduras
BR	Brazil	MX	Mexico
CL	Chile	NI	Nicaragua
CO	Colombia	PA	Panama
CR	Costa Rica	PY	Paraguay
CU	Cuba	PE	Peru
EC	Ecuador	UY	Uruguay
ES	Spain	VE	Venezuela
SV	El Salvador		

Connections established
Connections planned
GÉANT2 PoP
CLARA PoPs
PoP funded by CLARA
Link funded by CLARA

622 Mbps
155 Mbps
45 Mbps
34 Mbps
10 Mbps

10 Gbps   DWDM
2.5 Gbps   DWDM
34 Mbps   PDH
16 Mbps   PDH
4 Mbps   PDH

Internet Comercial (155 Mbps)
Internet Comercial (700 Mbps)
Rede Clara (155 Mbps)

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RedCLARA

Ministries of Health participating: Argentina , Brasil, Chile, Colombia, Ecuador, El Salvador, México y Uruguay
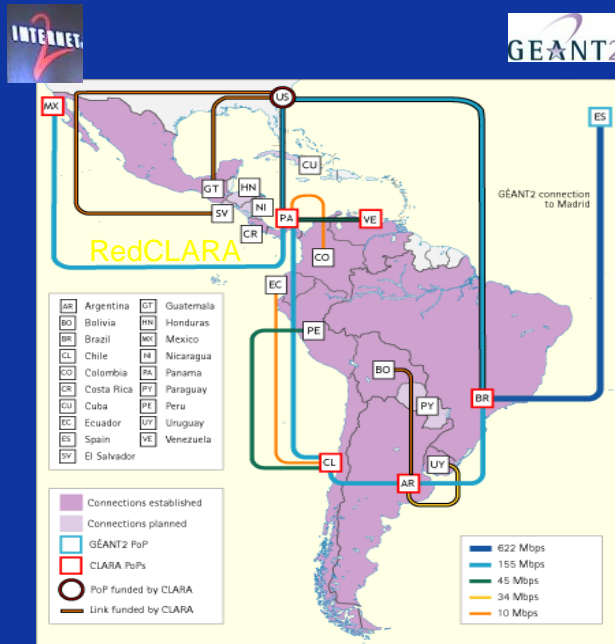
1. *Patrón regional de requisitos mínimos para la transmisión de datos e infraestructura*
2. *Estrategia para la promoción, prevención y asistencia de telesalud*
3. *Guías regionales para la gestión de telesalud*
4. *Estrategia para una red de investigación en temas de telesalud*
5. *Modelo de Capacitación y Certificación para personal en telesalud*

Project RG-T1509 : eHealth Public Policies in Latin America

Health Sciences Partnerships so far identified between Universities and Health Institutions in Brazil and USA
MoU Internet2 and RNP

Brazilian Universities and Health Institutions:

Universidade Federal Paulista UNIFESP

Universidade Estadual de São Paulo USP

Universidade Federal de Minas Gerais UFMG

Universidade Estadual do Rio de Janeiro UERJ

Universidade Federal do Rio de Janeiro UFRJ

Universidade Federal do Espírito Santo UFES

Universidade Federal de Santa Catarina UFSC

Universidade Federal do Ceará UFC

Universidade Federal da Bahia UFBA

Universidade Federal de Brasília UnB

Special Interest Groups - SIGs**:**
Oncology, Orthopaedic Surgery, Pathology, Pediatrics, Autopsy, Virtual Man, Rural Internship, Sportmedicine, Radiology, Orthopedia and Trauma, Cardiology, Gastroenterolgy, Hepatology, Liver transplantation, Immunology, Infectious Diseases, Tropical Diseases, Adolescent Medicine & Health, Contraception/Human Reproduction, Telepsychiatry, Dermatology, Bio-Informatics, Nursing, Otorrinolaringology, Anesthesiology, Pediatric Surgery, Endocrinology, Pneumology, Rheumatology, Alzheimer, Mastology, Nefrology, Urology, Violence Prevention, Health Rights, Ethical and Legal Issues.

American Universities and Health Institutions:

University of Florida ,
St. Jude Children's Research Hospital ,
Colorado University,
University of Pittsburgh,
University Medical School Chicago,
Medical Missions for Children,
Georgetown University,
University of California ,
Stanford University,
Cornell University Medical College,
University of Iowa,
University of Pennsylvania,
University of Cincinnati,
University of Maryland,
Children Hospital in Pittsburgh,
Cleveland Clinic Children's Hospital,
Virginia Commonwealth University,
University of Kentucky,
University of Arizona,
University of Miami Miller School of Medicine,
University of New York

RNP)))) **R·U·T·E**
REDE UNIVERSITÁRIA DE TELEMEDICINA

M of h

INTERNET2

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Evaluation

- ➢ data for establishing the base line
- ➢ process monitoring
- ➢ outcome evaluation

Base line: socioeconomic and epidemiological information, health family teams profile

Process monitoring: verify the quality of the processes developed by the health family teams, acessibility and use of the avaiable eHealth tools

Outcome evaluation: team level of orientation for primary health care, impact on population health indicators

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Distribution of consultations performed by the eHealth Project, December 2007 - July 2008
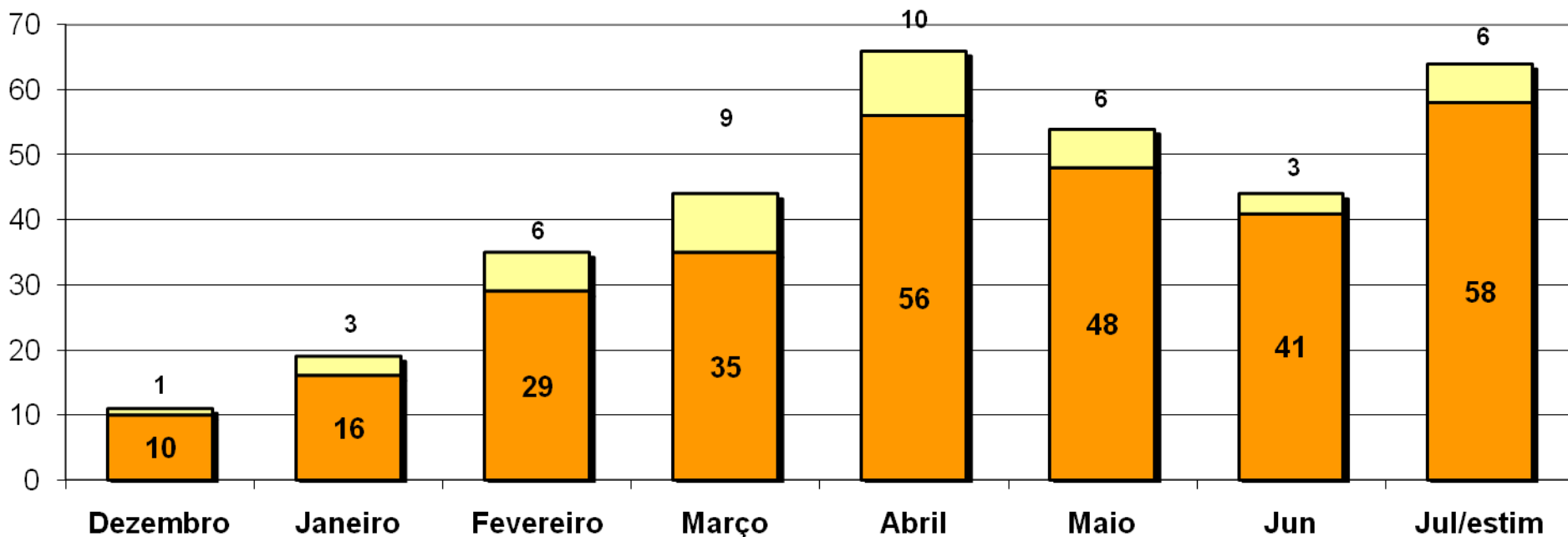
orange = writing, assyncronous consultation

yellow = vídeo, syncronous consultation

Ministy of Health
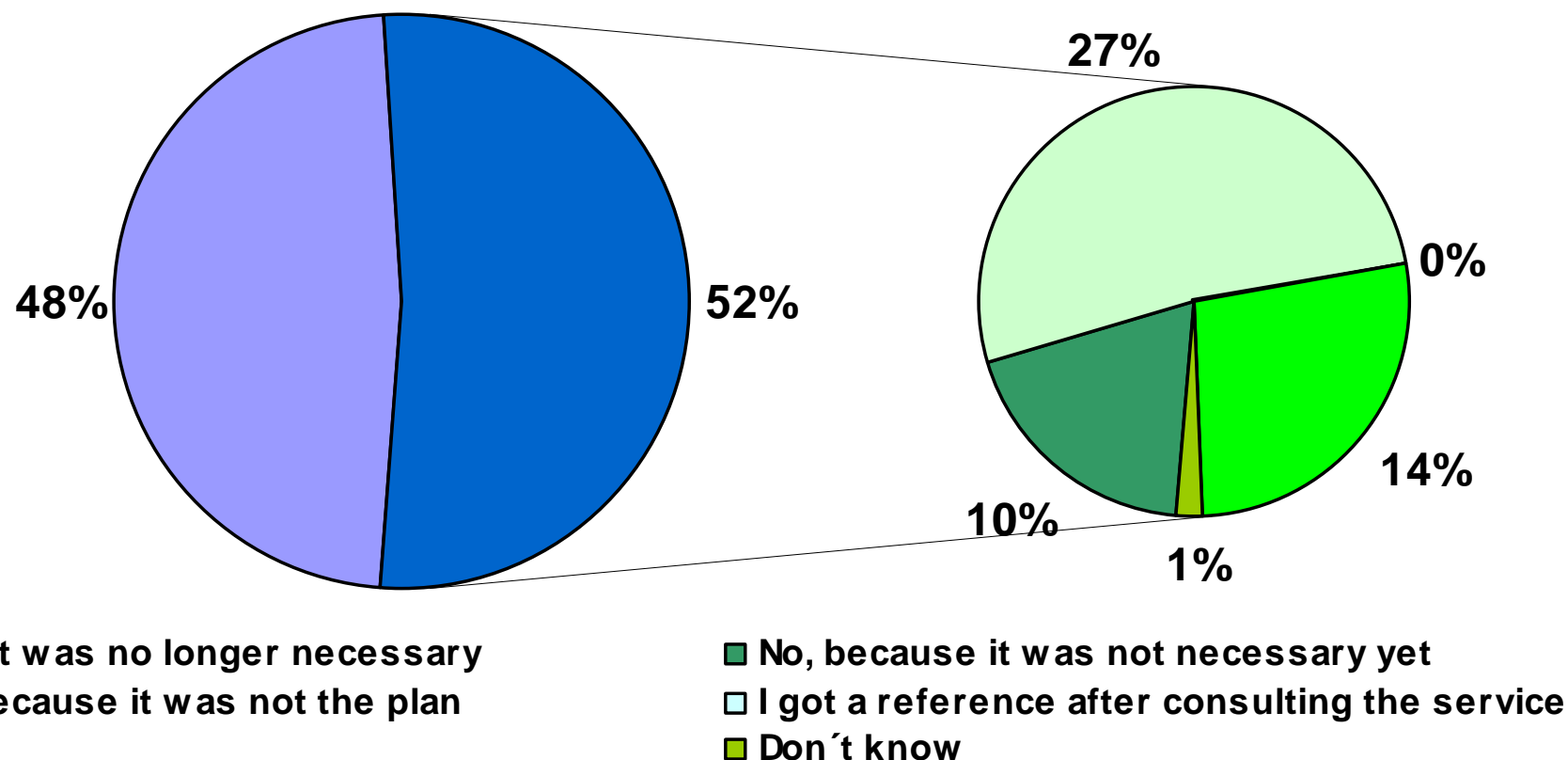
Client Satisfaction
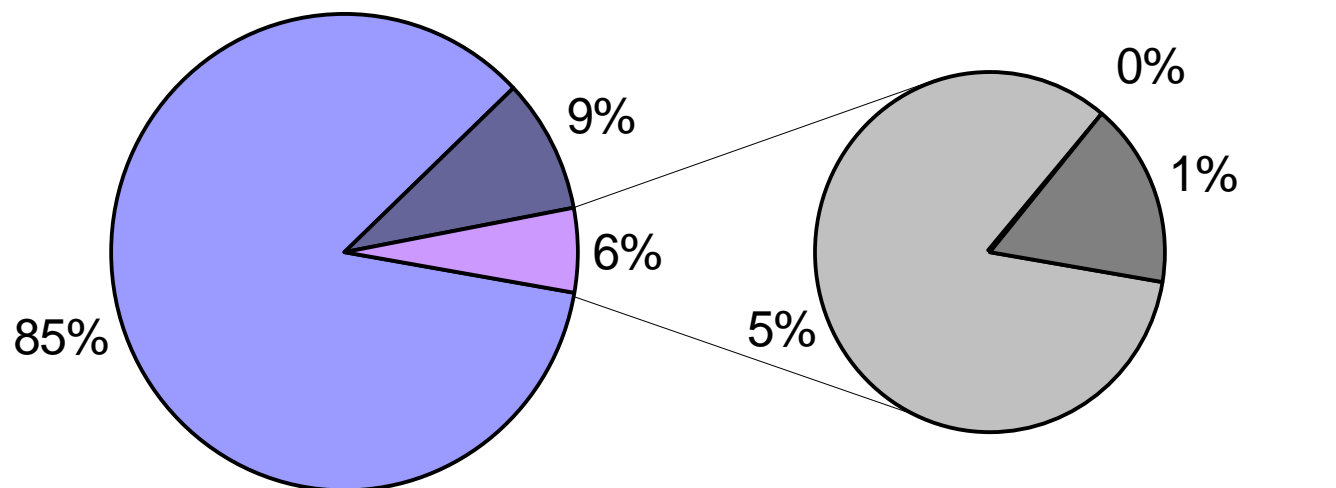
- Completely Satisfied
- Satisfied
- Indifferent
- Dissatisfied
- Completely dissatisfied

Figure 3: Percentage of cases in which after consulting the experts a reference was no longer necessary - Dec 2007 - July 2008

27%

0%

48%

52%

14%

10%

1%

☐ **Yes, it was no longer necessary**
☐ **No, because it was not the plan**
☐ **No**

☐ **No, because it was not necessary yet**
☐ **I got a reference after consulting the service**
☐ **Don´t know**

Patience and persistence are the most important ingredients to convince people to adopt a new way of working
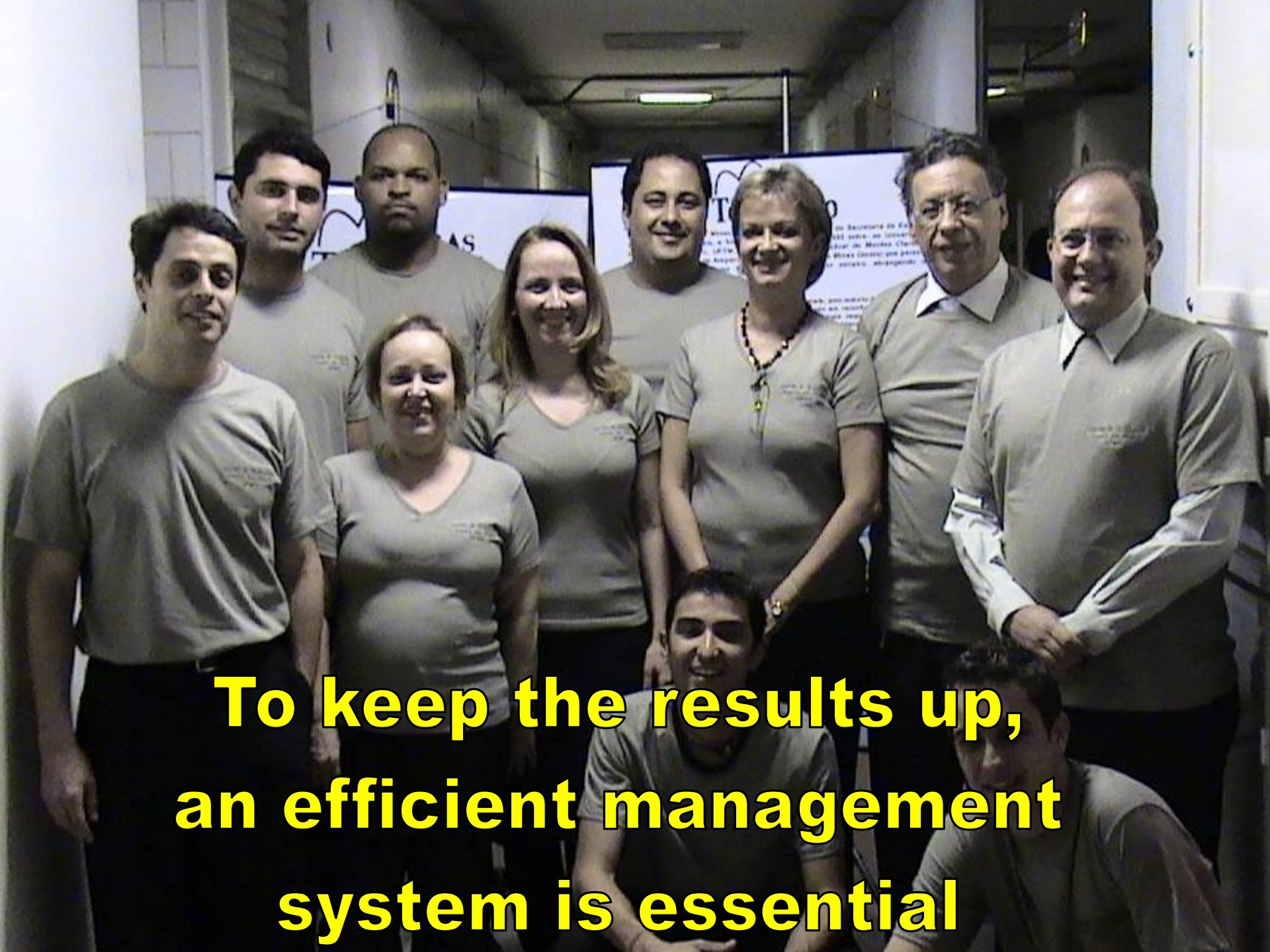
Local managers and clinical staff accept teleassistance when they realize that it will solve their daily public health problems

System operation should be as simple as the local users

Technology is the way of doing not the objective itself. Consequently it should be according to the real local conditions

To keep the results up,
an efficient management
system is essential

Lessons Learned

◆ **A long debate with civil society is a key step.**

◆ **Social participation is essential**

- including teachers, students, local health system workers and managers.

◆ **A nationwide joint effort from MoE, MoH, Universities and civil society is required.**

"The future has already arrived. It is just not evenly distributed"

Amazonia

São Paulo

Rio de Janeiro

Amazonia