

Telemedicine:

an effective health service modality for
fragmented populations



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The provision of health care for
all citizens is a state responsibility

Challenges to realization of objectives

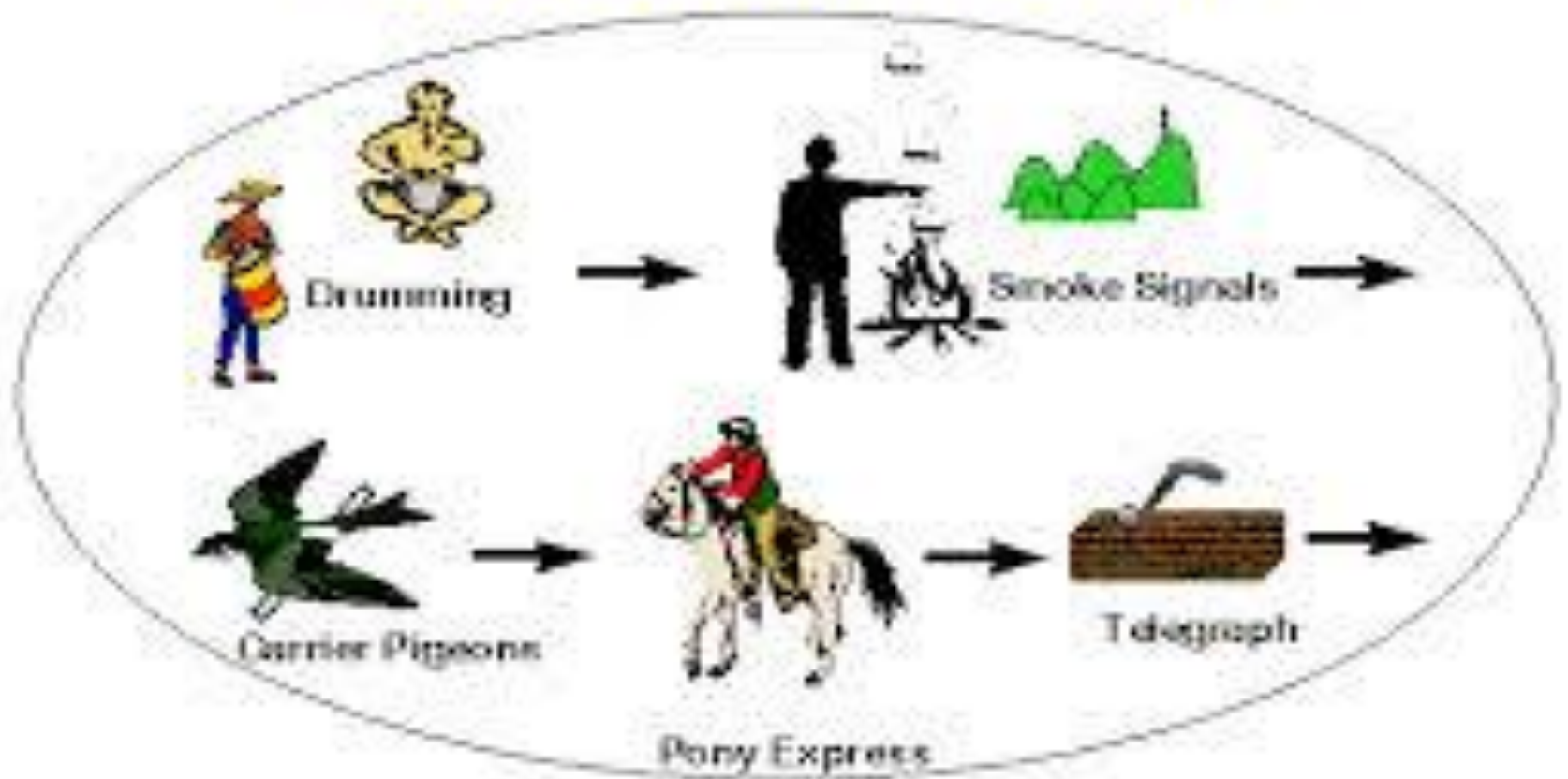


- inaccessibility to health care
- shortage of health resources
- uneven distribution of resources
- the rising health care costs and
- uneven levels of the quality of care

Continued:

- sparse and widely dispersed populations often cannot support the practice of specialists
- lack of educational, recreational and cultural amenities, professional isolation, lack of supportive services and other disincentives discourage physicians from working in rural and remote areas.

Evolution of Telecommunications





Modern information and communication technologies with the introduction of the satellite in the 1960s opened opportunities for the delivery of higher level of health care to the widely dispersed population

Internet, World Wide Web, mobile cell phones, digital television, and numerous other new electronic information and communication technologies opened fresh pathways for transforming the way we live, work, learn, and communicate.



What is Telemedicine?

“using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities”

(WHO).

“Use of medical information exchanged from one site to another via electronic communications to improve a patient’s clinical health status”

(American Telemedicine Association, 2012)

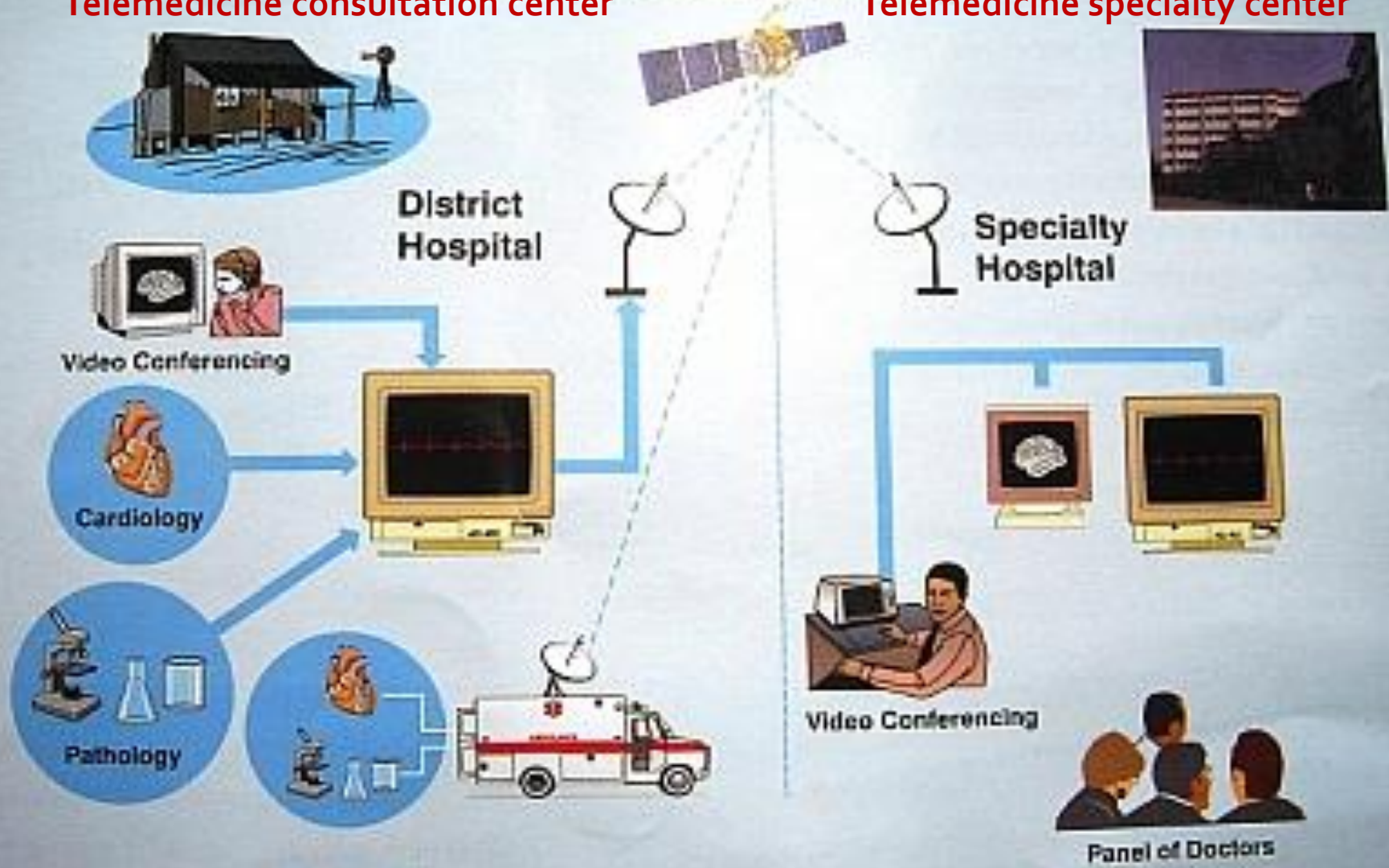
Telemedicine uses advanced telecommunication technologies to exchange health information and provide health care services across geographic, time, social, and cultural barriers.

All telemedicine applications require the use of the electronic transfer of information and involves computer technologies using narrow and high bandwidths for specific types of information transmission, broadcast video, compressed video, full motion video, and even virtual reality

TELEMEDICINE CONCEPT

Telemedicine consultation center

Telemedicine specialty center



Different Use of telemedicine



Advantages of telemedicine

- Consulting doctor can be anywhere in the country or world
- Avoids having to travel long distance
- Easy access to remote areas
- Significantly reduce the time and costs of patient transportation
- Monitoring home care and ambulatory monitoring
- Improves communications between health providers separated by distance
- Critical care monitoring where it is not possible to transfer the patient
- Continuing medical education and clinical research

CONTINUED

- A tool for Public awareness
- A tool for disaster management
- Easy access to second opinion and complex interpretations
- Can bring the expertise to medical practices
- Tele-mentored procedures in surgery using hand robots
- Disease surveillance and program tracking
- Provides opportunity for standardization and equity in provision of healthcare, within countries and across regions

- ❑ Maldives consists of approximately 1190 islands
- ❑ Spread over 90,000 square kilometers
- ❑ Size of islands varies on an average from one to two kilometers and lie around 1.5 meters above sea level
- ❑ 198 islands are populated
- ❑ Population 298,968 (2006)
- ❑ Over 75% of the population live in the outer islands



Already met the MDGs on eradicating extreme poverty and hunger, achieving universal primary education, reducing child mortality, universal immunization coverage, improving maternal health, and combating HIV/AIDS, malaria and other diseases.

- ❑ Life expectancy is 72.8 for males and 74.7 for females
- ❑ Child mortality under 5 is 11 out of 100,000.
- ❑ Maternal mortality ratio is higher at 37 out of 100,000.
- ❑ Adult literacy stands at 98%
- ❑ > 65 years 4.7 % in 2006 and expected to increase to
6.6 % by 2025
- ❑ 4%. Public expenditures on combined health and
education stand at 17.86% of GDP.

Challenges in the health care system

- Widely dispersed islands
- Rough seas during monsoons
- Unavailability and costly transport
- Shortage of health personnel and specialists

Telemedicine projects



2005 World Bank 4 islands (\$ 378,819)

2010 Major communication company 1 island (\$15500)

2010 – 2012 UAE Khalifa Foundation (\$5,868695)

- Establish telemedicine Kiosk in 35 islands

- Train

 - 100 Diploma level nurses (Completed)

 - 7 specialists (one completed & 5 under training)

 - 2 Biomedical engineers (to complete training this year)

Lessons learnt

- Disappointing telemedicine patient volumes
due to unawareness of the benefits of Telemedicine
- Inadequate preparation of health professionals
- Quick turn over of trained persons
- Poor payment arrangements for Tele-consultations
- Equipment placed away from physicians consultation
- Irregularities in electricity
- Vulnerability of access to patient records
- Political?

If telemedicine is wisely introduced into everyday practice and become part of normal way in care is delivered in hospitals, clinics, health centers, ambulance and emergency facilities, ships, aircrafts and households

then we would have achieved the ultimate goal of
this new form of medical practice

Especially for people living in distant places

Telemedicine is just one of the modalities to reach those communities located in remote or isolated areas.

we must remember that telemedicine cannot be substitutes for physicians in rural areas especially in developing countries where resources are scarce and public health problems are in plenty.

