



## Telemedicine Newsletter

February 2009

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### Welcome to the new staff

#### Lethlogonolo Nthite joins the Telemedicine Platform

Lethlogonolo has been working at the MRC in Pretoria for the past three years. She was successful in her application as a Telemedicine Research Technologist position in the Telemedicine Platform Division. She joined the team on the 1 December 2008. She intends to further her studies and broaden her knowledge of Telemedicine whilst working in the Telemedicine Platform.



#### Also joining the team is Telemedicine Administrator Ms Margaretta Noah

Margaretta is appointed as administration officer as from 1 February 2009. She has a substantial amount of theoretical knowledge in administration and a wealth of practical experience in finance and administration. She thoroughly enjoys opportunities to develop, is ambitious and always striving to improve herself.

#### Telemedicine Platform

Since we started in 2009, the team has grown. The telemedicine team is now an even bigger force to reckon with as we strive to become the leading Telemedicine Platform in Africa.

#### Telemedicine New and Upgraded System

In early 2004 the MRC and Stellenbosch University launched a project, by developing software and a computer interface for medical peripherals and video conferencing in a Primary Health Care Workstation. The Workstation will be affordable, ruggedized, and locally maintainable and has a user friendly human interface and allows automatic and/or remote configuration. This is most suitable for inexperienced computer users in all developing countries.

This same PHC Workstation is now being upgraded as part of Telemedicine's new project to better the health services in South Africa. This is exciting news for Telemedicine as we are striving to help more hospitals and clinics with the help of numerous partnerships from excellent investors.



## **Tele-Dermatology & Tele-Radiology**

**Teledermatology** is a subspecialty in the medical field of dermatology and probably one of the most common applications of telemedicine and e-health. In teledermatology, telecommunication technologies are used to exchange medical information (concerning skin conditions and tumours of the skin) over a distance using audio, visual and data communication. Applications comprise health care management such as diagnoses, consultation and treatment as well as (continuous) education.

Teledermatology can be practiced in 2 ways, one which is Store and Forward (SAF) and the second in Real Time which is also known as interactive dermatology (Wooton R, Oakley A; 2005). In teledermatology the store and forward method are the most frequently used? This involves the forwarding (sending) of digital images (pictures), which is associated with confidential medical information to consulted specialist (Dermatologist). E.g. it is as easy as sending an e-mail with a digital image of a lesion attached and this is mainly to seek advice for a skin condition from a specialist. The advantages of this method are that both parties (patient and specialist) don't need to be available at the consultation and there this is one of the most cost effective practices of telemedicine because it does not require expensive equipment (Burg G, Sover H.P, Chimenti S; 2005: 130-133)

In real-time /live interactive teledermatology applications, the consultation between the specialist and patient normally interact via live videoconferencing. This is where the Specialist can examine the patient live and then refer the patient to the nearest specialist if need be. The live interactive dermatology is more expensive then the store and forward method as here you need more applications are used and there are also running costs involve. In the long run it saves a lot of time and money for patients to travel from the rural areas to the nearest hospital, it also saves the amount of referrals from clinics to the hospitals as the Specialists can give advice to the Doctors and Nurses in the remote sites on how to treat the patients.

### **Bibliography**

Wooton R, Oakley A. (2002). Teledermatology: *Royal Society of Medicine Press Ltd.*

Burg G, Soyer H.P, Chimenti S. (2005): Teledermatology In: Frisch P, Burgdorf W. *EDF White Book: Skin Diseases in Europe*. Berlin, 130-133.

## **Teleradiology**

### **What is Teleradiology**

Teleradiology is a means of electronically transmitting radiographic patient images and consultative text from one location to another. Teleradiology may allow even more timely interpretation of radiological images and give greater access to secondary consultations and to improved continuing education. Users in different locations may simultaneously view images. Appropriately utilized, teleradiology can improve access to quality radiological interpretations and thus significantly improve patient care.<sup>1</sup>

### **Storage Systems**

#### **HIS/RIS and PACS**

The concepts of PACS and HIS/RIS (Hospital and Radiology Information Systems) are the same; only the data types are different. PACS applications manage images, and HIS/RIS applications manage patients, studies, and results. The coupling of PACS and HIS/RIS has been repressed due to incompatibility of data definitions and standards. Triggered by user needs, recent developments aim at high level integration of PACS and HIS/RIS.<sup>3, 4</sup>

### **Standards for teleradiology**

DICOM (Digital Imaging Communication) is an imaging standard that allows the exchange of data between different hosts and equipment across the network in a heterogeneous environment. The current revision of this standard is version.<sup>1, 2, 4</sup>

### **Applications or Components involved in Teleradiology**

Applications needed within the hospital entails the following X-Ray images of Primary diagnostic quality transmitted with minimum delay. High resolution film scan/print systems are needed. The components needed are an image acquisition device, image capture device, data reformatting, Storage devices, display workstation, communication networking.<sup>1, 3, 4</sup>

### **Bibliography**

[1] Second Generation Teleradiology - Engelmann, Schröter, al. (1997)

[2] An Introduction to Teleradiology [Online] Available: <http://www.radiology.uiowa.edu/MoreRAD/Teleradiology/Tele.html>

[3] BMJ 1995;310:1392-1393 (27 May)

[4] V.C. Psaros - Information security in web-based teleradiology

## Conferences, Courses and Training Opportunities for 2009

Medical Informatics and eHealth ICICIS 2009  
Cairo, Egypt  
<http://www.icicis.edu.eg>  
(19.03. - 22.03.2009)

SA Hiv/Aids Conference  
ICC Durban  
<http://www.sa aids.com>  
(31.03.09 . 03.04.09)

Med-e-Tel 2009  
Luxembourg, G. D. of Luxembourg  
<http://www.medetel.lu>  
(01.04. - 03.04.2009)

Satcom Conference  
Johannesburg, South Africa  
<http://www.satcomafrika.com>  
(07.04.09 . 08.04.09)

6th Annual World Health Care Congress  
Washington D. C., U. S. A.  
<http://www.worldcongress.com/events/hr2009>  
(14.04. - 16.04.2009)

World Health Care Congress  
Europe 2009  
Brussels, Belgium  
<Http://www.worldcongress.com/europe>  
(13.05. - 14.05.2009)