ABSTRACTS

1ˢᵗ International Conference on eHealth and Telemedicine (ICEHAT)

Kathmandu 1ˢᵗ - 3ʳᵈ November 2018

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ACTUAL USE AND USER EXPECTATIONS ABOUT eHEALTH INFORMATION AND SERVICES

Andres Cernadas Ramos
University of Santiago de Compostela, Spain

eHealth is a key element in the current national health policy community. There are many stakeholders who demand to reinforce the implementation of advances of ICT in the health system in order to improve healthcare development and citizen's access to health services. Although much remains to be done, in the last decade a great improvement has been made in this field, greatly promoting the incorporation of this type of technology into healthcare.

This research analyses the choices and expectations that citizens have about the use and application of ICT in healthcare in Spain, so that a diagnosis is made of the current perception and patterns of use of the Spanish population regarding ICT in the healthcare field. Specifically the study focuses on the following objectives: analyse the information channels provided to users of public eHealth services: due to ICT spread, determine the knowledge, access, skills and uses made by citizens in relation to their health and wellbeing and how these factors configure different digital gaps: outline the profile of users and non-users of eHealth public services.

The presentation expects to show the degree of maturity of citizens when accessing information and services related to healthcare. It also expects to provide information useful to design new eHealth policies, promote an active and informed role citizens in the health policy as well as better control of their treatments: open new information channels on health issues: improve the safety and quality of care thanks to better access of professionals to clinical information. Knowing citizen's use and expectations should encourage new models of eHealth policies.

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CHALLENGES IN THE IMPLEMENTATION OF A PAPERLESS HER IN A LARGE SKIN OUTPATIENT CLINIC IN SINGAPORE

Goh Chee Leok
National Skin Centre, Singapore

The National Skin Centre in Singapore attends to 1500 outpatients daily. The implementation of a fully integrated paperless EHR system in 2004 was a challenge. Since its implementation 15 years ago, new features have been added to enhance out Clinic services and improved staff productivity. The presentation shares our journey and provides the dos and don'ts when implementing a comprehensive EHR. We also share our improvements in our hospital and staff productivity and patient safety with the implementation of the EHR system.

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CHALLENGES WHILE PROVIDING TELEHEALTH SERVICES IN DEVELOPING COUNTRIES

Anil K Jha
Di Skin Health and Referral Center (Disharc) Nepal

Since 2009, we have launched an initiative utilising innovative technologies as a platform for providing services aimed at overall community development. A real-time tele-conferencing setup is used to provide consultation services for patients with skin diseases and the same infrastructure is also used to provide education and other skill development training services to rural communities as per their needs. Our vision is to improve the living conditions and livelihood of people through sustainable community development- planned, designed and implemented jointly with their context in partnership with individuals and communities. Our mission is to improve people's overall quality and standard of life, through health, education and services through telehealth and eHealth. In process of providing these services we have encountered several psycho-socioeconomic challenges to be discussed in this presentation.

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CLINICAL DATA EXCHANGE WITH CLICK OF THE MOUSE

Christa Nahodil
Member of the Society for Trauma Surgery, Austria Member of Society for Foot and Ankle Surgery, Germany Austria

Background: The Lower Austrian Hospital Holding has implemented a comprehensive Radiology collaboration system currently comprising four hospitals and several private Outpatient centres in the Waldviertel at the gates of Vienna. We wanted to optimise these cooperation models and make them sustainable. There were two core requirements. We wanted a location-independent direct access to diagnostic images and process data of all connected institutions and their standard RIS using not only clinical reports of their own site, but to virtually zoom into all other sites systems and work there without having to leave their own application.
Method: As we didn't want to copy images or clinical reports, but wanted to implement a direct access we needed streaming technologies which were available. The implementation of all RIS transactions in a 100 per cent web-based system was necessary. And this system had to be able to process different terminologies.
Result: Let's take a primary care facility with an ordinary radiologist without his own CT. For the diagnostic assessment of a trauma this radiologist would like a brain scan. He requests this as well as   a chest X-ray in his system. The middleware detects that parts of the order must be performed elsewhere, splits the order and assigns the different components of the job to each respective location where they can be performed. Overall the architecture is very well suited to implement decentralised trauma networks as they are predominantly used in countries with large areas and low population. Due to streaming technology multiple doctors can participate in the decision-making process regardless of where the patient is presently located. And after a patient has been transferred, the respective doctor can continue working exactly at the point where treatment stopped before transfer.
Conclusion: Value for the patient. Copies aren't just lying around. Therapy costs are reduced.

DERMNET NEW ZEALAND. ALL ABOUT THE SKIN

Amanda Oakley
University of Auckland New Zealand

Established in 1996, DermNet has rapidly become the most popular source of dermatological information with 3 million pages viewed in February 2018. International volunteers from all over the world have contributed to information pages about diseases and conditions, treatments and procedures, courses and quizzes. The DermNet team is now working on useful tools to enhance the future practice of dermatology including differential diagnosis and image-based disease recognition.

DEVELOPING eHEALTH STRATEGIES TO MEET YOUR NEEDS

Victoria Williams
University of Pennsylvania, Department of Dermatology, USA

eHealth and Telemedicine is a rapidly growing field that offers an array of adaptable solutions for any healthcare practice, but is particularly suited for improving healthcare in developing countries. When seeking to develop eHealth strategies in a new area, it is important to first assess the local needs to determine what minimal factors should be met in order to develop a program that is successful for everyone involved.
There are numerous different platforms and tools that can be engaged to customise a program to fit the needs of any setting. However, it is key to pick the right tools to address the goals of all involved partners. Some of the potential tools that can be incorporated include teletriage, telecare, teleconsult, direct to patient care, telepathology, mobile learning, and electronic medical records systems. There is no single right way to set up a telemedicine program, because not every tool will work in every setting. We will review the steps that should be taken to start a successful e-heath initiative, the pros and cons of different eHealth, mobile learning and informatics tools, and discuss examples of successful implementation of different methods in different settings.

DEVELOPMENT OF eHEALTH POLICIES IN SPAIN: OBSTACLES, PROGRAMS AND AGENDA

Ramon Bouzas Lorenzo
University of Santiago de Compostela – Faculty of Political and Social Sciences, Spain

Since the moment that the concept of electronic government emerged within the field of public management, the interest in incorporating its potential benefits to healthcare policies has not

ceased. In fact, it also turned itself an area of priority action plans for some international institutions like the European Union compelled to achieve a common health policy.

Health systems are under transformation worldwide, experiencing a transition from post-industrial society to the so-called digital society, a new kind of social organisation composed of networks fostered by Information and Communication Technologies.

This presentation aims to offer an overview of the development of eHealth and, in particular, its advance in Spain. The Spanish National Health System is comprised by both the Central Government Administration and the 17 autonomous regions public healthcare managements working in coordination to cover all the healthcare duties and benefits for which public authorities are legally responsible. The country's healthcare public system is regularly rated among the world's best, guaranteeing universal coverage and no upfront expenditure from patients apart from paying a proportion of prescription charges. However, in a decentralised State where health is a matter transferred to the regions· administrations developments are not homogeneous throughout the national territory.

The main objective is to show the major programs implemented as well as the barriers they face and their future agenda. To do this, we will try to identify the most relevant initiatives that have been launched, the potential ICT as transforming mechanisms of practitioner-patient or staff internal relationships, as well as the barriers eHealth encounters for its full development. A special focus is placed on the most outstanding results of the regions trying to identify best practices.

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eHEALTH AND TELEAUDIOLOGY NETWORK IN POLAND – PAST, CURRENCY AND FUTURE

Piotr Henryk Skarzynski
Institute of Physiology and Pathology of Hearing, Poland

The process of diagnosis, rehabilitation and post-intervention care over patients with hearing disabilities, often equipped with different kinds of hearing prostheses, usually requires an experienced, multidisciplinary team to undertake repeated sessions with the patient in the clinic. For the majority of patients it entails long travels from their home, associated with costs, time, and travel weariness. To reduce patients' burdens and allow specialist from the field to benefit from the experience of the World Hearing Center's team, the National Network of Teleaudiology (NNT) was established.

The aim of this report is to show what was done till now to develop National Network of Teleaudiology, to present what are we doing now and how are the plans for the future. Further development of the Network is planned. It is enriched with new diagnostic and research methods and its scope is still extended.

The NNT has proved to be a reliable platform for telefitting, telediagnosis, teleconsultations and telerehabilitations - improving quality of service for the patients and providing substantial time and money savings. With proper models of care telemedicine can be a method to cope with growing number of patients in the future, but still allowing for the need of expert's knowledge.

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eHealth AND TELEHEALTH IN NEPAL: AN ICT PERSPECTIVE

Bhacirath Tiwari
(Disharc and chest) Nepal

Background: Information and Communication Technologies (ICT), in the name of eHealth and Telehealth, are on the rise in Nepal. As per WHO, Telehealth involves the use of telecommunications and virtual technology to deliver healthcare outside of traditional healthcare facilities, while eHealth is the use of ICT for health. Therefore, Telehealth requires access only to the telecommunications, is considered as the most basic element of "eHealth", which uses a wider range of information and communication technologies (ICTs). In both situations, ICT is playing a vital role in the modern healthcare systems in Nepal.

Objectives: To analyse the role of Information and Communication Technology into eHealth and Telehealth concept to reach remote and marginalised communities in Nepal, from an ICT perspective.

Methodology: Analysis of the role of ICT regarding the use of eHealth and telehealth with the experiences and lessons learnt from Community Health Education Services Through Telehealth, Nepal (CHEST Nepal).

Results: While eHealth and Telehealth are gaining popularity in Nepal, only few initiatives are successful amid several technical, geographical and administrative challenges and constraints. Community participation in the planning and operational activities is one approach to foster the use of eHealth and Telehealth. In Nepal, one central and three satellite station established and patient consultation, vocational and agricultural training has been provided. Periodic monitoring data show that the evidence on the impact of the initiative is encouraging. It seems to be still a long way to support a new generation of satellite stations who are equipped, enabled, trained and engaged in their community's health and healthcare management using innovative ICT technologies.

Conclusion: Use of eHealth and Telehealth for the modern healthcare management in the country like Nepal can only show impact when healthcare professionals are willing to engage in a true partnership with the community people, and when community people are willing to take over responsibility for their own healthcare and training using innovative Information and Communication Technologies.

ENSURING CONNECTIVITY AND SECURITY OF DIGITISED MEDICAL TRANSACTIONS

Perrine Lecoullon
FAMOCO, France

As telehealth and eHealth solutions develop, an increasing number of countries, public institutions and health facilities are digitising their medical transactions (i.e. exchange of data). This allows to store and access medical information easily, and is more efficient than traditional paper transcripts, which can be lost or destroyed. Electronic health records also ensure that medical professionals have access to accurate and up-to-date information about patients. There are two essential issues that come with digitising medical transactions: connectivity and security. One must ensure that transactions happen smoothly, both online and offline, and that the exchange of sensitive medical data is extremely secure.

Famoco provides secure Android based devices that ensure online and offline connectivity, as well as data security at all levels of transactions. Our devices can be deployed for multiple use cases: processing of medical transactions, staff management, payment solutions etc. Our custom secure Android OS, from which we have removed Google services, ensures that no third party can access patients· data. With their external and embedded secure elements, our devices were conceived to ensure connectivity on the field and security of transactions all

while remaining extremely portable and easy to use.

Famoco and the World Food Programme have developed a solution that digitises social protection programmes. By reducing information silos and paperwork, yearly monitoring costs have dropped by 74%. This means resources can be used to increase the number of people covered by the programme by 17%, raise awareness and reduce levels of malnutrition amongst vulnerable communities. We are committed to helping public and medical institutions successfully digitise their transactions to best serve.

INTRODUCING STORE AND FORWARD TELEDERMATOLOGY IN THE REPUBLIC OF TAJIKISTAN USING GOOGLE DOCS

Ali Loftizadeh
Director, PASHA, USA

Background: In Tajikistan, patients with dermatologic complaints often travel to the capital of Dushanbe to seek a second opinion from the most experienced dermatologists. However, reaching Dushanbe is difficult because of long distances, weather conditions, and mountainous terrains. We devised a store and forward teledermatology program to connect dermatologists from across Tajikistan to experts at the Republican Centre for Skin and Venereal Diseases (RCSVD) in Dushanbe.

Methods: Starting in January 2017, we purchased and installed six desktop computers at the RCVSD and the local dermatology clinics in the cities of Tursunzoda, Vahdat. Kulob, Qurghonteppa, and Khujand. We trained referring and consulting dermatologists to use Google Docs as a teledermatology platform as follows: referring dermatologists took photos of skin lesions using a mobile phone, transferred the photos onto the desktop computer, and uploaded the photos, the patient's medical history, and patient's medications into a sequence of cells in a Google Doc spreadsheet. Consulting dermatologists at the RCSVD reviewed spreadsheets with newly uploaded patient information on a weekly basis and provided their assessment/plan in a separate cell in each patient's corresponding sheet. In July 2017, a focus group was conducted to assess the program. Funding was provided by the American Academy of Dermatology.

Results: To date, 216 patients (60 from Vahdat. 109 from Khujand, 28 from Kulob, and 19 from Qurghonteppa) have received teledermatology consultations from the RCSVD. Referring and consulting dermatologists reported overall satisfaction. The major cited barriers were time restraints for conducting teledermatology consultations, lack of remuneration, difficulty transferring photos to the desktop computer, and preference of a mobile-based technology.

Conclusions: Google docs is an effective and inexpensive method for store and forward teledermatology. Increased uptake of a will depend on a multitude of factors including better integration of teledermatology into routine medical services and use of mobile devices.

IS MOBILE TELEDERMATOLOGY A VALUABLE TOOL FOR DIRECT PATIENT-DERMATOLOGIST CARE IN CHRONIC SKIN CONDITIONS?

Sudha Agrawal
BP Koirala Institute of Health Sciences, Dharan, Nepal

Mobile teledermatology, a modification of teledermatology, includes mobile cellular phones to communicate images and data for the purpose of teleconsultations. The images in mobile teledermatology can be sent directly through Internet protocols or through the mobile phone service itself in the form of multimedia messaging services (MMS).
It is technically feasible, convenient and speedy. It is a diagnostically reliable method of expanding access to dermatology care in remote or poorer regions of the world where access to computers with Internet connectivity is unreliable or insufficient. Moreover, the consulting dermatologist and the patient do not need to be at a particular location for sending and getting information. It has become cost effective with the decreasing cost of smart phones, increased capability of mobile phone cameras and mobile broadband services. Mobile teledermatology has shown good results in concordance studies comparing it to face-to-face consultations. It is also useful as a tool to follow up patients with chronic dermatological problems like psoriasis. It reduces the waiting lists, rationalisation of patient care, reduce the cost and patient travel.
Nepal, a habitant of more than 29 million habitants, has a tremendous geographic diversity with Terai, hilly and mountainous and limited access to dermatology care. However, there is increasingly and readily availability of mobile communication even in trekking areas high in the mountains. The presentation will highlight the mobile systems documented in the literature to date and emphasise the data supporting the feasibility of Mobile teledermatology to deliver dermatology services, particularly in follow up of the chronic skin conditions with its challenges and limitations.

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MULTIDISCIPLINARY EDUCATION SUPPORTING DISSEMINATION OF EHEALTH AND TELEMEDICINE

Pirkko Kouri
International Society for Telemedicine and eHealth

The future of social and healthcare is shaping up in front of our eyes mainly through digital technologies such as artificial intelligence, virtual reality/augmented reality R. 3D-printing or robotics and use of big data. Huge amount of available information, digital devices, assistive devices, service design and various digitalised solutions have the potential to anticipate health challenges and to improve lives in many ways. Simultaneously persons from various fields and working in the social and healthcare field need to acquire a range of new skills.
Some skills are related to usability and service design and some technical such as how to get the most from new digitalised systems/processes or advances in secured technology. Some are organisational such as how to work in multi-disciplinary teams and how to manage professionals from different fields. Furthermore, the change also demands new attitudes, innovative working manner, finding ways in which the multi- professional persons can engage in effective partnerships in national and international context with both service users and the organisations that purchase social and healthcare on their behalf. Our organisation offers working-life focused studies. The Master's Degree in Digital Health provide the students with skills needed for innovative development of digital social and healthcare services, service production, expert organisation management and for the development of service quality and management. The studies have information related to privacy and data security issues. The studies also prepare the students for planning, implementing and evaluating the social welfare and healthcare

reform in different operational environments. The presentation shares experiences of the first Master in Digital health students, who started their studies in Autumn 2017.

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OVERVIEW IN TELEDERMATOLOGY AND THE ITALIAN EXPERIENCE

Giovanni Damiani
Young Dermatologist Italian Network Italy

Telemedicine is growing also in the field of dermatology, especially in the telediagnosis to skin both pigmented and not pigmented lesions. At the moment the new frontier is the computer diagnosis that pre-analysed data acquired with teledermatology. We will summarise the experience in literature towards the machine learning technology carefully assessing results and limitations. Last but not least we will report our experience with patented 4th generation artificial neural networks developed by Centro RicercheSemeion a special department of MIUR (Ministero dell'Istruzione dell'Universita e della Ricerca) in Italy.
The research assessed 58 dermatoscopic images of nevi and 34 melanoma (8-bit RGB with resolution of 768x560 pixels) obtained from a public database PH2, realised by Servizio di Dermatologia dell'Ospedale Pedro Hispano (Matosinhos, Portogallo). 4th generation not supervised neural networks (ACM family) and advanced supervised systems deep-learning type, allowed us to obtain accuracy of 98% (sensitivity = 99%: specificity = 97 %) after several sessions of independent training-testing.
This study represents a pioneering application to machine learning in the delicate field of melanoma diagnosis.

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PATIENT ASSISTED TELEDERMATOLOGY IN CLINICAL PRACTICE

Ciurmohan Singh
National Academy of Medical Sciences, India

In last couple of decades a significant percentage of young population is migrating to other states and countries. Patients with chronic skin diseases among them wish to continue the treatment from the dermatologist who has initiated the treatment and they are satisfied. There are others from remote areas or those who are very elderly. These groups were offered tele-consultation for follow-u p.
The diseases covered included Vitiligo, Psoriasis, Leprosy, Lichen planus and chronic ulcers. Experience gained over l0 years with challenges and advantages will be presented.

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PATIENT CARE USING MOBILE APP IN RURAL NEPAL: A UNIQUE INNOVATION

Sabina Bhattarai
Kathmandu Medical College, Nepal

Introduction: Conducting Camps in rural parts of the country is a big challenge. Owing to the difficult terrain, no road access, electricity services, limited specialist services and follow up after the camps gets over are always a matter of big concern. This is the first of its kind in Nepal where a health camp developed and used a mobile app to record, screen and treat patients in rural settings.

Methodology: A mobile app was designed for our voluntary camp which could record clinical details including photographic evidence of the patients. This app was used at the registration where a unique number was given to each patient and then the patient according to their ailment chooses the particular specialist available at the camp. The app was interlinked with all the specialists and each doctor could see the diagnosis and the medicine prescribed in order to avoid duplication. The unique number was to be kept by the patient and could go for follow up at the available health post where the doctor in doubt could communicate with the concerned specialist through the number provided which could be accessed when on line at the capital.

Result: A total of l,710 patients were seen in the camp conducted in Mugu, far western region of Nepal with about 3,363 cross consultations between Internal medicine, Surgery, Gynaecology, Ophthalmology, Orthopaedics, Radiology, Paediatrics, Otorhinolaryngology and Dental Departments. Routine screening, treatments and surgical interventions were also carried out by the specialised team.

Conclusion: In countries and places where it is difficult for the majority of people to have better health services, mobile health camps when conducted can use the app for demographic prevalence of diseases and treatment followed by timely and proper follow up of patients in need.

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RAPIDLY GROWING TELEMEDICINE CENTRE OF HENAN PROVINCE

Huiting Dono
Department of Dermatology, the First Affiliated Hospital of Zhengzhou University of China

Telemedicine Centre of Henan Province (TCHP) (http://www.htcc.org.cn/mainjhtml) was founded in 1996 and located the First Affiliated Hospital of Zhengzhou University (FAHZU), Zhengzhou, China. Its evolution can be divided into 3 stages.

1996-2001: TCHP occupied one room of about 30 m^2, with 2 nurses organising teleconsultation and tele-education. FAHZU worked as a referring hospital referring challenging patients to the hospitals in Beijing or Shanghai via a real-time teleconsultation system. During this stage, less than 100 cases were tele-consulted per year.

2002-2013: FAHZU worked both as a referring hospital and a consultant hospital at this stage. According to available data, in 2006, TCHP had 18 referring hospitals: 297, 662, 233 cases were teleconsulted in 2003, 2005, and the first 5 months of 2006, respectively: and among the 233 cases in 2006, 2 were in dermatology.

2014-2017: TCHP expanded to an area of 2800 m^2 with 28 staff members, who administrated and maintained the real-time telemedicine systems, coordinated in teleconsultation and tele-education, and tele-coordinated in case of emergency. FAHZU played a role of consultant hospital. Up to 2017, there are already 147 referring hospitals, mainly located in Henan province and 2 remote provinces in China, connecting to TCHP. The teleconsulted cases in dermatology numbered 9, 58, 90, 72 in 2014, 2015, 2016, and 2017, respectively: whereas those in all specialties counted 2322, 12893, 19384, 20725 in 2014, 2015, 2016 and 2017 respectively. Most of the teleconsulted cases (85.84%) were in internal medicine (50.73%), surgery (23.14%) and gynaecology and

paediatrics (11.97%): the teleconsulted cases in dermatology accounts for 0.41% of the total teleconsulted cases.

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REACHING THE UNREACHABLE: POTENTIAL AND CHALLENGES OF TELEPSYCHIATRY IN NEPAL

Prerna Jha
University College of Medical Sciences, Nepal

Telepsychiatry is a subset of telemedicine which provides a range of services including psychiatry evaluations, therapy (individual therapy, group therapy, family therapy), patient education and education management with the use of various information and communication technologies. Psychiatry services are concentrated only in the urban areas creating a huge treatment gap in rural areas especially in under-developed countries which are left untreated.
Telepsychiatry helps to improve access to mental health specialty care that might not otherwise be reachable like rural parts of Nepal across many populations (adult, Child, geriatric, and ethnic).
Telepsychiatry has to be cost effective and should always address legal and ethical issues for its proper functioning. Mental healthcare can be integrated into primary care and taken to the doorstep of patients in the community to narrow the treatment gap focusing on the models of telepsychiatry best suited for Nepal.
Future directions are needed for more research on service models, specific disorders, the issues relevant to culture, ethnicity, language and cost for proper implementation and outcome. In conclusion, progress in the field of telepsychiatry in underdeveloped countries like Nepal is important and is necessary to be discussed in coming days.

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SUCCESS FACTORS OF TELECOMMUNICATION

Guenter Burg
Dermatology University of Zurich, Switzerland

Communication is the basis for the evolution of human mankind starting with the capacity to speak 160 000 years ago in order to communicate with dozens of people, followed by the next step, which was reaching hundreds of people due to writing skills 6 000 years ago. The invention of printing 500 years ago gave a tremendous boost and marked the next step in the evolution of communication allowing spread of information to thousands of people. The recent step during the past 20 years is global networking, by which millions of individuals are reached anywhere and anytime via telecommunication.
There are three important factors for successful telecommunication:
Innovation is the basis for technical progress. It can be a further development of approved technology or completely new concepts. In the context of knowledge transfer, innovation includes development of new learning management systems (LMS) for schools, universities and for professions.
Dissemination is the second important factor. New technology is of no use if it does not reach the anticipated target groups. Spreading innovative technology and cultures always also is a financial challenge and a political issue.
The third important factor is acceptance which often means changing old habits and being open for new

developments and new behavioural cultures. In the past big companies failed because of lack of flexibility. This lecture will focus on these three prerequisites for successful telecommunication with special emphasis on telemedicine and teledermatology.

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SUCCESSFUL APPLICATION OF e-ORAL HEALTH IN DIFFERENT LEVELS OF COMMUNITY

Dharma Pratap Bharkher
Buddhajvoti Dental Home and NARTC Hospital

"eHealth in today's sophisticated time is no less than a boon for the mankind", but this statement doesn't seem to be well accepted by every individual on this planet. To be more clear on this point, it would be better to divide the people in three different groups: l. the educated & conscious, 2. the educated but unconscious, 3. the uneducated and the unconscious. The concept of eHealth seems to be well accepted by l and partially by 2 and very slightly by 3. But when it comes to e-oral health. it seems to be well accepted by l. very slightly by 2 and almost nil by 3. This difference is basically due to difference in awareness regarding health and oral health .and this difference significantly increases in case of no.3 people.
As oral health seems to be neglected it is obvious for e-oral health to be neglected too. So the e-oral health in such cases finds tough challenges for its successful implementation and should be presented with different strategies for different group of people. Based on their psycho-socioeconomic levels. I will be trying to simplify these topics in my presentation.

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TELEDERMATOLOGY FOR THE MANAGEMENT OF SKIN DISEASES IN PRIMARY HEALTHCARE CENTRES: EXPERIENCE OF A RESOURCES LIMITED COUNTRY, MALI (WEST AFRICA)

Ousmane Faye
Faculty of Medicine and Odontostomatology, Bamako, Mali

Introduction: In resource limited countries, patients suffering from skin diseases have no access to skin doctors who generally prefer to settle down in big cities. In Mali, a country with about one dermatologist per million inhabitants, several studies have pointed out the poor management of skin conditions particularly in primary healthcare centres. Forty per cent of patients are misdiagnosed; large numbers of drug are prescribed without satisfactory outcome. To address this issue, Malian skin specialists set up a programme of teledermatology focused on primary health centres particularly in remoted areas. This study is aimed at investigating the impact of this programme on the management of skin diseases in the targeted centres.
Methods: In October 2015, a programme of teledermatology based on store and forward was implemented in 10 health centres randomly selected through three health regions. This programme was approved by the National review board. In each targeted health facilities, two healthcare providers were given training focused on the management of common skin diseases, the capture of skin images and the use of a platform to send pictures to dermatologists (experts) for seeking advices. They were also provided with digital camera, computers and Internet devices to take and send via a platform pictures of patients who need to be referred to a skin hospital. We evaluated the number of all referral the time to receive the response from experts and the diagnosis concordance

between experts.

Results: One year after training (October 2015 to October 2016), 180 patients were consulted and received diagnosis and treatment via teledermatology in the targeted health facilities. The number of photograph sent by patient varied from 0 to 13, the mean was 3.6. Except one case no patient refusal was noted. The quality of information and photographs was considered good or excellent in over 90 % of cases. Ninety-six per cent of patients were properly managed via the response given by experts. The mean time to receive the expert's response was 32 hours (range: 13 minutes to 20 days). Analysis of diseases diagnosed illustrated a wide range of conditions: pyoderma, Eczema, prurigo, keratoderma plantaris, vitiligo, small pox, pemghigus, drug eruption, psoriasis, lupus erythem atosus. The overall diagnosis concordance between experts was judged good (kappa= 0,78). According to some healthcare providers, this initiative enhanced both health centre and general healthcare practices.

Discussion: This teledermatology initiative has hugely improved the management of all skin diseases in the targeted primary centres. A large number skin disease was identified and managed by healthcare workers whose knowledge was also improved along with the intervention. Initial training on the management of common skin diseases helped to limit unnecessary referral. In developing countries, Internet accessibility and connection quality represent the main challenge when conducting a programme of teledermatology.

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TELEDERMATOLOGY IN AESTHETIC SURGERY

Jayakar Thomas
Sree Balaji Medical College, Chromepet, Chennai, India

A simple definition of Telemedicine (TM) is "the use of electronic information and communications technologies to provide and support healthcare when distance separates participants". World Health Organization (WHO) defines TM as "the delivery of healthcare services where distance is a critical factor by all healthcare professionals 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 healthcare providers, all in the interests of advancing the health of individuals and their communities". The applications can be of great use in aesthetic treatments. In the author's own personal experience, about 1-4% of teleconsults involve enquiries about dermatosurgery or aesthetic surgery or procedure. Common mails are queries on procedural treatment of facial melanosis, acne scar revision and androgenetic alopecia. Here the patients are at an advantage of deciding on the choice of therapy assisted by expert's opinion, without spending or wasting time and money on travel.

With proper standardisation of imaging, equipment, procedures and recording, supported by user-friendly legal and insurance regulations, practice of TM in general, and aesthetic surgery in particular will be made much easier. Courses and specialisation on e-learning by introducing special courses with the Medical Council's approval, having a global standardisation will have a long way to go in shrinking the world in terms of practicing dermatology in all its specialties including aesthetic surgery. With advancement of knowledge and expanding facilities every day, no medical practitioner can keep up without help. By adopting high-tech medical communication, high-performance computers, high-resolution cameras and fibre optic equipment, the entire world of medical science remains placed at the fingertips of even the most isolated rural family doctor.

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TELEDERMATOLOGY IN INDIA

Shyam Sundar Pandey

The term "teledermatology" was coined in 1995 with too concepts which form the basis for practice.
Telecommunication technologies are used to exchange medical information over a distance.
Infrastructure used in TM system includes hardware, software, connectivity and centre. Either store and formed technique (SAFT) or real time video conferencing (RTVC) can be performed.
Area of application of this technology are many more and there are various domains with special interest. The details of its uses limitations and present scenario in India will be discussed at the time of presentation.

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TELEDERMATOLOGY PATHWAYS IN THE WAIKATO REGION OF NEW ZEALAND

Amanda Oakley
University of Auckland New Zealand

Poor access to dermatology means most patients with skin disease in New Zealand are cared for in primary care. We have evaluated live interactive and store-and-forward teledermatology systems for the last 25 years. With the widespread adoption of mobile devices, increasing numbers of electronic referrals are now accompanied by clinical images. This has resulted in a reduction in numbers allocated to face-to-face clinics despite a huge increase in referrals.
New Zealand has the highest incidence of melanoma in the world. Teledermoscopy allows early diagnosis of melanoma and reduction in unnecessary referral and excision of benign lesions. General practitioners are encouraged to send regional, close-up and dermoscopic views: if they are inadequate, the patient is allocated an appointment for imaging at a Virtual Lesion Clinic.

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TELEMEDICAL FITTING OF PATIENTS WITH COCHLEAR IMPLANTS IN CENTRAL ASIA WITH HEARING IMPLANTS

Piotr Henryk Skarzynski
Institute of Physiology and Pathology of Hearing, Poland

Background: Each intervention with hearing devices it is beginning of patients' pathway in hearing restoration. After cochlear implantation, the speech processor must be optimally fitted. Also after fitting hearing aids there is need for optimal adjustment for patient. The majority of patients have been implanted and are unable to receive correct implant fitting. They have to undertake a long trip to the cochlear implant clinic, and this incurs high cost, time, and travel weariness. To overcome this problem, 'telefitting ' has been proposed. The centre in Kyrgyzstan is sufficiently equipped however programming of cochlear implant system, cannot be conducted by the team there due to a lack of trained specialists and limited experience. The aim of this poster is to present the usage of telefitting between Poland and Kyrgyzstan.
Methods: The Internet allows specialists from Poland to set up a teleconference for audio and video contact with

the patient and support specialist, and allows remote desktop software to access a remote computer and perform fitting. Every node is equipped with teleconference terminals from Polycom Inc. with LCD screens, zoomable and movable Polycom cameras, connected to a system with symmetrical Internet connections. There is also a PC computer equipped with clinical interface boxes with appropriate fitting software. The 'Logmein.com application is used for remote control.

Results and conclusions: The method and a proposed model of postoperative care for implanted patients using telemedicine seems to be a reliable alternative to standard model. It improves the quality of service provided to patients and saves substantial time and money. The telefitting model increased accessibility to hearing care services in Kyrgyzstan.

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THE GLOBAL SOUTH eHEALTH OBSERVATORY

Beatrice Garrette
Executive Director, Fondation Pierre Fabre, France

According to the WHO, eHealth initiatives have a potential to contribute to the goals for universal health coverage, improving access to information and care at all levels, especially in regions lacking of healthcare professionals, medical equipment, and infrastructure. Indeed, Information and Communication Technologies (ICT) can contribute to provide healthcare to the remotest populations and improve diagnosis quality using telemedicine, the training of healthcare professionals can be reinforced through e-learning, patient and healthcare data monitoring can be optimised using electronic medical records, and access to health information can be expanded thanks to mobile phones. However, eHealth deployment is still fragmented: rarely structured and pilot initiatives rarely scale up.

In 2016, the Fondation Pierre Fabre unveiled the Global South e-Health Observatory. Its missions are to identify, document, promote and help develop eHealth initiatives that improve access to quality healthcare and medicines for the most disadvantaged populations in resource-limited countries. The Observatory promotes the networking of its members and the scaling up of high potential initiatives.

The www.odess.io website is home to the Observatory's database: it is an open and evolving platform hosting data from more than a hundred eHealth programs. Organisations can submit their initiatives and also enter for consideration to receive one of the Observatory's awards. Each year the Foundation organises an international conference, for experts to share their analyses while those implementing the most germane initiatives speak about their solutions in front of a public composed of eHealth professionals, from both the private and public sectors, representing international organisations, ministries, NGOs, healthcare institutions and companies. The day is live streamed and watched on some fifteen digital campuses around the world, giving students the chance to take part in discussions via videoconferencing. Project managers are recognised, given prizes and receive the support of the Foundation Pierre Fabre for one year.

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JISITeH

UNDERSTANDING ATTITUDES TOWARDS TELEHEALTH: EVIDENCE FROM THE UNITED STATES-MEXICO BORDER

Saud Ghaddar
University of Texas Rio Grande Valley, USA

Background: Despite having one of the leading healthcare systems in the world, vulnerable communities in the United States (U.S.) face significant access challenges. These communities can benefit from telehealth innovations that promise to improve healthcare access and, consequently, health outcomes. However, little is known about the attitudes towards telehealth in these communities, an essential step towards effective adoption and utilisation. The purpose of this study is to examine the attitudes towards telehealth in a marginalised U.S.-Mexico border community.
Methods: The South Texas border region is home to 1.4 million people: it is characterised by high poverty rates, low educational attainment, and healthcare access challenges. Using cross-sectional research design, trained bilingual (English/Spanish) students conducted 327 in-person interviews over a one-week period at a community health event. The survey instrument assessed sociodemographic information and attitudes towards telehealth. Attitudes were measured by asking participants to indicate their level of agreement with 10 statements reflecting different aspects of telehealth use. Data was analysed using univariate and multivariate statistical models.
Results: Participants were primarily female (81%). Approximately 62% were born in Mexico. Over half reported incomes below the U.S. federal poverty level. Health -wise, 42% had fair/poor health and 80% were uninsured. The majority (91%) had never heard of telehealth. Once defined, participants exhibited overall positive attitudes towards telehealth and 79% reported being very or somewhat likely to use telehealth services if offered by their healthcare provider. Multivariate analyses revealed that higher levels of eHealth literacy shaped positive attitudes and that positive attitudes were associated with a higher likelihood of using telehealth (Odds ratio: 1.33: 95% Confidence Interval: 1.216-1.455).
Conclusion: Findings underscore the importance of promoting eHealth literacy as a first step towards fostering positive attitudes towards telehealth. Such attitudes are central in positively influencing the behavioural intention to use and, eventually, the effective utilisation of telehealth services.

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