"A Paradigm Shift in Healthcare"

15th April 2014| Novotel Al Bustan , Abu Dhabi - UAE

1st Middle East Conference on TeleMedicine & mHealth

Conference Organizer

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Post-Conference Report

Prepared By

Arthur D Little

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Introduction to the 1st Middle East Conference on TeleMedicine and mHealth

Dr. Zakiuddin Ahmed, Conference Chairman

Dr. Zakiuddin Ahmed is a strategist, entrepreneur and a visionary physician leader who specializes in developing innovative solutions in Healthcare through information technology. He is the President of Healthcare Paradigm and CEO of eHealth Services Pvt. Ltd and holds leadership positions in other companies including Medical Voice, PharmaEvo Pvt. Ltd and MedsDaily.
Due to his vast experience & pioneering work in Telemedicine & mHealth, he is regularly invited as a speaker in many international eHealth conferences all over the world.

The 1st Middle East Conference on TeleMedicine and mHealth – "A Paradigm Shift in Healthcare", organized by MCO and chaired by Dr. Zakiuddin Ahmed, was held on April 15, 2014 at Abu Dhabi. The conference, with more than 20 internationally recognized speakers, aimed to bring together major stakeholders of the eHealth ecosystem to network, share best practices and showcase innovative solutions in Telemedicine & mHealth. This multi-stakeholder event gathered physicians and other HCPs, regulators and health policy developers, academia, IT and quality managers in hospitals, telecom operators and health media professionals / journalists.

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Pull structures for addressing the m-eHealth Grand Challenges and building integrated m-eHealth systems

Prof. Yunkap Kwankam

CEO of Global eHealth Consultants (GeHCS), a leading consultancy group on eHealth policy and strategy. He also serves as Executive Director of the International Society for Telemedicine and eHealth (ISfTeH), and is a member of the World Economic Forum's Global Agenda Council on Digital Health. His past experiences include eHealth Coordinator at WHO, responsible for overall coordination of eHealth work across the organization

Prof. Yunkap Kwankam started by discussing "m-e" health, the combination of m-health and its larger umbrella e-health, becoming a quality patient-centric healthcare system focused on the patient. He emphasized the growing importance of ICT in healthcare with an expected double digit growth of Telehospitals/clinics and Telehome in 2016, and global EMR/HER market growth of 6.6% by 2015. This growth will be spurred by the need to improve the healthcare sector productivity and the recognition that productivity will only improve with enhancement of health systems, a need highlighted by the inconsistency of health spending effectiveness worldwide, with no clear linkage between health outcome and income

M-e Health is identified as the way forward to resolve this problem, bringing technology and information to solve the cracks of the current healthcare system. For it to work, the transformation of the healthcare sector needs to start with a culture transformation, making e-health a mainstream activity inherent to the health system. The GCC is leading so far in terms of countries with an e-health policy (50%), while commonwealth countries lag behind (36%).

Some of the highlighted challenges to m-e health included creating a common knowledge pool with information available to share and raise awareness, creating integrated m-e health systems, transforming health workers into ePractitioners and consumers into e-savvy patients (far from the traditional model of passive observers), adopting ICT to support healthcare, and tailoring it to specific needs of the future vision of healthcare.

To mitigate challenges, countries can start by creating a structure for m-e health through which they can generate policies to promote collaboration between public and private sectors, accredit professionals, and dictate the rule of conduct of the profession. Switzerland was given as an example, where more than 6 out of 16 health initiatives approved in the Ministerial retreat in 2013 were me-health initiatives, such as launching an e-health program, preparing a professional organization structure for healthcare and standardizing benchmarks.

Finally, Prof. Kwankam talked about next steps of m-e health in the UAE, were priorities have been identified but vision needs to now be transformed into reality, which requires collaboration among health professionals to identify the specific role that health information technology can play in facilitating attainment of those objectives.

Key Takeaways

- Going forward, ICT should be made an integrant part of the healthcare sector, to drive productivity and mitigate inefficiencies
- There is a need for a consolidated view of the future of healthcare in the UAE, to define a clear strategy on the role of m-e health in supporting the sector
- Mobilization and collaboration of health professionals will be key to proper implementation and development of m-e health in the UAE

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e-Health Strategy, why bother?

Prof. Dr. Richard E. Scott

Global e-health expert and CEO of NT consulting, professor at the university of KwaZulu Natal in South Africa, Director at the office of Global e-Health and Strategy, and editor of the journal for the International Society for Telemedicine and e-Health. Focus of his work is on examining the role of e-health in the globalization of healthcare, including aspects impacting the implementation, integration and sustainability of e-health globally and locally

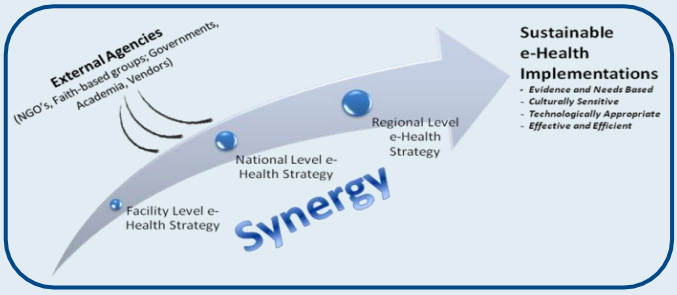
Prof. Dr. Richard E. Scott started by emphasizing that Technology Development Parallels Health Development, and that e-health offers the combination of the 2, promoting the use of information and communications technology (ICT) in health.

However, the current healthcare landscape still suffers from a lack of clear direction on the supporting role of ICT, with professionals only focusing on the health informatics component of e-Health, disregarding the need for e-learning, e-commerce and Telehealth. Laying the foundations for sustainable e-health is crucial, starting by establishing a thorough strategy, followed by policies, standards & regulations, particularly for e-health, resolving bottlenecks revealed during the strategy formulation

To be effective, an e-health strategy must be solidly grounded in an understanding of the broader context within the country, the challenges and opportunities that exist, clarity around health needs that must be addressed, and the solutions it is intended to apply.

Once established, the strategy provides a strong evidence-based, and transparent framework, detailing the approach taken to address identified needs.

A defined global e-health strategy is needed to generate synergies/ benefits, and enable sustainability of e-health implementations, tailored to specific country needs, culture, and technologies



Appropriate guidance (e.g. WHO/ITU strategy tool, common wealth) is necessary in the efficient creation of a thorough strategy, along with support and openness. An 8-steps structured approach is typically used: 1) evidence gathering and situational assessment, 2) holistic review, 3) differential diagnosis, 4) preliminary prioritization, 5) solutions identification, 6) e-Health options, 7) secondary prioritization, and 8) strategy formulation.

Most importantly, since strategy is required for e-health sustainability, it is crucial to allocate proper time and effort in laying down the right foundations.

Key Takeaways

- A well-thought e-health strategy is key to a sustainable e-health ecosystem
- E-health Policies are derived from a thorough e-health strategy
- A global e-health strategy will lead to synergies and efficiencies that are much needed in the healthcare system

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Smart Initiatives of the Dubai health insurance system – Opportunities for m-Health and Telemedicine

Dr. Omar Ghosheh

Founder and CEO of Dimensions Healthcare. With 18 years of experience in the healthcare field, Dr. Ghosheh was involved in health IT, healthcare market and scientific research, as well as management of the development and implementation of numerous health informatics solution projects for hospitals, clinics and pharmacies. In 2012, Dr. Ghosheh received official recognition, with Dimensions Healthcare taking first position in Dubai SMEs 100.

Dr. Omar Ghosheh discussed different projects in e-health undertaken in Dubai, after the signing of the health insurance law. Running under the name ISAHD (Insurance System for Advancing Healthcare in Dubai, and also refers to bring happiness), the objective is to mandate health insurance for all, covering more than 3 million people, and involving more than 2,000 facilities and 45 insurers, and will be implemented in phases between 2014 and 2016.

The two pillars of Dubai's health insurance system, access to people and quality, are further enhanced by 5 initiatives : 1)healthcare for all, 2) digitalization of all transaction, 3) public sharing of performance indicators 4) touching lifestyles of people and 5)usage of m-health as a means. The implementation of these initiatives will be facilitated by communication through a central hub, between the regulator, the provider, the support, the payer and the patient.

By 2016, AED 12.7bn are expected to be claimed per month, and coverage should be available for all population. 23 e-solutions in the field of portals & support, apps, data storage & management, analysis & monitoring of data quality will be developed, connecting all players in the healthcare community, with indicators published to keep the public informed 2016 will also be characterized by scarcity of cash patients and seamless response of payers (30s, lower than the current 43s.). The ultimate aim is to position Dubai as a global leader in healthcare quality, utilizing the wealth of data & platforms.

Focus will be on efficiency, communication of outcomes, and patient experience (engaging with the patients in a "listen, learn, involve" approach). ISAHD will ensure the development of innovative and integrated smart/mobile solutions for everyone, looking beyond the strict meaning of "health" towards "lifestyle" : "People's smart solutions", keeping in mind patient confidentiality and privacy. E.g. My health (see visits, later health records), CallHealth (phone consultations), AppHealth (centralized appointments covering all networks of insurance company, increasing outreach and quality, engaging), MagHealth (To raise public 's education), RewardHealth (rewarding healthy living), TeleHealth (connecting home glucometers and BPs to central systems which can be shared).

Dr. Omar Ghosheh concluded that Dubai's model could be interesting for developing countries, and that the project is only made possible with commitment from regulator and private sector to make Dubai the smarted city on earth in 3 years time.

Key Takeaways

- For successful implementation of e-health strategy and initiatives, appropriate stakeholder (regulator/ government) and policy support need to be established
- The e-health scene in Dubai is quite active, however, an important issue to keep in mind is information provided, patient awareness, and confidentiality / privacy
- Publishing and updating regularly indicators is required to sustain healthcare quality and raise public awareness

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Panel Discussion – ICT & Healthcare

Dr. Brian de Francesca, CEO of eHealth Solution Ver2, former John Hopkins COO – 20 yrs. experience in performance improvement of healthcare organizations and systems

Bridget Londay, mHealth development Mgr, GSMA – designs m-health studies and advises government public health policy in collaboration with MENA stakeholders

Dr. Shabeer Nellikode, MD & consultant neurologist, Universal Hospital – expertise in establishing telemedicine tie-ups, implementation and training of Telemedicine setup

Dr. Miroslav Koncar, Int'l Director, Oracle –strategy leader and key expert in eHealth

In the panel, m-health in the UAE was discussed along with focus areas required to pave the way for its success and sustainability

First, a need for a well thought and detailed strategy customized to specific to UAE healthcare needs was discussed, such as solutions to current challenges (diabetes, payment system and patient responsibilities) catering to strengthens pathways for both patients and healthcare providers. Standardizing and producing a consensus-based vocabulary will be detrimental to future credibility and sustainability

Second, there is a need for managing big data, in terms of quality & accuracy and efficiency of data received.

- The general concern in the industry lies over the viability of data received due to lack of accuracy, which often leads to data being unusable, whether internally or across healthcare provider
- Managing big data is enabled by technology, which helps cater to efficiency and prediction leading to prevention, competitiveness to detect quality gaps, and innovation to initiate better use of big data. Technology, being at the foundation of the development of m-health, needs to be included in the current medical curriculum
- The value of maintaining a database is only enabled when proper translation into statistics (audit and archiving) is done, and standard formats are used, to eliminate redundancies between healthcare providers and enable synergies

Third, the UAE is seen as a nurturing environment for the proliferation of m-health thanks to the absence of a rigid regulatory framework, unlike the western healthcare system hampered by overbearing licensing and policies. However, for m-health to prosper, the UAE must contain fragmentation of the healthcare system. Indeed, regions will need to remain connected and seek compatibility, to cater to patient centricity and seamless use. A common platform is hence required, to overcome excessive localization, ensuring future compatibility needs are met.

Finally, adoption of m-health and e-solutions in the UAE, although met by some resistance, is ultimately the way forward as it addresses among others, issues such as quality healthcare practitioners shortage, using technology to increase their reach.

Perhaps a point of concern to tackle remains the public perception about m-health with regards to patient security & confidentiality, which can be overcome by raising awareness and transparency about m-health

Key Takeaways

- Lack of rigid regulation in the UAE enables the introduction of new models in the healthcare industry. However, fragmentation of the healthcare ecosystem is a threat
- e-health will help solve quality staff shortages by increasing their reach while reducing costs and ensuring patient centricity
- Sustainability of e-health will depend on developing an efficient strategy, enabling data quality and proper analysis, while ensuring patient security and confidentiality

Dr. Andy Fischer, CEO

CEO of Medgate and President of the International Society for Telemedicine and eHealth (ISfTeH). In 1999, he founded the Swiss Center for Telemedicine, Medgate, Europe's largest telemedicine provider. Founding member and board member of the Swiss Association for Telemedicine and eHealth (SATMeH). Since 2008, he is the core member of the Committee in charge of implementation of the Swiss national eHealth strategy

In his presentation, Dr. Fischer explained how his company has been operating a telemedicine center in Switzerland.

Established in 1999 in Basel, Medcare operates through its tele-consultation center located in Basel and health centers located in Zurich and Solothurn.

Four strategic corner stones have been at the core of development of an integrated medical care system Medcare provides, i.e. telemedicine center, health centers, partner network and budget co-responsibility.

Operated through three business units, Medcare focuses on the provision of both basic and specialized medical care.

Medcare's Telemedicine Center, the largest in Europe and run by medical professionals, provides access to telemedicine services to around 4.2 million people, conducting up to 4,300 tele-consultations a day.

There are two business models used for providing tele-medicals services in Switzerland:

Free access model – Provides free offering of tele-consultations and requires no obligations for patients. Customers typically include insurance companies, Government, private companies and individuals.

Gate keeping model – Insurance model with premium rebate requires mandatory tele-consultations for all medical problems plus the patient has to follow the recommendations of the Medgate physician. Under this model the client base is typically limited to insurance companies.

In the course of its 15 years of operations, Medgate has very low levels of clinical risk with no medico-legal or medical risk exposure so far. This is primarily driven by Medgate's emphasis on the aspect of quality management, which includes training and licensing, telemedical guidelines for medical professionals conducting tele-consultations, medical and communication coaching, including monitoring of staff's performance through individual KPIs (productivity, telecare-rate, patient satisfaction, UEO).

Key Takeaways

- Successful implementation of telemedicine services requires high levels of political and social acceptance as well as no legal and regulatory constraints
- High degree of alignment between partners & members of the network ensure a successful integration of telemedicine service into the existing healthcare system
- Meeting the local needs is key to targeted selection of telemedicine services, technology, internal (medical staff) and external stakeholders (partners/ members)

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Telehealth in India – Making it Happen: A 14 Year Story

Prof. Dr. K. Ganapathy

FACS, FICS, FAMS Ph.D is a former Secretary and Past President of the Neurological Society of India and a former Secretary of the Asian Australasian Society of Neurological Surgery. In 1990, he became the first in South Asia to get a Ph.D in neuroimaging. Member of the Editorial Board of four international and three national journals in neurosciences. The first neurosurgeon from South Asia to be formally trained in Stereotactic radiosurgery in 1995.

Apollo Telemedicine Networking Foundation (ATNF), a not-for-profit organization, is part of the Apollo Hospitals Group.

Credited with being the first to setup a Rural Telemedicine centre in 1999 in Aragonda (in Andhra Pradesh), Apollo symbolizes a successful working model of telemedicine which self-propagates throughout India and into the developing world, providing a channel for continuous access to the most sophisticated medical support systems at all times.

Apollo's primary mission is to take modern healthcare to remote areas using technology (with distances covered 100 to 4,500 miles).

Today, ATNF has emerged as India's single largest turnkey provider in the area of telemedicine with over 150 telemedicine centers across the globe (135 centers in India, 15 overseas).

Since its establishment, it has engaged itself in multiple pioneering initiatives. It pioneered in proof of concept validation studies in mHealth using 3G and was the first one to start Telehealth Technology Course.

Through this network, Apollo was able to conduct 80,0000 tele-consultations in more than 25 specialties. Strong emphasis has been put on promoting health literacy improvement of which can drastically reduce, e.g. diabetes, etc.

Over the years of its operations, ATNF has managed to transform socio-political landscape in terms of rates of acceptance of telemedicine services. Based on a recent survey on mHealth potential, 55% of respondents (urban/ rural combined) showed a very strong intent to use mHealth with urban areas achieving higher rates of awareness of mHealth compared to rural areas. This is corroborated by the fact that residents in urban areas have already used phone medium for health care services.

As a result, health care access gap is still significant. Given an increasing mobile phone penetration rates in rural areas and lesser access to health care services in the same , it is expected that through well targeted campaigns to increase awareness of mHealth, the use of mobile phones for healthcare services in rural areas will increase, bridging the gap in access to health care services..

Key Takeaways

- Future awareness of mHeatlh and further proliferation of telemedical services primarily in rural areas of India directly depend on the degree of mobile phone penetration in those areas
- Partnerships with other private sector players (e.g. construction industry) enabling proliferation of telemedicine services is key
- Proven track record of successful telemedicine consultations directly determines the levels of social and political acceptance of telemedicine services

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Teleradiology Service of Korea
Teleradiology Centre

Eun Chul Chung, MD & Ph.D

Executive Board Member of Korea Teleradiology Center (KTRC), Professor and Director of Radiology Department at Kangbuk Samsung Hospital. Participated in establishment of IT and medical information systems in Korea Radiology Society and Kangbuk Samsung Hospital. His focus area includes medical informatics and patient data protection.

KTRC provides several sector-specific services:

- Teleradiology Reading Services
- Subspecialty Radiology Consultations
- Overflow and Vacation Coverage
- Flexible Radiology Service

Key benefits realized develop around cost reduction and increased productivity.

- **Economic Impact** – No separate maintenance or software updates necessary, Infinitt G3 PACS ensures all of the required functions
- **Clinical Effects** – Professional reading services by specialized radiologists provide the basis for high-quality medical services to patients
- **Stable Reading Services** – Coverage during off-duty hours or in case of overflow provides both primary reading and second opinion

In the field of information security, KTRC ensures high degree of patient data protection.

The Procedure of the KTRC Teleradiology Service follows 5 steps:

1. **PT Consultation and PT**
2. **Investigation**
3. **Contract**
4. **In-person education regarding installation**
5. **Screening allocation using the service**

KTRC has built its strategy around four key cornerstones:

1. **Reliability** – Highly experienced, subspecialist faculties of university hospitals
2. **Technology** – Delivering services in a secure and keeping patients privacy
3. **Services** – Night and weekend coverage. Customer friendly.
4. **Flexibility** – Remotely read CT, MR, US, Dxr, Mammo. Dictated, emailed, faxed or by phone.

Key Takeaways

- Strong emphasis on patient data protection
- Teleradiology medical solution provide several benefits developed primarily around cost efficiency and increased productivity
- Customer centricity and flexibility are the core of strategic framework of KTRC

Shahid Mahmud

Shahid Mahmud is a Research Ph.D. student at Coventry University. His Ph.D. is on impact and monitoring of Health Shocks. He has over 29 years of experience in the field of ICT and has served on various federal committees of the Government of Pakistan addressing the formulation and implementation of the National Telecom and IT policies, including several five-year plans

In 2011, Pakistan underwent decentralization of health responsibilities which were devolved from the state level (Ministry of Health) to respective provincial departments. However, access to adequate services remains a problem, particularly in isolated rural areas, where 64% of the population still resides. The system of patient referral in Pakistan is divided into two main groups of services. First, curative services, located in primary, secondary and tertiary level referral facilities (i.e. primary and secondary care, whereas preventive and health promotion services are located in primary care. All three tiers of care are supported by first level healthcare workers at the community level. The issue of access to healthcare service is enforced by the shortage of physicians and nurses/ midwives. In addition, private expenditure exceeding state provision has resulted in a heavy reliance on private healthcare/ non-state entities. This has given existence to charity hospitals which depend donor funds. However, though partially filling the gap, such sites may have general physicians but lack specialist services. Private healthcare market in Pakistan has seen emergence of quacks and faith healers who only add to the existing gap in the market for quality healthcare. Hard-to-reach rural areas suffer the most. To bridge the existing gaps (lack of specialist services, problem of access to rural areas, heavy reliance on non-state entities, poor quality of services), there are several challenges lying ahead – training of personnel on using telemedicine, geographic restrictions of transferring, setting up and maintenance of equipment, environmental and other structural barriers, legal constraints. The issue of access in hard-to-reach areas has socio-economic implications as the patient in his/ her effort to access a specialized services incurs costs which in most of the cases are settled through debt and thus further enforcing his/ her family hardship. Given the fact that broadband is available I remote areas, broadband wireless model with O3B solution has proven itself as the most feasible solution. Combined with mobile vans, even greater geographical areas can be covered. In addition, telemedicine solution at hand can leverage capacity of 8000 Pakistani doctors working abroad. Not only does the solution closes gap in access to/ availability of service through remote referral but also dramatically drives down the costs: from minimum cost of referral at USD 237 to maximum of USD 13 under remote referral.

Key Takeaways

- Through a broadband-based telemedicine solution adopted in Pakistan, several gaps have been closed – access to primary and secondary care, access to qualified medical personnel through domestic and an expatriate network of Pakistani doctors, driving down cost of referrals where remote referral has reduced the financial pressure on Pakistani families living in the country's remote areas

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Effectiveness of Mobile Telemedicine

Dr. Shariq Khoja, MD, PhD

Dr. Shariq Khoja has been a leading scientist and planner in Health Systems and use of Information Technology in Health for over 15 years. Dr. Khoja leads the global operations of Tech4Life Enterprises for developing innovative eHealth and eLearning solutions. He is also an Advisor on the Core thematic areas of Evidence, Capacity and Policy for mobile Health (mHealth) at the United Nations Foundation in Washington DC

Dr. Khoja commenced his presentation with explaining the need for telemedicine around the world. He continued with illustrating some examples of use of Telemedicine in hospitals in developing countries, and concluded his presentation with a brief introduction of a mobile Telemedicine solution MDConsults.

While the global burden of disease is highest in Africa and some parts of Asia, specifically the Indian Subcontinent, the global distribution of physicians is disproportionally skewed towards the developed countries in North America, Europe and Asia. The most concentrated 50% of physicians live in territories with less than a fifth of the world population. The worst off fifth are served by only 2% of the world's physicians. Population in the rural areas is particularly vulnerable.

However mobile Telemedicine can offer a solution to bridge this huge gap. Rapidly expanding 3G/4G network coverage in the developing countries will be the key enabler going forward.

Dr. Khoja presented a successful Telemedicine model implemented in northern Afghanistan. Over 100 teleconsultations are now conducted from each hospital connected in northern Afghanistan every month and Radiology, Pathology and other images are being transferred for prompt diagnosis.

The hospitals are connected to the French Medical Institute in Kabul and several hospitals in Pakistan. Transfer of images and teleconsultations are made possible through high speed Internet enabled mainly by 3G connectivity.

MDConsults is a highly dynamic, versatile and customizable platform for Telemedicine. It provides web-based access for store-and-forward and Live Telemedicine. It can be used in small and large healthcare settings, and even using mobile applications. The solution, as Dr. Khoja explained, provides a high level of data security and enables easy analysis of the healthcare data. Personalized notification services through Email and SMS are supported through the platform.

MDConsults offers an effective solution both for developing and developed settings and it complements regular health services and facility-based Telemedicine. It can lead to strengthening of the home-based care and patient monitoring.

Mobile Telemedicine is gaining momentum and there are a lot of success stories around the world, but a rigorous evaluation of the overall impact of mobile Telemedicine on the health of the population is still pending.

Key Takeaways

- While global burden of disease is highest in Africa and some parts of Asia, global distribution of physicians is disproportionally skewed to the developed countries
- Telemedicine, enabled by rapid expansion of 3G/4G network coverage, can offer a solution to bridge this gap
- The way forward in Telemedicine are mobile platforms, but a rigorous evaluation of the overall impact on the health of the population is still pending

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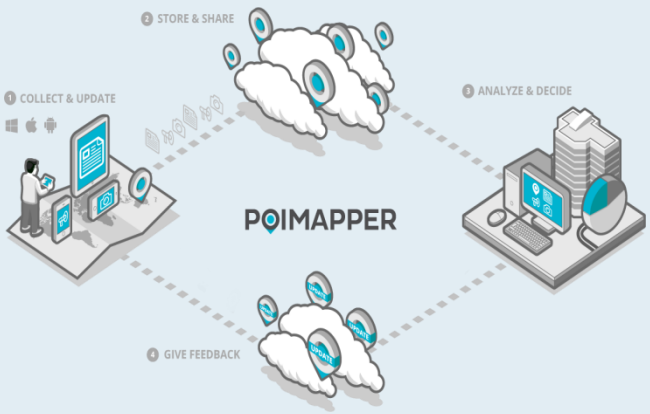
Poimapper – a data management platform for mobile health workers

Dr. Pertti Lounamaa

Dr. Pertti Lounamaa is an entrepreneur with two mobile solutions companies Pajat Solutions and Mobidarm, and a small software expertise provider Cleareye. The objective is to provide useful and affordable solutions with global relevance based on using mobile devices that are connected to cloud computing back-ends.

Dr. Pertti introduced a solution offered by his company, Poimapper, which provides a cloud based system to collect data from the field and subsequently share and analyze it in real time across an organization, which is very effective in providing remote solutions to patients.

The company provides a logic based algorithm which is used to collect relevant information from the patient / mobile health worker, which is securely transmitted over the cloud for further analysis and solution. Based on the analysis, feedback is provided back to the mobile health worker over the secured cloud based system, which is used in the treatment of the patients (See figure below).



Some examples of successful mobile health solutions across the globe provided Poimapper are:

- **Tuberculosis** patient health monitoring and reporting in Thailand (Plan)
- Oral **cancer, anemia and malnutrition** screening in India (Biocon Foundation)
- Follow-up of pregnant women with **HIV** in Malawi, Nigeria and DRC (Tearfund)
- Remote diagnostics of **burn injury** in South Africa (Karolinska Institute)
- **Maternal and sexual health** in Tanzania (Tearfund)
- Follow-up of **HIV** patients India (KIMS Public health institute)

mHealth Case Study – TB, Thailand

- Since 2011, Plan Thailand has been helping TB patients gain access to treatment and other government services in remote areas
- Volunteers and field staff collect data when they visit patients; information on how and when patients are taking their medication is recorded to see how well they are following their prescriptions
- Plan works 20% faster when using Poimapper, due to its process and logistical efficiency

Key Takeaways

- Mobile solutions for health workers are ready for use, but often **require case specific features**
- The more often data is needed and the **more complex the data, more the benefits**; main benefits are
  1. **Faster availability** of data both ways
  2. **More accurate** and reliable data
  3. **Time savings**

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Deploying a Digital Health Platform for Corporate Wellness – A Strategic Vision Creation Approach

Santanu Kunal Biswas

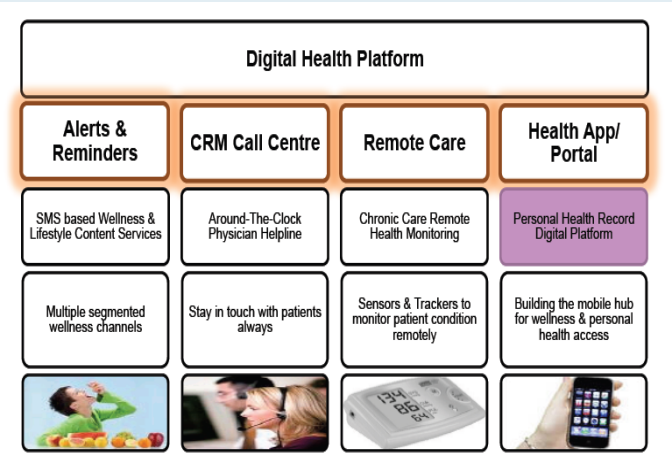
Santanu Biswas is the CEO of Hyjia Info JLT, a software and consulting services company focused on delivering a best-in-class digital health solutions and services. As the erstwhile founder executive responsible for Health Services at Du, a telecom operator in UAE, he has consistently delivered pioneering mHealth and eHealth solutions to both consumer and enterprise segments.

Santanu's presentation brought a different perspective to the m-health topic – i.e. building a digital health model through holistic employer-employee engagement.

Digital health can improve employee engagement by providing:

- Chronic disease management services using connected sensors and mobile networks
- Patient medical adherence and compliance services using voice and SMS technologies
- Physician on demand, monitoring and advisory services using healthcare call centers
- Connecting remote health centers & specialist/tertiary hospitals for telemedicine and 2nd opinion services through high speed networks, 3G enabled kits and managed datacenters
- Integrating & hosting HIS/HER/EMR/PHR systems on the cloud and giving anytime-anywhere information access to physicians
- Connecting personal trackers, apps & content with data/SMS to provide solutions around fitness/wellness

The speaker stressed on the need to address the entire spectrum of the healthcare continuum from wellness to chronic disease management and presented a digital health platform:



The digital health platform above is designed to connect and deliver consumer and corporate health and the solution can deliver sustainable models for partners in digital health (from content delivery to value added services, PHR and Eshop)

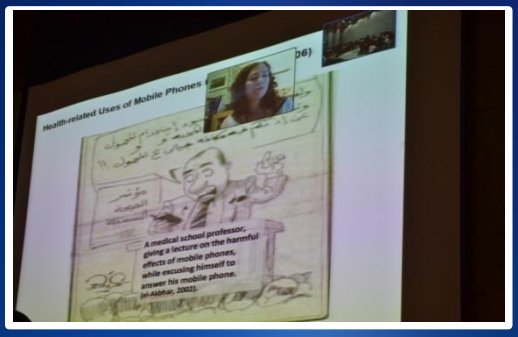
Key Takeaways

- The immediate benefits that digital health platform delivers are:
  - It understands the optimal approach and can execute on a full business plan offering
  - Has existing relations with the ecosystem partners
  - Can offer complete implementation plan along with project management services
  - Can deliver localized programs with full marketing plans with agencies

"A Paradigm Shift in Healthcare"
15th April 2014| Novotel Al Bustan , Abu Dhabi - UAE
1st Middle East Conference on
TeleMedicine & mHealth

Arthur D Little

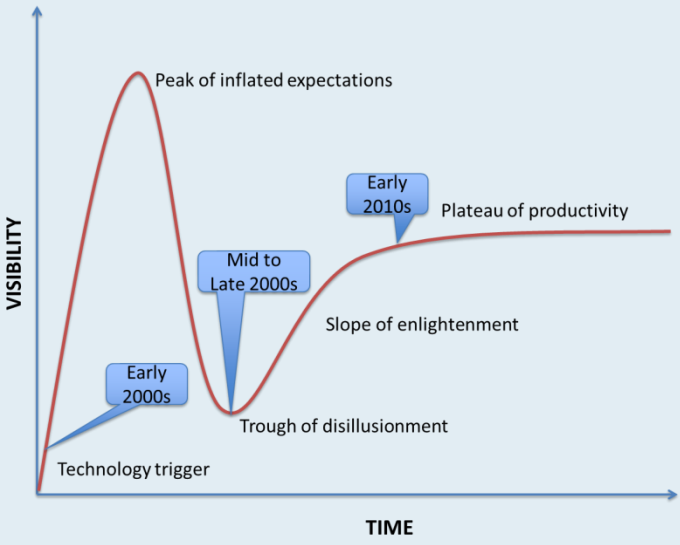
The Good, The Bad and The Ugly of mHealth – A 10 Year Retrospective



Dr. Patty Mechael

Dr. Patty Mechael is an Executive Director at mHealth Alliance, a champion that works with diverse partners to integrate mHealth into multiple sectors. Dr. Patty has over 15 years of field experience in over 30 countries, primarily in Africa, the Middle East and Asia. She is also faculty at the School of International and Public Affairs and Earth Institute, Columbia University.

Dr. Patty took the participants through the history and evolution of mHealth over the last decade. The first explicit definition of mHealth was created in 2003 and the journey, albeit being a rocky one over the last 10 years have today plateaued to reasonable levels of productive solutions that are becoming commonplace in the industry. The journey of the mHealth industry over the last decade can be summed up in the graph below:



With the advent of technological possibilities, there was a lot of exuberance in the field of mHealth in early 2000s, however due to lack of quick realization of such possibilities the exuberance soon transformed into a trough of disillusionment.

The mHealth Conference in 2008 in Bellagio, Italy was a landmark event, wherein key stakeholders formulated the Greentree Principles as a guiding tool to realize fruits of their collaboration. By 2011, tremendous progress in terms of recognition, innovate models and solutions and emerging field evidence on operational efficiencies and impact of mHealth solutions were widely published.

Key Takeaways

Whilst mHealth over the last 10 year has gone through a rocky journey, the industry has evolved into a major force of recognition by government agencies, healthcare practitioners and organizations and international institutes (e.g. WHO) as an imperative for efficient healthcare delivery platform for all

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e/mHealth in Support of Universal Health Coverage

Dr. Najeeb Al-Shorabji

Dr. Najeeb Al-Shorabji is a Director, Department of Knowledge, Ethics and Research at the World Health Organization Headquarters (WHO/HQ) in Geneva. His current portfolio covers WHO publishing activities and programs, library and information services, knowledge networks, eHealth, research and public health ethics, research, knowledge translation and WHO Collaborating Centres.

Universal Health Coverage, a cause very close to heart at the World Health Organization, is the single most powerful concept that public health has to offer. It is the best way to cement the gains made during the previous decade and is the ultimate expression of fairness. Even though some progress has been made in this effort, significant challenges still lie ahead. Telemedicine and eHealth are probably the single largest tools which can provide a significantly large impetus in achieving universal health coverage. eHealth provides several benefits to the healthcare industry, namely by:

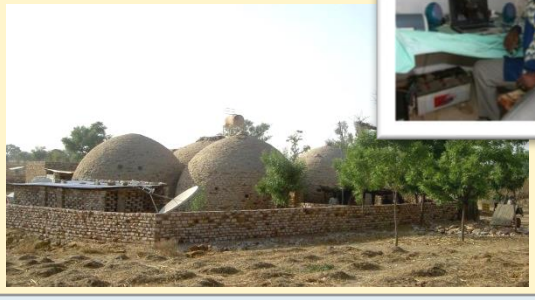
- Increasing quality of care and efficiency
- Reducing operating costs of clinical services
- Reducing administrative costs
- Enabling entirely new modes of care

Despite the well known benefits of eHealth, several challenges and obstacles to Universal Health Coverage and potential eHealth solutions exists and need to be resolved for this potential to transform to reality:

- Poor leadership, governance
- Inappropriate or inadequate financing and poor accountability
- Poor service delivery
- Inadequate or mismanaged information
- Inadequate, misallocated and mismanaged human resources
- Lack of medicines and other health technologies
- Poor infrastructure

Case Study – Dimmbal, Mali

- Dr Diakaridia Traoré continued to serve his community in Rural hospital in Dimmbal, Mali
- 800 km away from the capital; 120 km away from the first Internet access; 20 km away from telephone access
- He accesses eLearning and telemedicine services via satellite



Key Takeaways

eHealth and telemedicine can provide major impetus in achieving the Universal Health Coverage objective of WHO, however several challenges ranging from poor governance to inadequate and misallocated resources exists that need to be addressed to transform this vision into reality

Prof. Dr. Peter Yellowlees

Dr. Yellowlees is vice chair for faculty development and professor of psychiatry as well as director of the Graduate Program in Health Informatics at UC Davis. He is a member of the Institute of Medicine's review committee evaluating the national VA mental health services for veterans, a board member of the American Telemedicine Association, and is also on the board of HealthLinkNow Inc.

Professor Yellowlees began his presentation with the brief overview of the history of Telepsychiatry and the key milestones. The beginnings of Telepsychiatry date back to the middle of 20th century when the first psychiatric lectures via television and the first group Telepsychiatry sessions using two-way video/audio links took place. Since then the Telepsychiatry has gone a long way and is currently well established and already past the" tipping point". Its rapid adoption in the past decade was enabled by the modern technology that enabled secure, mobile and convenient delivery of care in mental health.

The results of Telepsychiatry have shown high satisfaction rates, reliability and outcomes equivalent to the personal care. The technology encourages intimate conversations while allowing observation, which proved to be more effective than the traditional, in person, approaches. It works for all mental health disciplines in multiple settings – driven by improved access and convenience. Some patients even stated their preference to Telepsychiatry over the personal meetings, especially children and patients suffering from paranoia, anxiety and PTSD.

The only contraindication of Telepsychiatry is in the case the patient refuses the treatment over the video or if there is a real danger that the patient will hurt himself during the treatment or do something destructive.

Nowadays, due to the technology advancement, the services are increasingly being provided into the homes, and via smartphone and tablets. The adoption of Telepsychiatry is currently highest in USA, Canada and Australia. Veterans organizations and correction institution in the United States, and Ontario Telemed Network in Canada are the best examples. In order for the adoption to be further expanded, optimal models of care need to be developed, new multi-media technologies need to be integrated and international services with interpretation should be adopted.

Professor Yellowlees explained that the future of Telepsychiatry lies in Asynchronous Telepsychiatry, Virtual Therapists, and Voice and Facial Recognition devices. Mental heath care will become bi-directional with access anytime and anywhere.

Key Takeaways

- Telepsychiatry has become an established clinical practice around the world and is well past the "tipping point"
- New models of care, workflows, provider roles needed to support evolving mental health provider-patient relationship – anytime, anywhere
- Asynchronous Telepsychiatry will lead to facial, movement and voice recognition systems for screening and diagnosis

Dr. Bandar Alhaqbani, PhD

Dr. Bandar Alhaqbani works as a General Director of IT Services at King Saud Bin Abdulaziz University for Health Sciences (KSAU-HS) and acts as an Information Security Advisor to National Guard Health Affairs . In addition, he is an Assistant Professor within the College of Public Health and Health Informatics of KSAU-HS where he teaches IT and Information Security courses. Recently, he has been elected as a President of Saudi Association of Health Informatics

Dr. Alhaqbani commenced the presentation with the overview of the global healthcare trends, highlighting the changes in demographic and lifestyle in the general population, leading to the increase in chronic diseases and the resulting changes in the healthcare landscape. The population of Saudi's above 60 years of age is expected to double by 2020. At the same time, lifestyle issues lower the age of chronic patients. Chronic diseases are projected to become the main cause of death in 2015.

Currently, the majority of healthcare spending is on treating active diseases. A value-based healthcare system puts more focus on prevention efforts, including promotion of healthy life-style and education about the risks associated with chronic diseases. Healthcare is becoming patient centric, personalized, and focused on value and collaboration. In this environment, healthcare providers need to provide levels of care through evidence-based personalized medicine for lifetime health maintenance and disease prevention in addition to episodic and acute care.

The key challenges in Healthcare IT include lack of interoperable HIT environment for care delivery and research, prevalence of tightly coupled applications and data, inadequate data and knowledge standards, insufficient analytic capabilities, and absence of a clinical decision-making foundation. Advanced analytics has potential to impact key aspects of health promotion and care delivery. Data and applications must be decoupled to get full benefit from the data and for applications to be able to draw upon multiple data sources.

Data analytics at Saudi hospitals is facing multiple challenges related to business analytics and optimization, and data governance. The hospitals have rich data sets that have been collected over many years, however, the data is not readily available for analyses. Data sources are siloed and standard processes to access data are lacking. Most of the data acquisition and analyses across Medical Service Departments are done manually. There is a lack of a hospital wide analytical environment and standard analytical tools, as well as lack of accountability of the data entered into the system and data quality is a concern. Security and Privacy policies are not enforced.

The way forward lies ahead in implementation of state-of-the-art data governance mechanisms in Saudi hospitals. Data governance is the orchestration of people, process, and technology to enable an organization to leverage data as an enterprise asset.

Key Takeaways

- There is a need to provide healthcare through evidence-based personalized medicine for lifetime health maintenance and disease prevention
- Data analytics at Saudi hospitals is facing multiple challenges related to business analytics and optimization, and data governance
- The way forward lies in implementation of state-of-the-art data governance mechanisms in Saudi hospitals

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eEducation = eLearning + eTeaching

Dr. Ahmed Dabbagh

Dr. Ahmed Dabbagh is Manager of Technology & Services Development at Ankabut. He is leading the UAE initiatives in Grid-Cloud Computing and the Certification Authority. Prior to joining Ankabut, Dr. Dabbagh was a Director of the Academic e-Services Department at Ajman University of Science and Technology, UAE. He gained a Master of Science from the University of Rennes in 1991 and a PhD in Telecommunications from the University of Rennes in 1995

Ankabut is the UAE advanced network for research and education. It is a national project to connect universities, schools, hospitals and research institutions to work together in enhancing research and education in the country and to connect to its peers worldwide.

As Dr. Dabbagh explained, Ankabut project is directly linked to UAE's Vision 2021, as it contributes to accomplishment of several objectives of Vision 2021, such as development of knowledge-based and highly productive economy and development of first-rate education. Dr. Dabbagh also reminded the audience the wise words of Dr. Eesa Bastaki, the ex-CEO of ICT-Fund and President of University of Dubai: "UAE doesn't need technology transfer, UAE needs knowledge transfer".

He then continued with an update on the progress of Ankabut projects. Eduroam, an international roaming service for users in research and higher education, was piloted by EPFL – a pioneering research center based in Ras Al Khaimah. The service was launched during the Ankabut Fall Users' Meeting at the American University of Sharjah. The project is now moving to a production phase.

Disaster recovery plan is being implemented across all universities. High performance computing over cloud is offered to all researchers in UAE. The UAE Library Consortium is a model brought from Europe and implemented in UAE. This project alone has a potential to decrease the overall library costs in UAE by 40%.

The eEducation vision of Ankabut is to create a common understanding of eEducation and to create a Center of Excellence in eEducation in UAE. Training of relevant stakeholders and unification of the terminology across institutions will be important to achieve this vision.

Ankabut eEducation Strategy includes several initiatives including connecting to MOE Training Centers , ICT fund initiative to connect the 21 virtual labs for MOE, connecting with ADEC school network, negotiating with learning software providers, and creating national repository of educational contents.

When it comes to eEducation platforms Ankabut has implemented the full Moodle over its Cloud. Desire2Learn is fully implemented over Ankabut Cloud and was launched on Sept. 16th 2013 with Ankabut, ACTVET, DHCC, and KUSTAR. Blackboard is under negotiation to sign an agreement with Ankabut to host its services over Ankabut Cloud.

Key Takeaways

- Eduroam, an international roaming service for users in research and higher education, was piloted by EPFL – a research center based in Ras Al Khaimah
- Ankabut has implemented the full Moodle over its Cloud
- Desire2Learn is fully implemented over Ankabut Cloud and was launched on September 2013

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"UAE eHealth Working Group"

A resolution was unanimously passed by the participants of the conference to form the **"UAE eHealth Working Group"**.
This resolution was endorsed by the International Society for eHealth and Telemedicine **(ISfTeH)**, Saudi Health Informatics Association **(SAHI),** Telemedicine Society of India **(TSI)**, GSM Association **(GSMA)** and eHealth Association of Pakistan **(eHAP)** by their respective office bearers. Dr. Zakiuddin Ahmed, Conference Chairman, will be the founding chairman of this working group.

This **"UAE eHealth Working Group"** will include individuals & organizations who play an important and active role in the local eHealth ecosystem of UAE and who are keen to promote the cause of eHealth in the region. The activities of this working group will guided and supported by the international bodies like ISfTeH, eHAP, TSI, GSMA, SAHI which have endorsed it.

The **"UAE eHealth Working Group"** will also support and contribute in planning eHealth / mHealth conferences in future.

For further details & to become part of the working group, please contact Dr. Zakiuddin Ahmed at zakiuddinahmed@gmail.com

Key Takeaways

- UAE eHealth Working Group to develop the local ecosystem
- Middle East eHealth Conference in 2015

Contact details

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For further information please visit www.adlittle.com

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