E-Health as a Tool of Public Health Promotion
(Exploring the Potential in the Sultanate of Oman)

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SUMMARY: E-health is a newly emerging field of study that try to encompass different disciplines i.e. medicine, education, communication, sociology, anthropology, psychology, management, commerce etc along with electronics / web based technologies. E-health aims to promote effective & efficient healthcare management while reducing time & cost in the delivery of healthcare services.

Exponential growth of internet has multiplied the use of technology among individuals. They are spending more time with gadgets i.e. mobile, laptop, tablet, desktop, & TV than any ever before. This human –technology interaction is taking its toll on human health. Thanks to the widespread availability of internet, E-health can prove to be a boon for health-care management, and public health promotion. An exploratory approach is adopted for the study. Data are collected from primary & secondary source.

Study concludes that E-health can be successfully used for promoting public health promotion.

Key Words: health-care management, E-health, Public Health promotion etc

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INTRODUCTION

Off late, the term E-health has gained a lot of popularity among the health professionals, technology geeks, policy makers along with other stake holders of health services. Integrating health services with different information & communication technologies, popularly known as E-health (electronic health) is fast changing the world of health care management. In general E-health can be used to explain everything related to E-services & medicine.

Like E-commerce, E-business, E-consultancy, E-education, E-government, E-solutions etc; the e-health holds a great potential to cater to different stakeholders of health services. It includes the use of electronic / internet, mobiles, desktops, laptops and different technologies aimed at optimising the use of health services, as it helps bringing the different stakeholders together removing physical barriers and reducing time of interaction communication and delivery of health care services.

Though there is no any comprehensive definition of E-health, the term is generally considered as the use of electronic facilities / services in healthcare management.   The word E- health combines two things E- & health. Here E – means electronics & communication technologies / web based technologies used in health care industry. E health encompasses the different traits of internet, medicine, business, public health, health education etc with view to

provide economic & efficient healthcare services to the stakeholders of health service.

[1] WHO defines E-health as "the transfer of healthy resources and health care by electronic means". World Health Organisation Maintains that:

E-HEALTH ENCOMPASSES THREE MAIN AREAS.

A. The delivery of health information, for health professional and health consumers, through the internet & telecommunications.

B. Using the power of IT & E-commerce to improve public health services, e.g. through the education & training of health workers.

C. The use of E-commerce & E-business practices in health systems management.

In General, E-health provides a new method for using health resources –such as information, money, and medicines –and in time should help to improve the effectiveness of these resources.

PUBLIC HEALTH

Public health may be considered as the science and art of promoting health of individuals in any society through prevention of illness & disease. [2] American Institute of Medicine (1988) defines "public health as what society does to assure the conditions for people to be healthy."

Public health may be explained as the as the discipline of promoting healthy lifestyle among people through voluntary behaviour change by informing people about different diseases.

E-HEALTH AS A TOOL OF PUBLIC HEALTH PROMOTION

Due to rapid change in technologies, E-health has recently emerged as a new paradigm in healthcare services. Phenomenon growth in Internet services in GCC and MENA countries can be proved a boon for different stakeholders of healthcare industry spread around the geographical boundaries. It helps in reducing the cost & time in delivery of healthcare services as:

- E-health helps in enhancing efficient delivery of different health care services / products.

- E-health helps monitor the health status of an individual in a community
- E-health helps in identifying the prospective health problems in community
- E-health helps in diagnostics in different diseases
- E-health helps in informing & educating the audience about different health hazards / potential health related threats
- E-health helps in the empowerment of people especially under privileged / underserved people
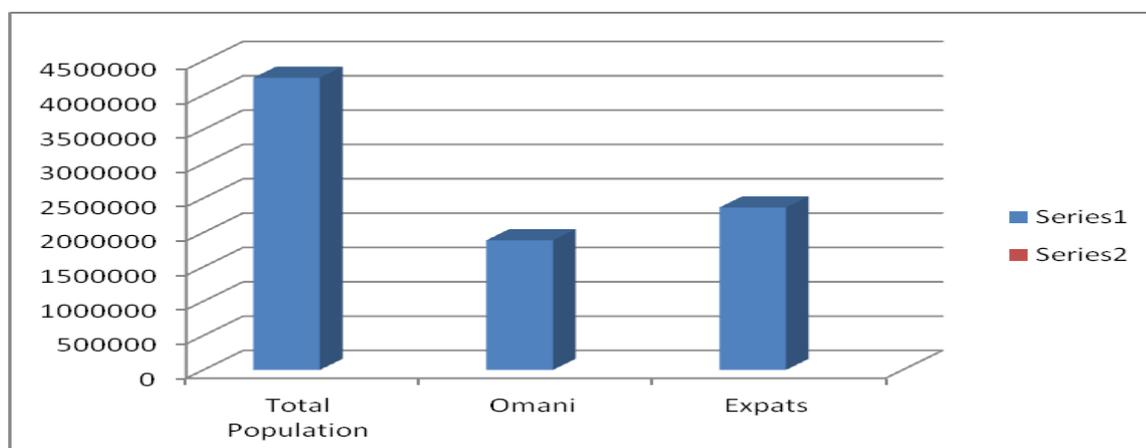- E-health helps in developing health policies beneficial to public

- E-health provides the facility of hospital reaching to patient –previously patient goes to hospital – now hospital is available to the doorstep of the patient
- E-health provides the facility that anyone can keep a tract of the health services
- Different health apps help us to keep track of our health by way of keeping track of our health indicators, taking medicine in time, going for health check up, interacting with health care provider –health care seeker,
  - E-health enables mass participation
- E-health is cost effective – cut on cost of millions of Omani Rials
- E-health provides very personalised service
- E-health provides updated information
- Can keep track of administration of health care facilities
- Empowering the healthcare stake holders –the availability of e service with a view to availing health services empower the user of e-health

In short, E-health helps in reducing cost & time in the delivery of health care products & services. E-health facilitates increased participation among different stakeholders of health care industry.

CONTEXT OF THE STUDY

The study is conducted the Gulf state of Sultanate of Oman. The Sulatante if Oman has the following features: According to latest data released by NCSI [3], Oman has a total population of 4.25 million (Sep 2015). Expatriate comprise 1,888,479, while the local populace 2,365,937

The number of active mobile Internet broadband users stood at more than 2.9mn by the end of March 2015 (Source NCSI), Published in *Muscat daily* Newspaper [4]

Data for Male & Female in Omani Population –from MOHE

The number of post-paid mobile users stood at 542,149 by the end of March 2015 compared to 536,324 by the end of February 2015.

Item No	Time Period	Post-paid Mobile Users
1	Feb-15	536,324
2	Mar-15	542,149

The number of Internet users stood at 189,048 by the end of March 2015 compared to 185,606 by the end of February 2015.

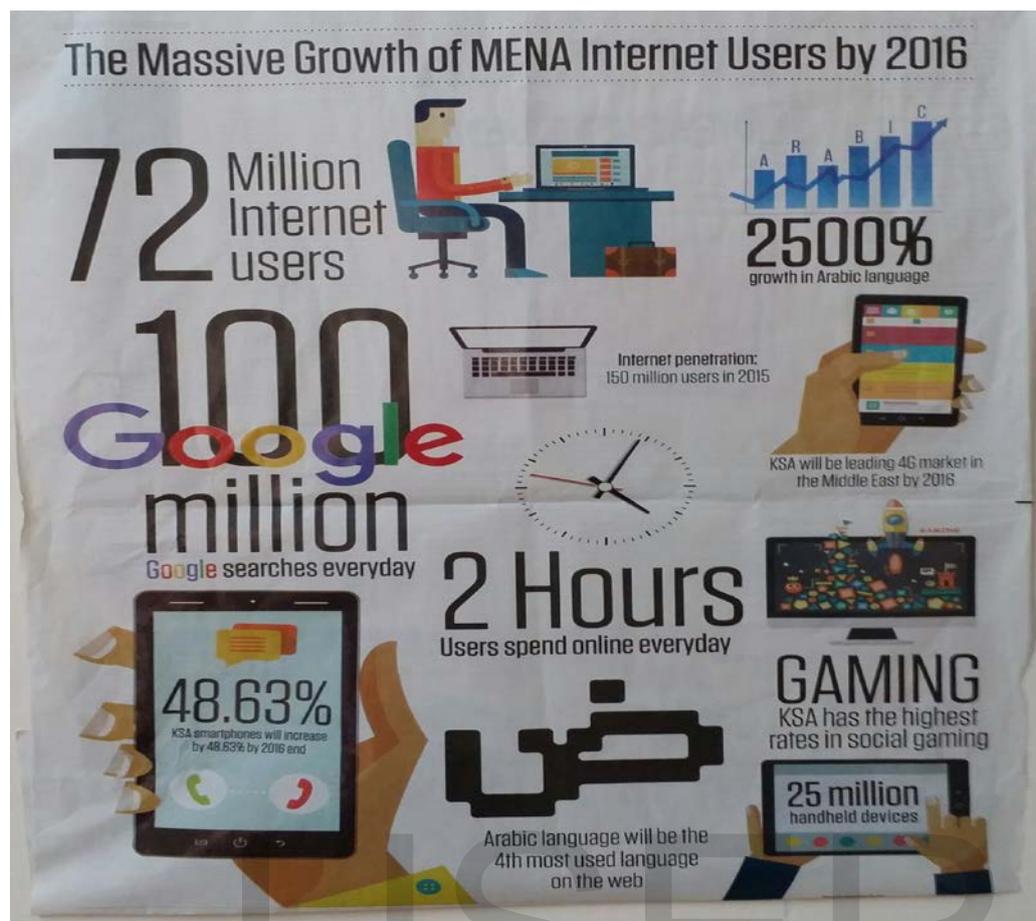| Item No	Time Period	Internet Users
1	Feb-15	185,606
2	Mar-15	189,048

RAPID GROWTH OF INTERNET IN ARAB REGION

Recent studies [5] show that Internet /web-based technologies are growing in the Arab region at a rapid pace. Following are some data:
The continued proliferation of Internet connectivity and large-scale adoption of mobile technologies in the Arab region have created new horizons for entrepreneurship and employment in a region facing immense economic and developmental challenges and vitally transformed the society as a whole.

- Arabic language will be the 4th most used language on the web
- 2500% growth in Arabic language
- There are 72 Million Internet users
- 100 Million Google searches everyday
- There are around 25 Million handheld devices
- 2 Hours are spent online by users everyday
- KSA has the highest rates in social gaming
- KSA will be leading 4G market in the Middle East by 2016
- KSA smart phones will increase by 48.63% by 2016 end

Pictorial Representation:

If we capitalise on these changes, Exponential growth in the internet can be helpful in the healthcare management & public health promotion through E-health.

LITERATURE REVIEW

This section of the study reviews the literature on E-health as a tool of public health education. The literature review shows that there is dearth of literature on the given topic as it is a new emerging discipline and not many studies have been conducted in this area so far.

[6]WHO (1948) defines health as "a state of complete physical, mental, and social well-being. Health is not just the absence of disease or infirmity".

Mitchell [7] tried to give the academic definition of E-health in 1999 by who said that E-health is a new term which combines the use of electronic communication and information technology in the health sector, comprising digital data – transmitted, stored and retrieved electronically".

Eysenbatch [8] tried to explain it a bit by focusing more on electronics or E-services, as "E-health refers to health services and information delivered or enhanced through the internet and related technologies.

Later on Oh et al. [9] reviewed the definition of E-health and explained it as "E-health encompasses a set of desperate concepts, including health, technology, and commerce and that ait involved several stakeholder, roles, locations and expected benefits."

Very recently The World Health Organisation mentioned in its 2011 Atlas of E-Health Country profiles [10] that E-Health is simply the use of ICT (information & communication technologies) in health care services.

OBJECTIVES OF THE STUDY:

1. To explore the potential of e-health in the sultanate of Oman
2. To assess the role of e-health in developing strategies for public health promotion

METHODOLOGY:

An exploratory research approach is adopted for the purpose of this study.
A semi-structured questionnaire was used to elicit responses from the different stakeholders of e-health in the sultanate of Oman. A SWOT analysis was conducted to explore the potential of e-health for the promotion of public health in the sultanate of Oman
Data are collected from primary as well as secondary sources

WORKING DEFINITION OF KEY TERMS:

Health-care Management: For the purpose of this study, it means managing the overall health of individuals in a society through the healthcare system.

E-health: for the purpose of this study, E-health means combining the electronic / web based technologies with health care services.

Public Health Promotion: it means framing the policies and procedures in a society aimed at individuals to have increased control over their health & promote overall health of people through volunteer behaviour changes.

ANALYSIS & INTERPRETATION
SWOT Analysis of the study reveals following points:

STRENGTH
Government of Oman spends huge sum of money on development health services development
Oman has a very good infrastructure for the health care management
Oman has one polyclinic in almost every wilayat & a multi-speciality referral hospital in all the regions of the Sultanate.
E-Health helps in reducing the overall stress on any health system caused by rise in the seasonal diseases like flue etc.

WEAKNESSES:
Lack of Arabic language applications to be used in health services
Lack of English language users
Lack of awareness among the local populace

OPPORTUNITIES

Oman can develop specific E-health services / applications to cater its different stakeholders i.e. health-care service provider, healthcare service users, pharmacy companies, health support workers etc
Oman has a huge number of mobile users which can be tapped by developing specific health apps to cater E-health services.
Oman has the potential to develop customised E-health services according to the need of markets.

THREATS
Apparently there isn't any threat to Oman's developing E-health as a tool for public health promotion
Possible threats are the countries which are capitalising on the development of E-commerce & E-health services. They have potentials for developing tailor-made e-health services and to export to Oman, undermining the possibilities of developing Oman's indigenous web-based services.

CONCLUSION
The study concludes that Sultanate of Oman has a great potential for developing the E-health, as Oman has a well organised infrastructure in the healthcare sector and the vast growing market of web-based technologies.. The exponential growth in the technology, accompanying with internet services can prove to be a boon for E-health in the country.

SUGGESTIONS
- There is a huge scope for customised E-health services in the Sultanate of Oman
- More studies are recommended in this area.

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