

Accelerating Progress towards Global Goal 3 on Good Health & Well Being

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Abstract

Paper treats access to Goal 3 of Global Goals on good health and well-being as a human right and the foundation of human prosperity. Objective is to ensure healthy lives and promote well-being for all at all ages which is essential to sustainable development. After highlighting facts & Figures and Targets by 2030 it presents an overview of Global Goal 3 that focuses on all aspects of health in the world including increased life expectancy, reduced infant mortality rates and ending epidemics such as AIDs, hepatitis and other transmittable diseases, it demonstrates that across the world over 1.3 billion people do not have access to effective and affordable health care, and 93 percent of them are in low and middle income countries including Libya. These countries only make up 18 percent of global income, and represent 11 percent of global spending on health care, meaning there's a huge imbalance. Maternal mortality rates are 14 times higher in developing countries than in developed countries, and only half of women in those regions have access to the recommended amount of health care. According to the UN, over 16,000 children under 5 die every day, mainly from malnourishment, dehydration and preventable diseases. Although significant progress has been made in improving the health of billions of people since MDGs of 2000, major hurdles remain — particularly in developing countries, where women and children are most vulnerable. True progress will depend on universal and affordable healthcare that helps prevent disease, supports strong vaccination programmes, and provides equal access to sexual and reproductive care and education.

This paper on health-related research is designed to demonstrate that how threats to global health in 2018 is being tackled through preparing, preventing and responding in time by pursuing WHO Policy of “No Regrets” to health emergencies—guided by the knowledge that outbreaks are inevitable, but epidemics are preventable. It untangles the growing social, economic, and environmental complexity that threatens to outpace the ability of governments and communities to manage the well-being of their citizens, IDPs & migrant in Libya. Because more than half of the world's population now reside in cities, we focus on urban health governance to stem the rise of non-communicable disease, respond to the emergence of global pathogens, and diminish the human health tolls of natural disasters. Our work assesses key elements of healthy development — such as Big Data ICT & infographics in health services, SMART Future HealthCare Insurance Cards at LifeCare, WHOQOL-BREF Programme On Mental Health World Health Organization, health clinics centers for Tawerghen IDPs & migrants. safe water and sanitation — to ensure that they are reinforced by health policy.

Interesting results from case studies that shows it is feasible to use solar energy to power the vast hospital and research centres are presented to demonstrate that how everyone having the right to safe, effective and affordable healthcare services, medicines and vaccines can help achieve universal health coverage and progress on medical research and development.

An autonomous health reform committee (NCHSR) is formed to carryout root review and reform of Libya's ailing health sector that sprang out of the Libya Health System Strengthening Programme (LHSS), set up between the Libyan authorities and the European Union to reform Libya's health sector. Finally the suggestions and recommendations to ensure that suffering belongs to no one based on four Nobel truth and eight fold path for realizing the dream of one common & interdependent planet for people health and wellbeing leading towards peace progress and prosperity are the main highlights of the paper.

Key Words: Accelerating progress, Global Goal 3, effective and affordable healthcare services.

1. Introduction

Gro Harlem Brundtland, former Director-General, World Health Organization (WHO) well said that there can be no real growth without healthy populations. No sustainable development without tackling disease and malnutrition" Global Goal #3 is on good health and well-being with an international commitment that no one is left behind. Our health is the one thing we all take for granted, until we feel unwell. The world has made incredible advances in medicine, such as cutting child deaths in half, dropping HIV infections by more than 40%, and preventing more than 6 million malaria deaths. Despite this progress, far too many people don't have access to basic healthcare. Investing in health makes a huge difference, and life-changing progress is already happening. The world has cut child deaths in half, HIV infections are down by more than 40%, and more than 6 million malaria deaths have been prevented.

Currently 260 million children are not going to school. In a tribute to Kofi Annan, former British Prime Minister, Gordon Brown urged delegates to be a part of the first generation in history where every child enjoys the right to education and to sign up for the global network for education. We need to invest in education. Education for individual opportunity, for success, for a civilized society, and for citizenship how investing in education drives economic empowerment and social mobility. "Knowledge is the way you deal with any problem or challenge Words cannot describe how much I admire these individuals. May you never stop your efforts to #leavenoonebehind. Yasmeen Mjiali, @IrwinIradukunda, Tamana Asey, @SheriffSatta, Ibtissam Abaâziz, and Luke Hart. You are role models for our planet.

World over Information and Communication Technology (ICT) includes computers, the Internet, and electronic delivery systems such as radios, televisions, and projectors among others. In Libya it is being widely used in modern day's education field. Increasingly, it is applied successfully in instruction, learning, and assessment. ICT is considered as powerful tool for educational change and reform. Studies (Bindra 2018 et al) show that an appropriate use of ICT can raise educational quality and connect learning to real-life situations. Thus learning is becoming an ongoing lifelong activity where learners change their expectations by seeking knowledge, which departs from

traditional approaches. It is hoped that in near future it will have to expect and be willing to seek out new sources of knowledge. Skills in using ICT will be an indispensable prerequisite for these learners. ICT tends to expand access to education. Through ICT, learning can occur anytime and anywhere. Online course materials, are increasingly becoming accessible 24 hours a day, seven days a week. Teleconferencing classrooms allow both learner and teacher to interact simultaneously with ease and convenience. Based on ICT, learning and teaching no longer depend exclusively on printed materials. Multiple resources are abundant on the Internet, and knowledge is being acquired through video clips, audio sounds, and visual presentation. Research studies show that ICT assists in transforming a teaching environment into a learner-centered one. Since learners are actively involved in the learning processes in ICT classrooms, they are authorized by the teacher to make decisions, plans, and so forth. ICT therefore provides both learners and instructors with more affordable education.

2. An Appraisal of Global Goal 3 & ICT in Health Delivery

An appraisal of Goal 3 to ensure healthy lives and promote well-being for all at all ages shows that it requires ensuring healthy lives and promoting the well-being to achieve sustainable development. Significant strides have been made in increasing life expectancy and reducing some of the common killers associated with child and maternal mortality. Major progress has been made on increasing access to clean water and sanitation, reducing malaria, tuberculosis, polio and the spread of HIV/AIDS. However, many more efforts are needed to fully eradicate a wide range of diseases and address many different persistent and emerging health issues. The targets for Global Goal 3 requires that by 2030, we need to 1) reduce the global maternal mortality ratio to less than 70 per 100,000 live births, 2) end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births, 3) end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases, 4) reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being, 5) strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol, 6) halve the number of global deaths and injuries from road traffic accidents, 7) ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes, 8) achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all, 9) substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination, 10) strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate, 10) support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all, 11) substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries,

especially in least developed countries and small island developing States, 12) Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.



The Libyan Post Telecommunications and Information Technology Company (LPTIC), the country's state-owned IT holding company has subsidiaries like; Al-Madar, Libyana, Aljeel - Aljadeed, LTT, Hatif Libya LITC, Libya Post and Albulnia. The LPTIC recent meetings are able to approve sector plans and budgets for 2018 to enable efforts to improve and develop sector services. They approved the recommencement of various stalled projects such as; the G4 project, the fibre optic project, improved postal services, Smart City project, high-speed internet and increased private sector cooperation and PPP projects. Oflate Information & Communication Technology (ICT) has become an integral and essential part of health delivery. IT systems are prevalent in all societies. As per Council of Europe training and education in the appropriate application of IT in healthcare is essential. As elsewhere (Ertmer 2005; Juang et al. 2008; Friedman et al. 2009; Steel 2009; Ismail et al. 2010) in Libya too ICT & Informatics includes the science of information ,the practice of information processing ,and the engineering of information systems .Indeed the informatics helps studies the structure ,behavior, and interactions of natural and artificial systems that store ,process and communicate information .It also develops its own conceptual and theoretical foundations. Since computers, individuals and organizations all process information, informatics has computational, cognitive and social aspects, including study of the social impact of information technologies. The case study presented in this paper uses definition from the French 'informatique' i.e. Medical informatics as, medical computing &, computers in medicine It is an interdisciplinary field combining health sciences, computer science, statistics, engineering, management. As per World Health Organization (WHO) medical informatics is an umbrella term referring to the application of the methodologies and techniques of information science, computing, networking and communications to support health and health related disciplines such as medicine, nursing, pharmacy, dentistry etc.....' *However,as per Shortliffe) in the field that concerns itself with the cognitive, information processing, and communication tools of medical practice, education, and research including the information science and the technology to support these tasks' Broadly ICT education & infomatics serve*

- ◆ Patient
- ◆ Medical Profession
- ◆ Government Bodies`
- ◆ Primary Care/GP's
- ◆ National Agencies
- ◆ Finance/Admin. Management in Hospitals

- ◆ Tax Payers
- ◆ General Population
- ◆ The public
- ◆ Policy makers (strategic management)
- ◆ Regional managers/tactical management
- ◆ Facility management/operational management
- ◆ Health care providers
- ◆ Healthcare researchers
- ◆ Healthcare educators and their students

It also helps in

- a) Data processing – (health is a data intense industry) It includes collection, processing, transformation, presentation & use
- b) Communication – main emphasis should be on supporting communication between people &
- c) Knowledge based services that includes computerised bibliographic services, on-line collections on non-numerical information such as practice guidelines, pharmacopoeias, essential drug lists, telephone directories, expert, decision-support and reminder systems
- d) Computers and networks.....

It also paper-based information systems, including input to and output from the computer

Popular Applications of Health Informatics include:

- ◆ For recording accurate data
- ◆ To have data available in a timely manner
- ◆ Support and inform managers to make better decisions
- ◆ Resource allocation and planning
- ◆ Email therapy
- ◆ Risk management
- ◆ Training
- ◆ Support for shared care
- ◆ Patient Assessment
- ◆ Evaluation of patient care
- ◆ Monitoring patients
- ◆ Staff coordination
- ◆ Tracking patients in hospital
- ◆ Stock management
- ◆ Tracking sterile supplies
- ◆ Integration engines
- ◆ Mobile computing
- ◆ Drug control – medication dispensing/ordering
- ◆ Purchasing equipment
- ◆ Payroll
- ◆ Clinical Pathways
- ◆ Labour management
- ◆ Patient scheduling
- ◆ Budget analysis

- ◆ Research
- ◆ Word processing
- ◆ National database
- ◆ Quality Assurance
- ◆ Donor databases
- ◆ Devices
- ◆ Monitors
- ◆ Analysers
- ◆ Imaging equipment

In addition imaging systems in Health is impossible without the use of computers. Thus computers are used to:

- 1) Construct an image from measurements
- 2) Obtain an image reconstructed for optimal extraction of a particular feature from an image
- 3) Present images
- 4) Improve image quality by image processing
- 5) Store and retrieve images

Ultrasound, x-rays, computed tomography, MRI, nuclear imaging etc.

2.1 Telehealth

It is the delivery of health-related services and information via telecommunications technologies . Telehealth delivery could be as simple as two health professionals discussing a case over the telephone, or as sophisticated as using videoconferencing to between providers at facilities in two countries, or even as complex as robotic technology.

Telehealth is an expansion of telemedicine, and unlike telemedicine (which more narrowly focuses on the curative aspect) it encompasses preventive, promotive *and* curative aspects. Originally used to describe administrative or educational functions related to telemedicine, today telehealth stresses a myriad of technology solutions. For example, physicians use email to communicate with patients, order drug prescriptions and provide other health services.

2.2 Nonclinical uses of telehealth technologies

- Distance education including continuing medical education, grand rounds, and patient education
- Administrative uses including meetings among telehealth networks, supervision, and presentations
- Research
- Online information and health data management
- healthcare system integration
- patient movement and remote admission

2.3 Telenursing:

It refers to the use of telecommunications and information technology for providing nursing services in health care whenever a large physical distance exists between patient and nurse, or between any numbers of nurses.

- ◆ Telehealth: It is a field it is part of telehealth ,and has many points of contacts with other medical and non-medical applications, such as tele diagnosis ,teleconsultation ,tele monitoring ,etc.
- ◆ E Health: This is also written e-health (is a relatively recent term for healthcare practice which is supported by electronic processes and communication .The term is inconsistently used: some would argue it is interchangeable with health care informatics and a sub set of Health informatics ,while others use it in the narrower sense of healthcare practice using the Internet .The term can encompass a range of services that are at the edge of medicine/healthcare and information technology

Electronic Medical Records :enable easy communication of patient data between different healthcare professionals (GPs, specialists, care team, pharmacy (

Telemedicine :includes all types of physical and psychological measurements that do not require a patient to travel to a specialist. When this service works patients need to travel less to a specialist or conversely the specialist has a larger catchment area .

Evidence Based Medicine :entails a system that provides information on appropriate treatment under certain patient conditions. A healthcare professional can look up whether his/her diagnosis is in line with scientific research. The advantage is that the data can be kept up-to-date .

Consumer Health Informatics) or citizen-oriented information provision): both healthy individuals and patients want to be informed on medical topics .

Health knowledge management) or specialist-oriented information provision :(e.g .in an overview of latest medical journals, best practice guidelines or epidemiological tracking .

Virtual healthcare teams :consist of healthcare professionals who collaborate and share information on patients through digital equipment .

3. Case Study in Libya

Like elsewhere in Libya too access to good health and well-being is a human right and the foundation of human prosperity. Although significant progress has been made in improving the health of billions of people since 2000, major hurdles remain — particularly in developing countries and fragile states like Libya after 2011 Arab Spring crisis, where IDPs, women and children are most vulnerable. True progress will depend on universal and affordable healthcare that helps prevent disease, supports strong vaccination programmes, and provides equal access to sexual and reproductive care and education.

Youth Sustainability Impact (YSI) Ambassador & OKYD Ambassador Team work as Founding members of Environment Peace Building cooperates with the National Centre for Health System Reform (NCHSR) that operates in collaboration with the Health Ministry, and springs out of the Libya Health System Strengthening Programme (LHSS), set up between the Libyan authorities and the European Union.

The NCHSR's goals are to:

- Restructure the health system;
- Ensure full funding for a service that is free to patients at the point of use;
- Involve the private sector;
- Have a healthcare service in line with international standards;
- Decentralize;
- Have a service where health workers, whether in the private or public sectors, are properly paid for their work;

- Develop a master plan to achieve universal health care in Libya.

The NCHSR continues to work on a wide range of health reforms which will continue to be unveiled throughout 2018 and beyond as and when they are complete. A number of steps had already been taken in the short time since the reform body was created.

These include the launching of health insurance, the formation of a health council, a health accreditation council, reforming the medical supply organization and the official medicines list.

The Health Insurance Fund (HIF) was launched on the recommendation of the NCHSR through a PC/GNA decree (854) in September 2017 and as a first step health insurance was launched for the education sector state employees with a view to roll it out for all Libyan citizens.

The formation of an independent Health Council is also forthcoming to act as the governing body for the health sector. Previously the Medical Syndicate (Union) used to carryout this function, which was a clear conflict of interest in representing both a potentially aggrieved patient while at the same time defending the medical profession.

A new Health Accreditation Council is also about to be launched. Previously, there was no monitoring or accreditation of health facilities in Libya. Private health clinics used to operate like any commercial entity with no specific health standards or control by any medical body.

The state Medical Supply Organization (MSO), which purchases a large part of medicines on behalf of the state will also be reformed. This body has historically been granted huge procurement budgets of US\$ 300 to 500 million per annum. It has been accused of being corrupt and inefficient and of partly conspiring in creating medicine shortages over the decades.

Finally, the official Standard/Essential Medicine List which guides state procurement of medicines will be reviewed. The review of this list has been long-winded as vested years over the decades have resisted their brands or varieties being dropped from it.

More broadly, some version of PPP agreements to operate Libyan hospitals similar to the 2008 agreement signed by the Qaddafi-regime with South African-based Healthshare to run the Al-khadra Hospital are also being considered by the NCHSR.

The NCHSR was established through decree 255 in March 2017 issued by the Faiez Serraj Presidency Council /Government of National Accord to coordinate national efforts and international backing to reform and modernise the Libyan health system. It was launched in October 2017 by Faiez Serraj at a Tripoli event.

OKYD Ambassador team's health-related research untangles the growing social, economic, and environmental complexity that threatens to outpace the ability of governments and communities to manage the well-being of their citizens. Because more than half of the world's population & over 80% Libyan population now reside in cities, we focus on urban health governance to stem the rise of non-communicable disease, respond to the emergence of global pathogens, and diminish the human health tolls of natural disasters. Our team work assesses key elements of healthy development — such as safe water and sanitation — to ensure that they are reinforced by health policy.

A pilot survey on the opportunities that ICT presents for enhancing the quality of teaching and learning in case study learning centers in Libya show the need to 1) encouraging staff and students to reflect on how they teach and learn. 2) Applying theory and research on learning and principles of good instruction to designing online learning environments. 3) Making teaching (and learning) more visible and public. 4) Encouraging collaboration and team work among staff (and students). Our specific case study at LifeCare Tripoli in Libya is currently involved in IDPs Telfe, an aggregator for Digital Health Clinics in low resource settings, based on AI, ML, cloud platform

and mobile application, building remote health centres with distribution channel for pharmacies and diagnostics to reach over a million IDPs Migrants Returnees & desert communities in Libya. OKYD Ambassador led Team at Tripoli have a great & experienced team of Engineers and doctors from Tripoli University Benghazi University & Graduate Libyan Academy. Our team is highly trained and exposed to technologies both in Libya and abroad.

Our team is solving hard problems of affordable, accessible healthcare products and services, have recently been in process to receive UN funding for issuing SMART Card Insurance, and have customers like Tawerghan IDPs Govt of Libya in the short while that we have been operational at Medical hospitals, clinics and other serial entrepreneurs are our investors and mentors similar to the one in India by Med Tel.

OKYD Ambassador Team is in the process of providing urban healthcare to remote and desert community in Libya through B2B2C model. We are in the process to have agreements with Central Bank of Libya through Shariya, Oracle & other banks in the country for insurance to every citizen with no one left behind. We are Uber for health with less ownership model, low skilled operator and solving a major problem of doctors' presence in semi urban & desert remote area and fulfilling healthcare needs of IDPs, returnees, migrants & poor people.

Our Team is opening telehealth POD at remote desert community level with just a mobile, medical kit and printer. Our model is like Uber where driver requires a car to run the service but here the cost for operator is quite low. We don't own any centre and opening of each centres wouldn't cost us anything. Our App just make this easy and viral to reach hundreds and thousands in no time.

Tele-medicine is not a new idea, we are just doing in a different way. We have seen its major requirement and find the best way of disrupting the market.

Our Team has plans for not only generating revenue through a transaction but also earns through medicine delivery, diagnostic facility, patients' referral and opening & sponsoring doctors' TeleOPD centres. We have User Agreement for the World Health Organization Quality of Life (WHOQOL) in our user's study. Finally in cooperation GEO-CRADLE's coordinator, Dr Haris Kontoes, from the National Observatory of Athens, Greece, we have plans for the project to help Libya and the regions by focusing on to make use of data streams from Copernicus – pulling the information together, getting all the interest groups to work as a network to make use of it, and finding applications in monitoring climate change impacts on health, locating raw materials, improving food security and accessing renewable energy.

4. Concluding Remarks

This papers presents elements of a future vision of accelerating progress on Global Goal 3 on Good Health and Well Being by education & learning in the knowledge-based society which is enabled by ICT and data streams from Copernicus. It is not only based on extrapolations from trends and drivers that are shaping learning in new Libya but also consists of a holistic attempt to envisage and anticipate future learning needs and requirements in new Libya. Teachers' perceptions about ICT for teaching, professional development, administration and personal use has been investing in the integration of information and communications technologies (ICT) in education for several decades. However, little is known about teachers' perceptions about ICT integration in education in general and health related education in particular. This study after presenting pilot scale survey recommends need for an in depth survey of teachers' perceptions about the use of ICT tools for teaching, administration, professional development and personal use. Our specific case study at LifeCare Tripoli in Libya shows possible and potential application for Digital Health Clinics in

low resource settings, based on AI, ML, cloud platform and mobile application, building remote health centres with distribution channel for pharmacies and diagnostics to reach over a million IDPs Migrants Returnees & desert communities in crisis ridden Libya.

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