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Erasmus+ Programme
of the European Union



Six Newsletter April 2022

Erasmus+ Capacity Building projects in the field of Higher Education



**Knowledge triangle, Innovation,
Reinforcing of Education, Research,**

609506-EPP-1-2019-1-SE-EPPKA2-CBHE-JP E-Health and Medical Links

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Project Objectives:

Specific objectives

To establish the international network Centers of e-health Innovations in EG and LB for administrative and technical supporting of e-health research/ consulting / training activities.

1. To develop the Knowledge Triangle, innovation: Education-Research- e-health business web platform KTERE for collaboration in development and commercialization of e-Health innovative technologies and tools.
2. To develop a new integrated professional short term (6 months) and long term (one year) diploma program in Medical informatics and e-Health (6 basic modules) for partner universities in LE and EG.
3. To develop in-service lifelong learning training (LLT) program (4 modules) in the area of e-health innovative Medical/health/IT/engineering. To develop on site and distance in-service training program (4 modules) in the area of innovative E-health for the further utilization of OER (open educational resources) and rich open learning environments.



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Editorial

Dear colleagues, we hope that ICU project will get the approval for one-year extension, as all we know, we passed through a very rough year since the start of the project. We have accomplished a lot and challenges ourselves to go through the tasks as it were planned. Unfortunately, some tasks need face to face interaction, exchange of skills and share experiences were not appropriately implemented. We hope no more outbreak, so we can continue and achieve a great success.

Global Strategy on Digital Health 2020-2025

Digital technologies are now integral to daily life, and the world's population has never been more interconnected. Innovation, particularly in the digital sphere, is happening at unprecedented scale. Even so, its application to improve the health of populations remains largely untapped, and there is immense scope for use of digital health solutions.

WHO is harnessing the power of digital technologies and health innovation to accelerate global attainment of health and the well-being

The purpose for a Global Strategy on Digital Health is to promote healthy lives and wellbeing for everyone, everywhere, at all ages. To deliver its potential, national or regional Digital Health initiatives must be guided by a robust Strategy that integrates financial, organizational, human and technological resources.

The vision of the global strategy is to improve health for everyone, everywhere by accelerating the development and adoption of appropriate, accessible, affordable, scalable and sustainable personcentric digital health solutions to prevent, detect and respond to epidemics and pandemics, developing infrastructure and applications that



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enable countries to use health data to promote health and well-being, and to achieve the health-related Sustainable Development Goals and the triple billion targets of WHO's Thirteenth General Programme of Work, 2019–2023.

The purpose of this global strategy is to strengthen health systems through the application of digital health technologies for consumers, health professionals, health care providers and industry towards empowering patients and achieving the vision of health for all. The strategy is designed to be fit for purpose and for use by all Member States including those with limited access to digital technologies, goods and services. In the context of this global strategy, digital health is understood to mean “the field of knowledge and practice associated with the development and use of digital technologies to improve health”. This definition encompasses eHealth, in line with that used in the report by the Director-General noted by the Executive Board.¹ Digital health expands the concept of eHealth to include digital consumers, with a wider range of smart and connected devices. It also encompasses other uses of digital technologies for health such as the Internet of Things, advanced computing, big data analytics, artificial intelligence including machine learning, and robotics.

The global digital strategy emphasizes that health data are to be classified as sensitive personal data, or personally identifiable information, that require a high safety and security standard. Therefore, it stresses the need for a strong legal and regulatory base to protect privacy, confidentiality, integrity and availability of data and the processing of personal health data, and to deal with cybersecurity, trust building, accountability and governance, ethics, equity, capacity building and literacy, ensuring that good quality data are collected and subsequently shared to support planning, commissioning and transformation of services. It is important to maintain transparency and effectively communicate about the data security strategies.

Digital Technologies – Shaping The Future Of Global Health

With the recognition that information and communications technologies present new opportunities and challenges for the achievement of all 17 Sustainable Development Goals, there is a growing consensus in the global health community that the strategic and innovative use of digital and cutting-edge information and communications technologies will be an essential enabling factor towards ensuring that 1 billion more



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people benefit from universal health coverage, that 1 billion more people are better protected from health emergencies, and that 1 billion more people enjoy better health and well-being (WHO's triple billion targets included in its Thirteenth General Programme of Work, 2019–2023).

Digital transformation of health care can be disruptive; however, technologies such as the Internet of things, virtual care, remote monitoring, artificial intelligence, big data analytics, blockchain, smart wearables, platforms, tools enabling data exchange and storage and tools enabling remote data capture and the exchange of data and sharing of relevant information across the health ecosystem creating a continuum of care have proven potential to enhance health outcomes by improving medical diagnosis, data-based treatment decisions, digital therapeutics, clinical trials, self-management of care and person-centred care as well as creating more evidence-based knowledge, skills and competence for professionals to support health care.

Ethics

Digital health should be an integral part of health priorities and benefit people in a way that is ethical, safe, secure, reliable, equitable and sustainable. It should be developed with principles of transparency, accessibility, scalability, replicability, interoperability, privacy, security and confidentiality.

Guiding Principles

The four guiding principles aim to orient the global strategy towards the appropriate and sustainable adoption of digital health technologies within the context of national health sector and health strategies.

- 1- Acknowledge that institutionalization of digital health in the national health system requires a decision and commitment by countries
- 2- Recognize that successful digital health initiatives require an integrated strategy
- 3- Promote the appropriate use of digital technologies for health
- 4- Recognize the urgent need to address the major impediments faced by least-developed countries implementing digital health technologies



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There is a pressing need to invest in efforts to overcome the major impediments that developing countries face in engaging with and accessing new digital health technologies, such as an appropriate enabling environment, sufficient resources, infrastructure to support the digital transformation, education, human capacity, financial investment and internet connectivity, as well as issues related to legacy infrastructure, technology ownership, privacy, security, and adapting and implementing global standards and technology flows.

Among the strategic objectives :

Strengthen governance for digital health at global, regional and national levels
This strategic objective focuses on strengthening the governance of digital health at national and international levels through the creation of sustainable and robust governance structures and building the capacity for digital health at global and national levels. Governance for digital health aims to strengthen the capabilities and skills needed for countries to promote, innovate and scale up digital health technologies. The strategic objective promotes standards for safety, security, privacy, interoperability, and the ethical use of data within and outside the health sector.

Actions to strengthen governance

Policy options and actions

The following policy options and actions are proposed:

1. strengthen governance of digital health at national and international levels by leveraging existing structures and as appropriate creating sustainable and robust governance structures, including regulatory frameworks, and the capacity for the implementation of evidence-based and proven digital health solutions at global and national levels;
2. coordinate investments in evidence-based approaches to assess promote and disseminate new and innovative health technologies for national scaled



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- digital health programmes using a person-centred approach to facilitate actions and investments based on informed decisions;
3. promote and facilitate digital health competencies in the education and training curricula of all health professionals and allied workers; and
 4. promote capacity-building for leaders of public health authorities, affiliated agencies and policy-makers to take informed decisions to support digital health investments

Advocate people-centred health systems that are enabled by digital health This strategic objective advances digital health literacy, gender equality and women's empowerment and inclusive approaches to adoption and management of digital health technologies. The strategic objective places people at the centre of digital health through the adoption and use of digital health technologies in scaling up and strengthening health service delivery. The individual is an essential component in the delivery of trust-based, peoplecentred care. This focus covers not only patients, families and communities but also the health workers who need to be prepared to deploy or use digital health technologies in their work. Planning for capacity-building includes workforce assessment, ranging from professionals in information and communication technologies to health workers providing care services. Being intrinsically multidisciplinary and interdisciplinary, capacity-building entails instilling capabilities, attitudes and skills which may range from computer sciences, strategic planning, finance and management to health sciences and care delivery, depending on the digital health application and its context.

Assessment of the workforce should also consider the implications for the health labour market of introducing digital technologies and their management. This objective would call for countries to move away from the current disease focused systems to an integrated approach with the patient at the centre. Attitudes to, practices in and public awareness of digital health should also be addressed. Possible actions include improving digital health literacy at the population level, engagement of patients, families and communities, and education of patients about health. Better responding to the social and commercial determinants of health to improve digital health-enabled health systems will need the engagement of civil society but also non-health sectors and actors. Increasing awareness of evidence based self-management tools and increasing access to these is a further action to consider.



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Policy options and actions The following policy options and actions are proposed:

- 1- place people at the centre of digital health through the appropriate health data ownership, adoption and use of digital health technologies and development of appropriate literacy; the focus will cover not only patients, families and communities but also health workers;
- 2- develop approaches to the management of health at the population level through digital health applications that move health and well-being from reactive-care models to active community-based models, and reduce the burden of data collection from front-line workers by reorienting reporting-based tools into service delivery tools;
- 3- establish monitoring and evaluation models to facilitate monitoring the contribution of digital systems to health system processes, health workforce processes, and individual and community health needs;
- 4- strengthen gender equality and health equity approaches and accessibility for people with disabilities to promote inclusive digital society with enhanced digital health skills. When planning and prioritizing digital health interventions, relevant factors of inequality should be assessed in order to ensure that the introduction of digital health technologies does not aggravate these (“do no harm”) and that access for specific population groups is guaranteed. In addition, the specific potential of digital technologies to promote health equity should be leveraged. Designed properly, digital solutions can propel inclusiveness as digital connectivity can transcend physical barriers;
- 5- implement mechanisms for more effective public participation and transparency in national and international digital health decision-making processes, such as through international consultation processes or a stakeholder forum;
- 6- develop digital health training or Massive Open Online Courses to improve digital health literacy; and Global strategy on digital health 2020-2025 create an international communication campaign to sensitize people to the benefits of digital health solutions and the use of their data for public interest research, and thereby promote the vision of people being actors of innovation.



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Outputs The following outputs are envisaged:

- 1) Improved digital health literacy in using and understanding digital health technologies and systems as well as health data is prioritized, and the validated tools are accessible by all populations;
- 2) a framework allowing individual feedback in validating the performance of digital health tools and services, diffusion of increasing digital health demand is implemented and used;
- 3) global minimum health data standards for prioritized digital health technologies and processes are established, adopted and applied at national level; and
- 4) global guidance on personalized medicine is developed.

Framework for Action The framework for action aims to facilitate the implementation of the global strategy by providing a structure and tools for collaboration. Working collectively towards shared strategic objectives, local and global partners can accommodate diversity and jointly consider concepts, road maps, methods, tools, funding and other factors to help implementation and support countries in various development contexts to make optimal use of digital health technologies. The framework for action is guided by four major components: commit, catalyse, measure, and enhance and iterate. The framework for action is accompanied by an action plan, which outlines impact, outputs, policy options and actions for each strategic objective.

Source : Global strategy on digital health 2020-2025 WHO



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Biography

Dr. Mosad Zineldin



ICU-RERE Project manager, representing the grant holder University – Linnaeus University- Sweden.

Professor at the Faculty of Health and Life Sciences, Dep. of Medicine and Optometry. Dr. Mosad Zineldin is a full Professor with multidisciplinary scientific doctoral and master degrees focused on health sciences but also includes other different areas: Main research interest is developing new approaches to reduce surgery, medical and medication errors related to spinal arteriovenous malformations (AVMs) and Brain AVMs Surgery, Medicine and eHealth Is also another area of recent research interest in addition to the following:

- Cognitive and Behavioural Neuroscience and psychology
- Clinical Neuroscience and Psychology
- Psychiatry
- Sexology
- Social psychology and psychiatry
- Quality, Management, Economics, relations, interaction & networks

Editor in Chief. Associate and Guest editor of several International Journal such as:

- The International Journal of Environmental Research and Public Health—IJERPH.
- BIOMedical Central- BMC Health Services Research
- Int. J. of Work Organization and Emotion
- International Journal of Psych-MDPI



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Dr. Safaa ELMeneza

ICU-RERE contact site, AL-Azhar University

Professor of pediatrics /neonatology, Faculty of Medicine for Girls, AL-Azhar University.



Dr. Safaa ELMeneza is a Professor with MS, MD Paediatrics, Diploma TQM, DGSHH, DHPE. Main research area focused on neonatology, neonatal intensive care, neonatal infection and perinatal asphyxia, patient safety, medical education and quality of health care. Interested in global health, e-learning, e-health and health informatics.

Also interested in:

- Neonatal neurology
- Life support
- Mechanical ventilation
- Networks

PI of the successful project neonatal safety training network and sustainability of neonatal safety training network. Participated in international multicenter RESAIR II study.

Reviewer in Acta Paediatrics, Merit research journal of Medicine and Medical sciences (MRJMMS), Pediatrics & Neonatal Biology Open Access and BMC Paediatrics, Advisory Board for Journal of Recent Advances in Medicine (JRAM) website.

Editor several J such as:

- Asploro Journal of Pediatrics and Child Health
- Journal of Neonatal Research and Pediatrics Care
- Madridge Journal of Case reports & Studies
- Acta scientific Paediatrics
- Journal of Neonatal Biology
- Journal of Neonatology and clinical pediatrics