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CSTD 2020-2021 priority theme on "Using science, technology and innovation to close the gap on Sustainable Development Goal 3 on good health and well-being"

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Intervention by ITU

Theme 1: Using science, technology and innovation to close the gap on Sustainable Development Goal 3, on good health and well-being.

- ITU is the UN specialized agency on ICTs and is working in collaboration with multiple stakeholders to bring the benefits of new and innovative technologies to accelerate social, economic and environmental development.
- Technology has been identified as a cross-cutting implementing tool to achieve all 17 Sustainable Development Goals. New and emerging technologies can help accelerate development, but this is hampered by low rates of connectivity and digital skills, meaning low-economic communities are unable to benefit from these transformative technologies. And in the development of new and emerging technologies, trust is always an important consideration.
- From setting standards to facilitating conducive policy to managing the radio spectrum and developing globally applicable standards for IMT-2020, ITU fosters meaningful multistakeholder collaboration to leverage the potential of technology for driving sustainable development.
- ITU-T Focus Groups on new and emerging technologies include the Focus Group on AI for autonomous and assisted driving (FG-AI4AD), the Focus Group on "Environmental Efficiency for Artificial Intelligence and other Emerging Technologies", the Focus Group on "Quantum Information Technology for Networks" and so on.
- ITU is assisting countries to transition into the digital era. ITU works in all regions of the world and develops tailored programmes to facilitate universal access and trust in such technologies.
- ITU raises awareness and assists countries in developing the policies, legislation, regulations and business practices that promote the digital inclusion of people with specific needs. These include indigenous peoples, people living in rural areas, people with disabilities, women and girls and youth and children.
- To facilitate the engagement and participation of all stakeholders in harnessing rapid technological change for inclusive and sustainable development ITU organizes global events like AI for Good Summit and the WSIS Forum (co-organized by UNESCO, UNDP and UNCTAD).

Using STI to close the gap on SDG 3, good health and well-being

- Digital Health can improve access and quality of health coverage, enhance diagnostics, training, and better prevention – creating real impact on the well-being of people, even in remote areas. With over 95% of the global population covered by mobile networks (ITU IDI, 2017), inclusive health services can be potentially be provided to virtually everyone around the globe – using mobile-enabled (mHealth) solutions.
- ICTs and other technologies are increasingly being used to support efforts to combat and contain the spread of the global COVID-19 pandemic.
- The AI for Good Global Summits often lead to tangible outcomes such as the call for more standardization for health in 2018, which has taken the form of the Focus Group on Artificial

Intelligence for Health (FG-AI4H), which aims inter alia to create standardized benchmarks to evaluate Artificial Intelligence algorithms used in healthcare applications.

- The ITU/WHO Focus Group on artificial intelligence for health (FG-AI4H) works to establish a standardized assessment framework for the evaluation of AI-based methods for health, diagnosis, triage or treatment decisions. Participation in the Focus Group is free of charge and open to all.
- The Radio Regulations defines, under RR No. 1.15, the *industrial, scientific and medical (ISM) applications* (of radio frequency energy) as: *"*Operation of equipment or appliances designed to generate and use locally radio frequency energy for industrial, scientific, medical, domestic or similar purposes, excluding applications in the field of *telecommunications.*" Frequencies for the use of ISM applications are identified in the Radio Regulations.
- ITU-R Study Group 1 identified some frequency ranges for Short Range Devices (SRDs) that are used in some health applications (e.g. Assistive Listening Systems).
- ITU-R Study Group 5 developed Recommendation ITU-R M.1076 on impaired hearing solutions.

Digital health

In 2012, in conjunction with WHO, ITU-D launched the 'Be he@lthy, be mobile programme', which works with governments to introduce evidence-based mHealth services into national health systems, institutionalize them nationally on a large-scale, evaluate their impact, and share best practices. This initiative continues to support programmes in a combination of low-, middle- and high-income countries, sharing content and experiences between them to accelerate the adoption of best practices. It aims to: help countries implement and sustainably scale mHealth programmes; develop validated content that works; enter into meaningful partnerships globally and in country for multisectoral and ecosystem approaches; explore and expand innovations; share knowledge; and build country capacity for innovation management and institutionalize digital health.

Over the past five years, the initiative has accomplished significant reach and impact, supporting 16 programmes in 12 countries and reaching over 3.7 million users. Toolkits and content libraries provide guidance on NCDs and the planning, implementation and evaluation of national mHealth programmes. The initiative partners with UN agencies, private sector, academia, governments and civil society and we are now planning the strategy for phase 2 which includes expanding the reach to millions of people, further developing the content library and increasing the number of partnerships.

In collaboration with the WHO, ITU-D has worked on National eHealth Strategy Toolkit in 2012. The National eHealth Strategy Toolkit is an expert, practical guide that provides governments, their ministries and stakeholders with a solid foundation and method for the development and implementation of a national eHealth vision, action plan and monitoring framework. ITU has also published the Digital Health Platform handbook about architectures for digital health systems. This tool aims to assist countries with the advancement of their national digital health system, specifically through the use of a digital health platform, or DHP. The DHP provides the underlying foundation for the various digital health applications and systems used to support health and care services regardless of the maturity level of digital health in the country. Essentially, it enables individual applications and systems to interoperate and work together in an integrated manner, bringing fast, efficient and reliable information exchange.

ITU-D has also partnered with the WHO and Andalusian Public Health services along 18 other entities working on Digital Health in Europe on the [mhealth hub](#), which aims to: collect expertise on mHealth in Europe; assist countries in implementing mHealth strategies; facilitate innovation in mHealth; help accelerate the EU Digital Single Market; to produce knowledge tools for health systems and services on NCDs; and to provide a code of ethics for mHealth data.

In 2018, ITU-D Study Group 2 examined [Question 2/2 on Telecommunications/ICTs for eHealth](#), and covered issues such as e-health activities carried out by the BDT in cooperation with other UN agencies, such as WHO, in the field of non-infectious disease, infectious disease, including pandemics, and mother and child in particular. In conjunction with ITU-T, ITU-D has explored guidelines on collecting and managing big data for public health crises, as well as new technologies.

ITU is also working closely with WHO to build human capacities and developed integrated curriculum for digital health to support digital health sector transformation. It focuses on building capacities for digital health leaders to build integrated systems and to move away from the siloed approach that currently dominates digital health implementation.

ICTs remain our primary tool to contend with COVID-19.

AI and data analytics continue to play a key part in COVID-19 response and recovery. We have also seen a range of innovative 5G applications in healthcare, public safety, manufacturing, and education.
The pandemic has highlighted the importance of digital technologies to the future of health. It has also highlighted the importance of **building trust in digital health technologies** and addressing public concerns around **data protection**, in particular the protection of personal data.

<u>Wearable technologies are expected to play an increasing part in combatting pandemics and monitoring public health.</u>

ITU H.810 series. ITU standards provide for medical-grade e-health devices, supporting the trend towards wearable e-health technologies and 'personal connected health', e.g., blood pressure cuffs, glucose monitors, weight scales and a wide range of activity trackers, devices supporting the prevention and improved management of chronic conditions such as diabetes, hypertension and heart disease.

- Matched with test specifications to assess products' conformance with ITU standards.
- Standards decrease products' time-to-market; support product interoperability; reduce product development costs; ensure data security; and enable faster, more cost-efficient integration into electronic medical records (EMR) or health information exchange (HIE) platforms.
- [The H.810 series resulted from ITU collaboration with global industry association, the Personal Connected Health Alliance. Their design guidelines and associated testing tools have achieved strong industry support and their formalization as ITU international standards has further stimulated their global adoption.]

For introduction, see ITU standard [ITU H.810: *Interoperability design guidelines for personal connected health systems: Introduction*](#)

Can AI achieve the trust necessary to inform decisions in clinical and public health?

Artificial Intelligence for Health. AI can enhance health by improving medical diagnostics and associated health-intervention decisions. ITU and WHO are working in collaboration to ensure that AI fulfils its potential to strengthen health services and overarching health systems.

- **A multi-stakeholder focus group led by ITU and WHO** is developing a framework and associated processes for the performance benchmarking of AI for health solutions.
- This work includes AI solutions for outbreak prediction and symptom classification.
- *This can be compared to national health regulators' approval of new pharmaceuticals. New pharmaceuticals are subjected to rigorous testing to gain permission to enter the market. Performance benchmarking would assess the level of accuracy achieved by AI solution. This information would assist regulatory bodies in determining whether or not AI algorithms have proven themselves accurate enough to enter clinical settings (of the standard necessary to automate certain tasks in a clinical setting).*
- The ITU-WHO focus group is delivering **transferable learnings, particularly with respect to data.** AI and data are inseparable, and advances in knowledge discovery and data mining hold great promise for the health sector.
    - The focus group has contributed to growing understanding of the needs of a wide range of stakeholders. [Much health data is personally identifiable. Health data is governed by strict regulation. And data held by the private sector is a prized source of competitive advantage in a multi-trillion dollar industry – the health sector is in many countries the largest economic sector or the fastest-growing.]
    - This focus group is improving our understanding of how we could best navigate the challenges surrounding access to health data and the appropriate use of that data, e.g., this initiative has developed a data handling policy enabling the initiative to accept both open data and undisclosed test datasets.

WSIS Process related input on ICTs for health and well-being

- The WSIS process made it clear that the contribution of all stakeholders is needed to make the most of ICTs, so that they benefit all of society. This is true for health, where stakeholder consultation is essential to understanding people's priorities, needs and capabilities.
- The **WSIS Forum** provides an inclusive platform for stakeholders to discuss and exchange information on ICT for development. The WSIS Forum promotes and showcases projects and initiatives from the ground that are making social, economic and environmental impact, highlighting the linkages between the WSIS Action Lines and SDGs.
- **WSIS Action Line C7 on e-Health** is directly linked to SDG 3 (good health and well being). Together with WHO, ITU is the co-facilitator of this Action Line. The WSIS Geneva Plan of Action defined goals for Action Line C7, e-Health:
    - Promote collaborative efforts of governments, planners, health professionals, and other agencies along with the participation of international organizations for creating a reliable, timely, high quality and affordable health care and health information systems and for promoting continuous medical training, education, and research through the use of ICTs, while respecting and protecting citizens' right to privacy.

- o Facilitate access to the world's medical knowledge and locally-relevant content resources for strengthening public health research and prevention programmes and promoting women's and men's health, such as content on sexual and reproductive health and sexually transmitted infections, and for diseases that attract full attention of the world including HIV/AIDS, malaria and tuberculosis.
  - o Alert, monitor and control the spread of communicable diseases, through the improvement of common information systems.
  - o Promote the development of international standards for the exchange of health data, taking due account of privacy concerns.
  - o Encourage the adoption of ICTs to improve and extend health care and health information systems to remote and underserved areas and vulnerable populations, recognising women's roles as health providers in their families and communities.
  - o Strengthen and expand ICT-based initiatives for providing medical and humanitarian assistance in disasters and emergencies.
- Numerous activities at the WSIS Forum (thematic workshops, WSIS Action Line meetings, Hackathon, exhibitions, WSIS TalkX, etc.) highlighted a wide array of topics of relevance to ICTs and development, including health and well-being. The WSIS called for participation of all stakeholders in the health sector, this includes: governments; multilateral agencies; development partners; health care organizations and businesses; academic, research and public health institutions; standards development organizations; health workers and professional associations; information and communication technology (ICT) entities; nongovernmental organizations; and individuals, families and communities.
- A dedicated special track on *ICTs and Older Persons* was initiated for the WSIS Forum 2020 to enable the Decade of Healthy Ageing. The reference of this activity was included in the UN Secretary General Report "Follow-up to the International Year of Older Persons: Second World Assembly on Ageing" (A/75/218) submitted pursuant to General Assembly Resolution 74/125.
- A special track on *ICTs and Accessibility for Persons with Disabilities and Specific Needs* was organised together with various accessibility groups during the WSIS Forum 2019 and WSIS Forum 2020 to inform and observe how ICTs can help people living with disabilities whilst focusing on progressing towards the United Nations Sustainable Development Goals.
- WSIS Forum 2021 will organise a **Hackathon on ICTs and Older Persons** that focuses on how aging in today's increasingly digital world can be enhanced through the use and applications of ICTs and building on insights from the experience of COVID-19.
- In 2020 a big increase of e-Health related projects was celebrated in the annual contest of the **WSIS Prizes**. Out of 776 submitted entries, 64 projects were submitted in the WSIS Action Line category e-Health, with the winning project the Early diagnosis of breast cancer using artificial intelligence (AI) by the Ministry of Health from Oman.
- Seven projects were particularly focusing on using ICTs for elevating well-being, while altogether there were 166 submitted WSIS Prizes projects that enlisted linkages with the SDG3 "Ensure healthy lives and promote well-being for all at all ages" and their contribution towards achieving this goal.
- As a part of the **WSIS Stocktaking** ongoing efforts to promote the good use of ICTs in making social impact, and in order to provide useful, replicable and actionable information to all WSIS community and beyond, the platform started collecting projects and activities on how ICTs are

assisting stakeholders in their everyday life, work, and combating challenges caused by COVID-19 pandemic. More than 300 submissions were received so far, all describing how ICT are enabling better health and well-being.