

## Session 3

### Innovation and Future Prospects of Integrated Ageing Healthcare

Moderators: Dr. Ying-Wei Wang  
Prof. Liang-Kung Chen



Prof. Liang-Kung Chen highlighted three elements that led to the vicious cycle of a fragmented, health system: lack of a good referral system, emphasis on acute care, and specialty-based practice. The Integrated Care for Older People (ICOPE) model can be used to re-construct, design and implement a person-centered, coordinated model of care. He concluded the important role of multi-sectoral collaborations and buy-in.

Prof. Hidenori Arai shared Japan's "New Orange Plan" to build an "Age and Dementia-friendly Community" which calls for society to create an environment where persons with dementia can live with dignity. He used a four-wheel vehicle as an example to illustrate the interactions between frailty risk factors to improve healthy longevity, referring the driver as the older adult. He re-emphasized the COVID-19 impact on older adults; linking the consequences of "stay-at-home" orders to potential adverse health outcomes.

Prof. Jean-Pierre Michel shared that ageing is an opportunity. He highlighted life expectancy (LE) in Europe is fairly higher than the world's average due to the direct relationship between LE and GDP, and age-standardized mortality rates by socioeconomic classification. He concluded functional ability should be a priority to enable well-being in older age.

Prof. Ren-Hao Pan highlighted the new era of artificial intelligence (AI) in the healthcare sector, noting how social interaction can improve one's behavior. Using the biopsychosocial model and AI, WaCare was developed as a social network system. WaCare monitors one's biological, psychological, and social behavior through recording and tracking of personal health data. He shared that due to internet accessibility, WaCare has been able to break the digital divide in rural areas.

Prof. Duncan Ronald Forsyth shared the intention of preventive care is to avoid hospital admissions. In South-East England, the primary care network's program shifted to include daily multi-disciplinary meetings with the community-care workforce, a comprehensive geriatric assessment (CGA) and advance care planning. He emphasized the aims of community-based integrated care is to provide the best care for older people living with multi-morbidities.



## Session 4

### Achieving Active Ageing through Innovative Technologies- Dementia care

Moderator: Prof. Chih-Cheng Hsu

Prof. Leon Flicker mentioned frailty issues has become prominent in Australia, as well as those related diseases and medication adverse effects to the elderly. In addition to the WHO framework of Integrated Care for Older People, he also suggested precision medicine and cooperation of multiple disciplines are solutions for future management of geriatric conditions. Aging-related financial concerns and cost-shifting had escalating pressures on the Australian health care system. He also proposed some solutions such as greater technology coordination and centralize service access.



Prof. Katsuya Iijima introduced the existing community based integrated care system and described it metaphorically as a "flower plot", and the most important is the choice made by the patient's will and the attitude of the patient and family. In the view of future needs, the home medical care system is upcoming and several aspects will be strengthened. Finally, he suggested that the challenge of the physician in an age-friendly society will be the requirement of being multiple roles.

Prof. Linda Chiu Wa Lam introduced the idea of structure life activity by talking about two different experiments, finding that cognitive ability risen during the intervention period and all kind of interventions helps improve cognition activities. At last, she also highlighted the importance of an optimal balance of planning structure activities, including prioritizing functional optimization, adopting interesting and sustainable intervention activities and the activities planned shouldn't stress the patient.

Dr. Yuan-Han Yang introduced his topic of the application of artificial intelligence in dementia care. Among the dementia signs, discoordination cannot be observed easily. Using technology can provide more detailed information for dementia diagnosis. He introduced some guidelines for developing technologies in dementia care, and the challenge of developing and applying artificial intelligence is that nearly half of the global population does not have access to the internet and unaffordable cost. However, the technology is an excellent tool for improving the health care system in dementia.

Prof. Chaur-Jong Hu introduced how dementia care connected hospitals and communities in Taiwan. Transportation issues for rural patients still need to be addressed. Therefore, the community-based design of health care is important. Additionally, with the help and connection from communities, dementia patients can go to the clinic in their community, and the clinic can assess its need to transport to the hospital base on the diagnosis. The bi-directional referral system can make the entire health care be well managed and prevent the waste of our medical resources.

## 2020 臺灣全球健康論壇 Global Health Forum in Taiwan



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衛生福利部  
Ministry of Health and Welfare



中華民國外交部  
Ministry of Foreign Affairs



衛生福利部國民健康署  
Health Promotion Administration, Ministry of Health and Welfare

## Opening



President Ing-Wen Tsai  
R.O.C. (Taiwan)



Dr. Shih-Chung Chen,  
Minister of Health and Welfare,  
R.O.C. (Taiwan)



Dr. Shih-Chung Chen, Minister of Health and Welfare, welcomed participants from near and afar to join the 2020 Global Health Forum in Taiwan, and then introduced President Ing-Wen Tsai to address this year's forum.

President Tsai shared Taiwan's success in preventing the spread of COVID-19. She mentioned that at the outset of the outbreak, Taiwan implemented a set of crucial measures, including onboard and home quarantine, early diagnosis and detection, application of social distancing, enforcement of facial mask wearing and the utilization of big data analysis and digital technology to combat the spread of the coronavirus. Taiwan also worked tirelessly to assist countries in need, providing necessary medical technology and resources. Through collaboration, the international community can get through this difficult time together.



Other than pandemic challenges, Taiwan is a society with an aging population. To meet the needs of the aging population, Taiwan implemented the Long-Term Care Plan 2.0 in 2017 and expanded the number of people covered, increased the number of long-term care service items, and built a community-based long-term care system, and will continue to diversify services, from home care to institutions providing residential care.



In the future, Taiwan will continue to share our expertise in medical services and healthcare with the international community. President Tsai emphasized that being able to maintain one's health is a matter of basic human rights, and "Taiwan can help, and Taiwan is helping". Regardless of how daunting the future challenges are, Taiwan will always work proactively with the international community to achieve global health for all.

A beautiful, inspiring interpretive dance performance by the Human Drama Troupe. The performance tells the story of the COVID-19 pandemic; reflecting of the lives lost and the role of resilience.



## Keynote Speech

### Post-COVID-19 Era: Achieving SDGs through Global Solidarity

Prof. Chien-Jen Chen, Taiwan's former Vice President, introduced the concepts of Achieving SDGs through Global Solidarity. The pandemic of COVID-19 have caused millions of confirmed cases and more than one million deaths since December 2019. It also resulted in economic recession in almost all countries. However, there were only 521 cases with 7 deaths in Taiwan. He introduced the four major principles underpinning Taiwan's success of COVID-19 containment, which are prudent action, rapid response, early deployment, and transparency. The Taiwan Central Epidemic Command Center held daily press briefings and earned the trust of the public. The public trust has had a stabilizing influence on society, encouraged citizens to follow government guidance and rules, and made the public less vulnerable to disinformation.

Solidarity is the key for the successful containment of COVID-19 and the maintenance of economic vitality in Taiwan. In the post-COVID-19 era, zero-contact economy with zero-distance innovation based on ICT (Information and communications technology) and AI will become more and more important.

Global solidarity through mutual trust and international collaboration is essential for achieving SDGs extensively and progressively in the world. Professor Chen concluded his talk by reiterating President Tsai's point on working on SDGs and emphasizing on providing advanced care for the elderly population post COVID-19 with the assistance of improved technology.



**Dr. Chien-Jen Chen**  
Academician, Academia Sinica,  
R.O.C. (Taiwan)



**Dr. Chung-Liang Shih**  
Vice Minister, of Health and Welfare  
R.O.C. (Taiwan)



**Prof. Sir Michael G. Marmot**  
Director of the UCL Institute of  
Health Equity, University College  
London, United Kingdom

### Social Justice, Health Equity and COVID-19

Prof. Sir Michael Marmot addressed the connection among social justice, health equity, and COVID-19. He demonstrated a conceptual framework from his earlier work that illustrated how the structural drivers from multiple sources, the conditions of daily life from the various aspects, and the mechanisms all together that lead to health equity and dignified life. He showed in his speech many convincing pieces of evidence and indicated the framework that can be used to examine the current society and the problems we are facing.

The nature of a society is related to its health, health equality, and the capability of the society to respond to an external threat. By comparing health-related statistics among the different population, we may understand that the recent pandemic helped reveal and amplify the underlying conditions in the UK and many other societies. Evaluating public health events gave us guidance on where to focus our future efforts so that we can avoid "wasting another decade".

Professor Marmot encouraged participants to keep well-being in the center of their efforts and invited the participants to enable people to have the capabilities they need to live lives of purpose, meaning, and balance.

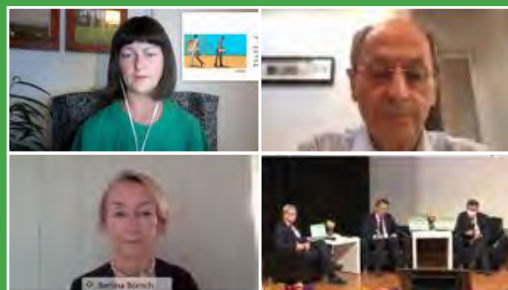
## Plenary 1

### Resiliency and Humanity in the Post-COVID-19 Era Moderators: Prof. Tung-Liang Chiang and Dr. Jason Wang

Dr. Ying-Wei Wang pointed out Taiwan's success in fighting COVID-19, which gained praise from worldwide. The three factors are strong risk awareness, open government, and serious attitude toward work. He shared some interesting phenomena observed in Taiwan during the pandemic. For example, the number of outpatients declined because of less visits to hospitals; more people cook at home to avoid unnecessary contact; people started wearing masks in public transportation. Besides, indoor fitness has become popular, the frequency of gathering with friends has decreased. The WHO promotes that physical distancing is not social isolation. Technology such as home TV interactive technology program could be a great way to get in touch with others. Dr. Wang stated that we can't erase the fact of the COVID-19 outbreak; all we can do is try to adjust our lifestyle and find a way to live with it.

Prof. Bettina Borisch opened her speech with dividing societal impact of pandemics into immediate and long-lasting consequences. She gave examples of black deaths and AIDS from the history, then discussed the immediate societal impact of COVID-19 such as travel restriction, largest global recession in history, threats to multilateralism, and the possibility of a new international health regulations. The long-lasting consequences are the new forms of work and challenges for governance in general. She pointed out that while the pandemic may have affected our society in negative way, it's could also be a portal from the old towards new possibilities, ideas and concepts.

Prof. Sharon Friel presented how Australia prevent social and health inequity during the COVID-19 pandemic. It requires actions beyond the health sector. She took examples of income security, child care and housing. She mentioned that successful policy shall connect with the real world and the sound of public should be heard. By understanding the problem from the perspective of the people who experience it, and exploring the causes and solutions through the experience with the demand for action, policies are more likely to work in reality.



## Session 1

### Innovative Technology: Catalyst for SDGs

Moderator: Prof. Nai-Wei Lo

Mr. Michael Schmitz suggested that we used to target specific diseases in the population when it comes to a health issue, however, a comprehensive approach is more preferable. Thus, we need assistance from innovative health technology to help people build resilience in the COVID-19 pandemic. The four key areas to develop innovative health technologies covers enabling investment in well-structured policies among intellectual property (IP), the cooperation and consistency of international regulatory convergence, sustainable and innovative financing, and health data innovation.

Ms. Rebecca Renzhi Zhang is the Head of the regional partnership of SCOR. She showed that the insurance industry can advance their service, to empower their customers to live a healthier life. SCOR develops the Biological Age Model (BAM) which is an algorithm based on biological age calculation, using individual daily activity data such as steps. If the person has a younger biological age than his/her actual age, the insurance company will provide discounts for them. With a complete system, the insurance company can track and predict their biological age by their physical activity. In the future, the company can care for their wellbeing, and learn more about how people's behaviors affect their health.



Ms. Joanna Hsu from Shadowworks, promoted the use of Virtual Reality (VR) and Artificial Reality (AR) technology in the education field. Ms. Hsu shared two of their products, the Atomic Trial and Mr. Bone, and a more sophisticated software called AcuMap. The software is used to help medical students learn about the human body. Extended Reality (XR) is a new technology to let the software become immersive. HoloLens 2, a product developed by Microsoft, enables students to learn with interactive 3D models. VR technology is also being applied to help elders in the aging society, such as the VR Elder box for advancing physical therapy and well-being for the elderly.

Dr. Yu-Ting Chang shared the business model of the "National Health Promotion Ecosystem Platform". It's an innovative, collaborative way to integrate and create a national health promotion ecosystem defined as the interactions between the environment, societal influences and the individual. She introduced the process of building digital and sustainable interventions and the stages of evolution starting from demand analysis, prototype design, model validation, system development to operation promotion. She shared in her presentation the example of the Health Promotion Administration APP- Walk Together for Long-Term Health. The consideration of the health promotion ecosystem can provide a compelling approach to the fight against the COVID-19 pandemic.



## Session 2

### Achieving Active Ageing through Innovative Technologies

Moderator: Prof. Hung-Yi Chiou

Dr. Hidenobu Sumioka introduced a new communication support for elderly people with dementia through the application of robots: Telenoid and HIRO-chan. Due to the COVID-19 pandemic, face-to-face interactions have been restricted and an interest in telecommunication technology has been exacerbated. Telenoid is a tele-operated, social robot that can induce a user's complex brain activity. Caregivers can connect to the robot remotely via internet, transmitting their voice through the Telenoid which can mimic the facial expressions and head motions. The HIRO-chan is designed after a human infant, with the purpose to engage patients with dementia design as a healing communication device to help the elderly users build a sense of accomplishment. Looking towards the future, tele-operated robots and cost-effective designs will be critical to the post-COVID-19 world.

Dr. Akihiro Nakao's presentation shared practical examples of person-centered care using technology. He discussed how Behavioral and Psychological Symptoms of Dementia (BPSD) are complex, individually different and difficult to control. Innovative technology can support the health workforce gap, providing the necessary support for elderly people with dementia. The new system uses technology to build an ecosystem where "anyone" can become a person-centered caregiver by controlling the "human presence". The Telenoid is able to communicate with agitated patients; calming their mind and stimulating human-like interactions, all of brings positive mood changes. In conclusion, Dr. Nakao discussed the pros and cons of the Telenoid, summarizing its positive potential contribution to the long-term care sector.

Dr. Chao A. Hsiung introduced Taiwan's Long-term Care 2.0 program (LTC 2.0), a community-based integrated health care system to meet the goal of helping the elderly ageing in place, optimizing trajectories of intrinsic capacity. The LTC 2.0 is focused on shifting care infrastructure from a fragmented, silo system to a multi-tier system. The LTC 2.0 system has four important components: resources connection, management system for disabled or dementia, "Home Healthcare Platform/APP", and the "Happy LTC Resource Portal of Assistive Technology" website. Big Data techniques and innovative technology are integrated in the digital platforms, providing person-centered services for older adults. As a result, the comprehensive internet-based information system can bring the community together, making the LTC system to provide a more efficient and innovative care services.

Prof. Fong-Chin Su shared the experience of using evidence-based technological innovation for active and healthy ageing. By 2025, Taiwan will become a super-aged society; The demands of the ageing population will increase and become more challenging to address. In order to create a better preventive healthcare system, technology is a solution to this problem. Prof. Su shared examples of innovative resources for the integration of a smart healthcare system and the prevention for geriatric diseases, such as the EMG/ Biofeedback Exergame for sarcopenia; Light Cell Cognitive Training System designing for dementia, and AI Stroke Assistance System for older adults. These services were all integrated into the intelligent healthcare platform, with the main goal to bring the healthcare services from the medical center into the daily life of older adults, linking back to the concept "ageing in place".