ILC-France is pleased to announce the launch of a series of webinars dedicated to questions raised by longevity. This format is essential given the current healthcare context which has forced us to rethink our mode of communication with those involved in longevity.

This series of webinars follows a long tradition of raising awareness among health decision-makers and political actors by ILC-France with more than 10 years of sessions organized as part of an "Aging Stakes Study Group" in partnership with the French Parliament.

The current pandemic, beyond the immediate human tragedy for the most elderly and fragile people and their entourage, is upsetting the agenda of reforms planned for a long time in France concerning the issue of longevity and in particular the pension reform but also the loss of autonomy.

It is therefore essential to continue to make all stakeholders aware of longevity issues in order to maintain sufficient visibility on this subject.

We therefore propose to organize 6 webinars per year to which you are invited if your knowledge of French is sufficient. We will attempt whenever possible to have an English summary posted on our website accessible through the ILC-Global alliance website.

The first webinar took place in February 2021:

"Evolution and future of technologies serving the elderly" by Prof. Alain Franco.

More than 100 people connected which is very satisfying for a first!

Below is the link to the summary in French and English of this webinar.

Good reading !

WEBINAR ILC France of February 22, 2021

Evolution and future of technologies serving the elderly.

Prof. Alain Franco

1. What is "gerontechnology"?

Definition: Gerontechnology is the discipline resulting from the cross between gerontology and technology

Gerontechnology contributes to:

- Maintain independence and equality, particularly in terms of housing, mobility, security, communication, activity and quality of life

- Promote well-being and health

- Respond to individual and collective aspirations and needs

- Allow the maintenance of inclusion in the evolving socio-cultural environment

- Preserve and enhance the dignity of people

- Support caregivers

Its sectors of application

(Van Bronswijk et al., Gerontechnology matrices. Gerontechnology 2009; 8 (1): 3-10))

- Health, Safety, Well-being, Self-esteem

- Habitat, Daily life (Living at home)

- Mobility, Transport

- Communication, self-governance

- Activity, work, occupation and leisure

Its goals

- Life enrichment & satisfaction

- Prevention & Participation

- Compensation & Substitution

Some examples:

- The remote alarm

- Geolocation devices

- Health sensors

- Weight monitoring

- The communicating scale

- Measurement of walking speed

The motion detection mat for multiple interactive applications

(KW. CHANG, LY HSU, al. Gerontechnology 2014; 13/2: 179)

Virtual reality: Game protocols and duration varied widely, and the benefits for physical function in the elderly remain inconclusive. However, a consensus among studies is the positive motivational aspect that the use of these games brings.

Further studies are needed to obtain better methodological quality, external validity and to provide stronger scientific evidence.

2. Update on "mHealth"

This is health via smartphones: electronic devices, mobile applications, connected objects related to health.

Offer: eHealth

Needs: mHealth

Smartphones or tablets ... tools for healthy citizens who can help them with their needs:

- Chronic diseases, shared personal health file, Exercise, Sport, Wellbeing,… And Big Data

- Apple Watch Series 6 and iPhone 12

- Withings and Nokia

- Interview with the expert user (Dr Agnès FAURIE, Hon. Cardiologist, LabSanté, UIAD, February 19, 2021): "The Apple Watch series 6 measures the level of oxygen in the blood and performs an ECG at one lead, but not sure whether it detects an increase in QT. In fact, it detects AF (atrial fibrillation). There is also a fall detector that works quite well, with a lot of false positives. Two watches record the ECG: Apple Watch US and Withings France. None are empowered to do more than detect AF. A better quality ECG tracing is possible thanks to the AliveCor system on the smartphone; deal concluded for € 130 plus the electrode in a keychain for € 30. "

- Exercise application present in smartphones: number of steps, floors and distances.

Progress, recovery or hold-up?

- The GAFAMs have taken over gerontechnology.

- The first market for the GT was towed by the concept of the medical service. But studies, standards, administrations, rigidities of the medical context.

- The new mHealth market goes beyond the health framework and uses the concept of exercise, sport and well-being without any embarrassment. No more hassle. No more experimentation. We sell and we'll see.

- Hello big data, sold at a high price to penetrate the new personal market.

The future? The recovery by medicine, health and social services of connected objects, technologies and services at a lower cost. It will then remain to find standards, the laws of science and medical ethics.

3. What is the role of humans in these technologies?

Telemedicine assessment

Multiple difficulties (BASHSHUR 2005)

- Unclear definitions: telemedicine, assistance, gerontechnonology, autonomy

- Unceasing technological progress!

- Experimental difficulties

• Lack of clarity on the variables studied

• Difficulty of randomization

• Insufficient rigor in the maturation and management of the program

• Delay and unexpected factors

• Insufficient large-scale programs

- Insufficient funding for large studies

- Insufficient exploitation of the wealth of technologies

- Beyond technology, it's the service that counts

The organization of care is based on networks:

- Hyper-proximity: family, neighbors: voice, videophone

- Proximity: patient-centered, Visadom (F), PACE2000 (CDN), Miyazaki (JTT2003, Edmonton), Ezumi (JTT2003, Izumo, Jp)

- Surveillance: bank, car parks, businesses, remote alarm, in connection with social home support networks

- Large networks, "call centers", platforms, etc.

Human robotics or humanoid?

- "Paro", the baby seal

- The studies

- Towards therapeutic robots

- Exoskeleton for caregivers?

- "Nao", Aldebaran's robot

4. How to integrate questions of ethics and law?

Ethics, rights, or good practices

- Technology and sensors can evoke intrusion, psychological aggression, invasion of privacy.

- This reaction prevails when discussing the issue with people who are distant from the subject. Technophobia versus Technophilia.

Law?

- Data Protection Act, image rights, medical and technical responsibilities ...

Ethics?

- Ethics of the individual or institutional medical relationship

- Respect for ethical principles

- Do not confuse ethics and good practices

5. What is the impact of the COVID-19 epidemic on the use of telemedicine?

- Telemedicine in Gerontology, Alain FRANCO, Michel FROSSARD, Claudine MONTANI, Serdi ed., Paris, 2000, 228 pp.

- Telepsychometry

MONTANI al, Journal of Telemedicine, Vol 2: 2, 1996, 145-149

France. Decree No. 2010-1229 of October 19, 2010 relating to telemedicine

"Art. R. 6316-1. - Telemedicine covers medical procedures performed remotely by means of a device using information and communication technologies.

Constitute acts of telemedicine: teleconsultation, tele-expertise, medical telesurveillance, medical teleassistance, medical response.

The purpose of **teleconsultation** is to allow a medical professional to give a remote consultation to a patient. A healthcare professional can be present with the patient and, if necessary, assist the medical professional during the teleconsultation. Psychologists may also be present with the patient.

The purpose of **tele-expertise** is to allow a medical professional to remotely solicit the opinion of one or more medical professionals because of their training or their particular skills, on the basis of medical information related to the care of a patient.

The purpose of **remote medical surveillance** is to allow a medical professional to remotely interpret the data necessary for the medical monitoring of a patient and, if necessary, to make decisions relating to the care of this patient. The recording and transmission of data can be automated or carried out by the patient himself or by a healthcare professional.

The purpose of **remote medical assistance** is to allow a medical professional to remotely assist another health professional during the performance of an act.

Medical regulation is provided within the framework of the SAMU regulation.

6. Cyber risk of the frail elder and digital ageism

- Alain Franco , Gerontologist, Honorary Professor of Medicine, University of Nice, President of the Inter-Ages University of Dauphiné, Grenoble, FR

- Sergei Booke, Political scientist, Lecturer in cybercrime, University of Leiden, NL

The proposed definitions

Cybercrime: all illegal activities carried out through the Internet.

Cyber risk: risk of being a victim of cybercrime.

The health sector, a deliberate target of cybercrime.

Financial scam and theft

- Healthcare, a lucrative target for hackers.

- Ransom, misconfigured cloud storage compartments, phishing emails.

- Threats persist and cybercriminals are becoming more creative despite better knowledge by healthcare organizations at the executive level of the funding needed to protect themselves

https://www.healthcareitnews.com/projects/biggest-healthcare-data-breaches-2018-so-far

The "hackers":

Ex .: 2018: Martin Gottesfeld, 34 yo, Massachussets, claims to be part of the Anonymous Hackers Collective. He attacks (Denial of Service) the Boston Children's Hospital (BCH) and the Wayside Youth & Family Support network to support a family who opposes the care of their child by a medical team who had requested the support of justice. Result 10 years in prison, $ 443,000 in fine.

Seniors connected

https://www.wikidependance.fr/les-seniors-cibles-privilegiees-de-la-cybercriminalite/

Vulnerable seniors

https://eandt.theiet.org/content/articles/2017/01/the-elderly-most-at-risk-from-cyber-crime-report-warns/

UK Survey AVIVA, Insurance. Engineering & Technology. 2017 3rd January.

- Over a million seniors tricked by email scammers in the UK.

- 73% of 45+ said they had been the target of an email scam.

- 6% fell into the trap.

- 8% of 75+ say they are victims.

- 25% feel vulnerable, even though they stay connected.

- 75% of 45+ still remain positive about the benefit of the internet.

- 66% say they use it every day for their finances (1st benefit).

- Contacts with fraudsters: by email (73%) and by phone (60%).

Four scams that trap the elderly

Government of Canada, November 7, 2012.

1. The flash window proposing the (fake) update of the antivirus

2. Urgent message from your financial institution asking for your codes (phishing scam)

3. Online dating services (when love really hurts)

4. Online games (you are doomed to fail)

"Age shouldn't be a barrier to taking advantage of each new technology. You just need to be aware that no matter how old you are, there is one type of scam (probably several, in fact) designed especially for you. The more you can recognize the risks, the safer you will be when browsing online"

Connected objects: denial of service attacks

A denial of service attack (DoS attack) is a computer attack intended to make a service unavailable, to prevent legitimate users of a service from using it.

Senior broadcasters of fake news during Trump's campaign in 2016.

Cyber-security, in conclusion

- Cyber risk is inherent in the use of digital technology.

- It should not give up the benefits of digital technology, which will continue to grow in the years to come as a means of compensation and prevention in the face of the challenges of age.

- Cyber risk implies the permanent practice by all actors of the ethical principle of vigilance of Moutel and Hervé.

- Vigilance is the only way to avoid ageism in the use of digital technology, which is essential for seniors.