Country Report from ABN Representatives
Emerging Ethical Challenges of Healthcare Digitalisation

Republic of Korea

ABN Meeting, 4 September 2023

Outline

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4. **Other Major Achievements or Ongoing/Upcoming Bioethics Initiatives in South Korea**

1. South Korea's State of Healthcare Digitalisation and Emerging Technologies: Areas of Development

- *Outlook*
  - *Applying ICT in healthcare*
  - *Digitalisation as a backbone + Digitalisation as a frontend*
  - *Data Collection, Curation, Utilisation, Standardisation and Harmonisation, Bigdata and AI data set*

- *Areas*
  - *Telemedicine* (remote area → COVID-19 pandemic)
  - *Wellness care : mobile and ubiquitous healthcare*
  - *Electric Health Record (EHR) :*
  - *Digitalisation of healthcare governance (i.e. NHI reimbursement)*
  - *National Healthcare Insurance Data: Hira Open data*
  - *Korean Health Information Service (https://www.k-his.or.kr)*
  - *MOHW Korea Healthcare Bigdata (https://hcdl.mohw.go.kr)*
  - *Health Information Exchange Initiative & My health data (pilot program ended)*
  - *Artificial intelligence initiatives*
  - *Digital registries*
    - *Clinical Trial Registry : CRIS (https://cris.nih.go.kr)*
    - *National Biobank Initiative*
  - *Healthcare Industry and IT Collaborations:*
    - *Kakao & Severance Hospital, Naver Health, Samsung and Lunit*
  - *Digital Therapeutics*

1. (cont.) Major National Initiatives

- *The National Digital Healthcare R&D Program:*
  - *Funded by the Ministry of Science and ICT*
  - *Aim: to develop innovative digital health technologies that can improve the quality of care and efficiency of the healthcare system.*
  - *The development of a national electronic health record system, the development of telemedicine platforms, and the development of precision medicine technologies.*

- *The Smart Hospital R&D Program:*
  - *Funded by the Ministry of Health and Welfare*
  - *Aim: to develop smart hospitals that use digital technologies to improve patient care and operational efficiency.*
  - *The development of smart beds that can track patients' vital signs, the development of smart operating rooms that can be controlled remotely, and the development of smart medication cabinets that can dispense medications automatically. (bottom-up)*

- *The Precision Medicine R&D Program:*
  - *Funded by the Ministry of Science and ICT*
  - *Aim: to develop technologies that can use genomic and other data to personalize healthcare.*
  - *The development of cancer screening tools that can identify patients at risk for cancer, the development of personalized treatment plans for cancer patients, and the development of gene therapies for rare diseases*

2. Summary of Ethical Challenges Faced by South Korea

S/N	Ethical challenge(s) arising from healthcare digitalisation/emerging technologies
1	**Public engagement** Understanding and critical support from the public. Voluntary consent to participate the big data project is crucial. Trustworthiness of the program, mechanisms of engagement, transparency is required
2	**Information Right:** Privacy and confidentiality, and Anonymisation. Protecting from potential harm
3	**Return of the benefit and non-discrimination** Digitalisation and public data as public enterprise, Fairness and stewardship
4	**Harmonisation across the healthcare sectors :** Collaboration to Participation of healthcare actors for the patient welfare
5	**Research ethics oversight :** Bigdata or Digital health requires another approaches than conventional clinical trial-oriented research oversight

3. Existing Initiatives in South Korea and/or Plans and Recommendations to Address the Ethical Challenges

S/N	Plan/recommendation(s) to address ethical challenge (if any)
1	Healthcare Information guideline (MOHW)
2	Acts of Information/Bioethics Act : Ethical and Legal principles regarding to utilisation of (digitalised) health data
3	MOHW "Ethics guideline on Healthcare AI"
4	MSTI "Human-centered 'Artificial Intelligence (AI) Ethical Standards'"
5	ELSI Study committee in National Bio Big Data Initiative
6	FDA guideline on Artificial Intelligence

4. Other Major Achievements or Ongoing/Upcoming Bioethics Initiatives in South Korea

- *Regenerative Medicine & ELSI governance*

- *End of life care decisions, about "physician aids in dying" and Its bioethics discourse*

- *Ethics of Aging and Elderly care*