Framework to protect the human rights of vulnerable populations when developing advanced technologies S. Brink. *Gerontechnology* 25(s*)*

Purpose The Universal Declaration of Human Rights includes the right to enjoy scientific advancement and its benefits and this paper develops a framework to examine if this goal is achieved when new technologies are developed. **Method** Mixed method transdisciplinary approach, including literature review, crosswalk analysis, and policy analysis, drawing on international experience to develop a workable framework. **Results and Discussion** The high speed of technology advancement and the pressure for quick commercialization can result in the neglect of human rights. Advanced technologies could include driverless cars, robots, and AI. The ideal technology-enabled world would (1) maximize economic prosperity and social well-being through the creation of technical goods. (2) Ensure that benefits (such as utility, universal design, and ease of use) are widely and equitably distributed, avoiding technological divides (Access, skills, opportunity, and citizenship). (3) Healthy human-technology interface, with control of misuse and minimized risks that affect individuals and society. Ethical technology development should result in non-discriminatory participation and testing, accountability through relevant accessible data, and routes for remediation and correction. Desirable technologies would result in products and services that are not used for people, on people, or to do to people or require people to use technology, but rather to work with people and for use by all people. Vulnerable populations such as children, people with disabilities, and older people are especially at risk. The modified indicators of human rights can be used as a framework to measure, assure, and evaluate if technology development meets goals in development, research, commercialization, and policy. The indicators fall into three categories: (1) Intention indicators: Planned use, socio-cultural values, consultation, research, design (including no algorithmic discrimination), legal protections (2) Process indicators: Instructions and training, technical supports, risks and legal recourse, inclusive production, advertising, marketing and sales (including accessible pricing) (3) Outcomes: Equity of value to costs, equity of benefits to diverse ages, incomes and cultures, wide geographical coverage, high market penetration and physical capabilities, equity of inclusion through accessibility (social and market), supports and maintenance.

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