



YEARBOOK

HUMAN RIGHTS PROTECTION

PROVINCIAL PROTECTOR
OF CITIZENS - OMBUDSMAN

THE RIGHT TO HUMAN DIGNITY

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Republic of Serbia
Autonomous Province of Vojvodina
Provincial Protector of Citizens – Ombudsman

Institute of Criminological and
Sociological Research



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FOREWORD

The Provincial Protector of Citizens - Ombudsman and the Institute for Criminological and Sociological research from Belgrade, supported by the OSCE – Mission to Serbia, organized the 3rd annual International Scientific Conference *The Right to Human Dignity*, held from 27-28 October, 2020 in Novi Sad, Serbia. The conference was attended by forty-eight academic, scientific and research representatives, from fourteen different countries¹ around the world, who contributed their work to the international scientific community. The conference papers and presentations had been compiled in the publication of the same title, and they are divided into two chapters: The conference papers and presentations had been compiled in the publication of the same title, and they are divided into two chapters: *Procedures* and (I) *The Right to Human Dignity in Judicial and Administrative Proceedings* and (II) *Human Dignity during the Pandemic in Protection of Children, the Elderly, People with Disabilities and other particularly Vulnerable Groups*

Scientific conferences have been deeply affected by the COVID-19 pandemic spread across the countries since early spring 2020. Therefore, the scientific and academic communities were challenged to find an alternative solution to preserve the crucial exchange of information between researchers.

Having this in mind, by following the Republic of Serbia government's and its health institutions' recommendations, the annual conference was successfully held, with adherence to social distance measurements, mandatory masks wearing, workspace disinfection, and limited numbers of participants in each of the sessions.

The text below offers a short overview of scientific and expert articles presented at the Conference. Hopefully, these papers will provide answers to some of the numerous currently active questions concerning human dignity.

¹ Serbia, Belarus, Bosnia and Herzegovina, Italy, Norway, Japan, Hungary, Northern Macedonia, Romania, Australia, Croatia, Russia, China.

József Hajdú*

DIGNITY OF ELDERLY PERSONS AND DIGITALISED SOCIAL CARE

The main theme of the article – robocare and patients’ dignity – is a probably dumbfounding and even extravagant idea in many traditional societies. However, there are some (not so numerous) countries where the demographic and labour market supply problem makes it happen in everyday practice. Traditionally, the role and responsibility for taking care of old family members were the moral and legal obligation of the family. Lately, on a residual basis the church, the state and NGOs entered in, and nowadays private for profit business organizations also entered this “business”. The main focus point of this article is whether the AI and its manifestation, the robots, will be able to replace or complement the human social carers.

Keywords: *dignity, right to social care, elderly care, nursing home care, home care, artificial intelligence, robot, robocare, digitalised social care.*

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1. Introduction

Artificial Intelligence (hereinafter: AI) and robot technology are expected to be a theme in many upcoming research and policy papers on adult social care (<https://researchbriefings.files.parliament.uk/documents/POST-PN-0591/POST-PN-0591.pdf> (04.09.2020)). A wide range of robotic technologies can be used in social care from automated vacuum cleaners to robots resembling humans or animals. Robotics can provide physical, social, and cognitive assistance and a small number of studies report positive impacts on users' mobility, mental health, and cognitive skills. However, ethical, legal, and regulatory issues include impacts on users' autonomy and privacy and questions over the use and ownership of data (McManus: 2019). There is growing interest among care providers, charities, and academics in using robotics to improve the quality of care and ease pressure on the elderly social care system (Hurst (February 2018). Japan lays the groundwork for boom in robot carers. *The Guardian*. Accessed 02/10/2018). We call this development briefly robocare.

In the future, presumably IoT (Internet of Things) and robots may help older individuals in their everyday routines, household management, social care, learning new skills, managing finances, and remembering to take their medication, among other things. A robot may be especially effective for these types of activities because it can be a socially engaging and intelligently dynamic device (Breazeal, 2003:167), (Matsumoto et. al. 2007:990), (Ueda, et. al, 2007).

While much has been written about the potential uses of such technology, the development and use of robotics in social care is still relatively new and, as yet, there is limited evidence of robotic technology being used in social care outside of some small-scale trials (Southend-on-Sea to use robot in social care (<https://www.ukauthority.com/articles/southend-on-sea-to-use-robot-in-social-care/>) (20.07.2020) & CARESSES Testing and Evaluation Phases (CARESSES) (<https://clinicaltrials.gov/ct2/show/NCT03756194>).

As it will be discussed later, there are many pros and cons of robocare, but one of the critical points is the dignity (both in ethical and legal context) in human-machine relations (sometimes even "cohabitation").

2. Dignity is a human or humanoid value

The word dignity comes from the Latin word, *dignitas*, which means “worthiness.” Dignity implies that each person is worthy of honor and respect for who they are, not just for what they can do. In other words, human dignity cannot be earned and cannot be taken away. It is an inalienable gift given by God, and every other good thing in life depends on the safeguarding of human (beings’) fundamental dignity. As the Universal Declaration of Human Rights puts it, “recognition of the inherent dignity of all members of the human family is the foundation of freedom, justice and peace in the world (<https://agingwithdignity.org/what-is-human-dignity/> (20.07.2020)).”

In the former centuries inevitably and naturally human dignity was a central ideal and value (right) of law and interlocked with human beings and among human beings (<https://merionwest.com/2019/07/09/preview-human-dignity-and-the-law/> (21.07.2020)). Dignity could be seen as the fundamental “mother right” from which many of the other human rights were originated. These are both different ways of expressing the point that protecting and amplifying human dignity is the central moral ideal of law.

The goal of a moral approach to jurisprudence should be amplifying the dignity of individuals. This is consonant with the Kantian position: retaining a moral right to sovereignty should be conditional on state institutions maintaining a “rightful condition” for the positive development of all people living within their territory. A state can achieve this moral ambition by making the amplification of human dignity the central ideal of law (Ripstein, 2009:1).

The often mentioned and most common response people offer is that dignity is about respect. To the contrary, dignity is not the same as respect. Dignity is the human beings’ inherent value and worth as human beings (everyone is born with it), while respect, on the other hand, is earned through one’s actions (<https://www.psychologytoday.com/us/blog/dignity/201304/what-is-the-real-meaning-dignity-0> (21. 07. 2020)).

Relating to this issue, one of the most important questions is whether artificial intelligence (and robots) can have artificially built in manner to acknowledge dignity or not, and provide social (elderly) care services with dignity (<https://link.springer.com/article/10.1007/s10676-014-9338-5> (20.07.2020)). According to Amanda Sharkey (Stahrkey, 2014:63) (<https://link.springer.com/article/10.1007/s10676-014-9338-5> (20.07.2020)),

the effects of robot elder care on dignity is formulated under three category headings: (1) assistive robots^{1,2,3} (2) monitoring⁴ and supervising robots and (3) companion robots.⁵

¹ Assistive robots are robots designed either to help older people to overcome some of the problems of aging, or to help the carers of older people. Examples of assistive robots include the Japanese Seicom “My Spoon” automatic feeding robot, and the Sanyo electric bathtub robot. The ‘My Spoon’ robot can enable people with limited motor control to feed themselves. The bathtub robot provides an automatic washing facility. The robot for interactive body assistance (RIBA) developed by Riken is a large robot with a teddy bear face that can pick up and carry humans from a bed to a wheelchair. The EI-E robot can be instructed to perform various tasks such as picking up objects, or opening drawers. Further recent examples include the Panasonic hair washing robot, which has two hands and 24 fingers to massage the scalp, and Panasonic’s bed which transforms into an electric wheelchair (<http://panasonic.co.jp/corp/news/official.data/data.dir/en110926-2/en110926-2.html>). (20.07.2020)

² Another important branch of assistive robotics is that of *exoskeletons*. Exoskeletons could improve the mobility of frail older people, or could help their carers to have the strength to lift and move them. A number of different companies have produced exoskeletons: the Cyberdyne hybrid assistive limb (HAL) suit is available for rent by medical and welfare facilities in Japan, and is probably one of the most well known. The HAL exoskeleton uses electromyography sensors to record the electrical activity across a muscle, and then activates the exoskeleton in a scaled response to the human muscle activity. Honda has also developed a number of walking machines: the Stride Management Assist, and the ‘Walking Assist’ devices (New Scientist online, November 2008). Other examples include the ReWalk, the eLEGS, and the Rex exoskeletons. A recent addition to assistive robotics that should increase mobility is Hitachi’s ROPITS car (Robot for Personal Intelligent Transport System), developed for older and disabled drivers. It is designed to travel on pavements and footpaths, and to autonomously transport the user to given (nearby) locations (<http://www.guardian.co.uk/artanddesign/architecture-design-blog/2013/mar/27/driverless-robot-car-elderly-disabled-mobility>). (20.07.2020)

³ Assistive robots for elder care could also provide benefits to carers and to care workers. Assistive robots that help with the heavy work involved in lifting older people could alleviate some of the burden of carers and care workers.

⁴ Monitoring robots can be seen in a positive light as expanding the range of capabilities for seniors, where their effect is to increase their ability to have good health. There are many examples of monitoring and supervising robots that are being developed for the care of frail older people. Tele-operated robots are being used in hospitals and residential facilities: for instance, RP-7 (Intouch Health) is a tele-operated robot that has been used to facilitate doctor-patient interactions at the Silverado Senior Living Apsen Park. Gecko Systems are developing the CareBot™, a personal robot that can follow an older person in their own home, and that is capable of delivering medicine, remote video monitoring, and the delivery of verbal reminders at predetermined dates and times.

The EU project Companionable is developing HECTOR, a mobile companion robot that interfaces with a smart home, and offers care support facilities that include fall detection, diary management and reminders about taking medicines, as well as being able to provide remote video-conferencing with family members.

⁵ There are a growing number of ‘companion’ robots. These are usually smaller and more affordable, although some of the monitoring robots are also intended to double as companions. For instance, the Gecko CareBot is described as ‘a new kind of companion that always stays close to the care receiver, enabling friends and family to care from afar’. There are several examples of robot pets of which the seal-like Paro robot is probably the best known. The Paro is covered with anti-bacterial fur, and is about the weight of a human baby. Its sensors enable it to respond to being stroked, and it can express ‘emotions’ in response to its treatment by moving its tail, and body and blinking its eyes. It was designed as a therapeutic robot for use with older people, and its behaviours are intended to encourage nurturing behaviour. Other robot pets include the Sony AIBO dog, the Pleo dinosaur, and Omron NeCoRo, a robotic cat. Primo Puel is an interactive doll that has proved popular with older people in Japan. Babyloid is a robot baby developed in Japan. It indicates moods by means of LED lights, and has a round face with two eyes and a mouth - when crying blue LED tears it can be rocked back to sleep.

This paper tangentially considers the ways in which robot care for older people could impact on their dignity. However, it is important to undertake such a consideration because of the risk of developing robotic ‘solutions’ to the problems of aging that result in a reduced rather than in an improved quality of life for older people (<https://link.springer.com/article/10.1007/s10676-014-9338-5> (20.07.2020)).

3. Protection of elderly persons’ human rights

Despite the existence of the Universal Declaration of Human Rights (1948), older people are not recognised explicitly under the international human rights laws that legally oblige governments to realise the rights of all people.

The Universal Declaration on Human Rights states in Article 1 that ‘all human beings are born free and equal in dignity and rights’. This equality does not change with age: undoubtedly, older men and women have the same rights as people younger than themselves.

However, there are two international (one is a European regional and one is a European supranational) human rights conventions – namely CoE’s European Social Charter (1961, 1996) (hereinafter: ESC) and Charter of Fundamental Rights of the European Union – which mention elderly persons as a particular human rights holder (Solarević & Pavlović, 2018:53).

There are some ‘soft’ laws guiding the treatment of older women and men, including the UN Principles for Older Persons (1991) (<https://www.ohchr.org/EN/ProfessionalInterest/Pages/OlderPersons.aspx> (20. 07. 2020)) and the Madrid International Plan of Action on Ageing (MIPAA 2002) (<https://www.un.org/development/desa/ageing/madrid-plan-of-action-and-its-implementation.html> (20. 07. 2020.)). Although human rights underpin the recommendations in these soft laws, they are not legally binding. States are under a moral rather than a legal obligation to follow their recommendations (<https://social.un.org/ageing-working-group/documents/Coalition%20to%20Strengthen%20the%20Rights%20of%20Older%20People.pdf> (23.07.2020)).

3.1. Article 23⁶ of the ESC: Every elderly person has the right to social protection

Article 23 of the European Social Charter was the first human rights treaty provision to specifically protect the rights of the elderly. It established a fundamental right of elderly persons to social protection, which responds to an increased need on account of the ageing of the population (Kambovski, 2019:34). The measures envisaged by this provision, by their objectives as much as by the means of implementing them, point towards a new and progressive notion of what life should be for elderly persons.⁷

One of the primary objectives of ESC Article 23 is to enable elderly persons to remain full members of society.⁸ The expression “full members” means that elderly persons must suffer no ostracism on account of their age. The right to take part in society’s various fields of activity should be granted to everyone active or retired, living in an institution or not.

Non-discrimination legislation should exist at least in certain domains protecting persons against discrimination on grounds of age. Article 23 requires States Parties to combat age discrimination in a range of areas beyond employment, namely in access to goods, facilities and services.

Article 23 requires States Parties to take appropriate measures against *elder abuse*. Elder abuse is defined in the WHO Toronto Declaration on the Global Prevention of Elder Abuse (2002) (https://www.who.int/ageing/publications/toronto_declaration/en/ (10. 08. 2020)) as “a single or repeated act or lack of appropriate action occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person”. It can take various forms: physical, psychological or emotional, sexual, financial or simply reflect intentional or unintentional neglect. The World Health Organization (WHO) and the International Network of the Prevention of Elder abuse (INPEA) have recognised the abuse of older people as a significant global problem. Hundreds of thousands of older people in Europe encounter a form of elder abuse each year. They are pressed to change their will, their bank account is plundered, they are

⁶ Appendix: For the purpose of the application of this paragraph, the term «for as long as possible» refers to the elderly person’s physical, psychological and intellectual capacities.

⁷ Conclusions XIII-3, Statement of Interpretation on Article 4 of the Additional Protocol (Article 23)

⁸ However, Article 23 overlaps with other provisions of the ESC which protect elderly persons as members of the general population, such as Article 11 (Right to protection of health), Article 12 (Right to social security), Article 13 (Right to social and medical assistance) and Article 30 (Right to protection against poverty and social exclusion). Article 23 requires states to make focused and planned provisions in accordance with the specific needs of elderly persons.

pinched or beaten, called names, threatened and insulted and sometimes they are raped or sexually abused otherwise. States must therefore take measures to evaluate the extent of the problem, to raise awareness on the need to eradicate elder abuse and neglect, and adopt legislative or other measures.⁹

Article 23§(1a) guarantees adequate resources enabling old persons to lead a decent life and play an active part in public, social and cultural life. Inevitably, the primary focus of the right to adequate resources is on pensions. Pensions and other state benefits must be sufficient in order to allow elderly persons to lead a ‘decent life’ and play an active part in public, social and cultural life, including affording necessary elderly care.¹⁰

Although Article 23§(1b) only refers to the provision of information about services and facilities, it presupposes the existence of services and facilities and that elderly persons have the right to certain services and facilities. In particular, information is required on the existence, extent and cost of home help services, community based services, specialised day care provision for persons with dementia and related illnesses and services such as information, training and respite care for families caring for elderly persons, in particular, highly dependent persons, as well as cultural leisure and educational facilities available to elderly persons.¹¹ However, insufficient regulation of fees for services may amount to a violation of Article 23.¹²

The final part of Article 23 deals with the rights of elderly persons living in institutions. In this context, it provides that the following rights must be guaranteed: the right to appropriate care and adequate services, the right to privacy, the right to personal dignity, the right to participate in decisions concerning the living conditions in the institution, the protection of property, the right to maintain personal contact with persons close to the elderly person and the right to complain about treatment and care in institutions.^{13,14}

There should be a sufficient supply of institutional facilities for elderly persons (public or private), care in such institutions should be affordable and assistance must be available to cover the cost. All institutions should be licensed, and subject to an independent

⁹ Conclusions 2009 Andorra Article 23.

¹⁰ Conclusions 2013, Statement of Interpretation Article 23.

¹¹ European Committee of Social Rights (ECSR) Conclusions 2003, France (Article 23).

¹² The Central Association of Carers in Finland v. Finland Complaint No. 71/2011 decision on the merits of 4 December 2012.

¹³ ECSR Conclusions 2003, Slovenia (Article 23).

¹⁴ ECSR Conclusions 2003, France.

inspection regime. Emphasis is put on the importance of a truly independent inspection body.¹⁵

3.2. The Charter of Fundamental Rights of the European Union

Article 25 of the Charter deals with “The rights of the elderly”. The European Union recognises and respects the rights of the elderly to lead a life of dignity and independence and to participate in social and cultural life. This Article draws on Article 23 of the revised European Social Charter and Articles 24 and 25 of the Community Charter of the Fundamental Social Rights of Workers. Of course, participation in social and cultural life also covers participation in political life (<https://fra.europa.eu/en/eu-charter/article/25-rights-elderly> (09.08.2020)).

In sum, all of the human rights relating to elderly people must be recognised and respected by either human being carers or humanoid robocarers as well.

4. Robots and elderly social care

4.1. Outline of elderly care

In general, social care for elderly persons is part of a complex system of public and private services (for profit or non-profit) to provide support for people who require assistance with daily living. Essentially, families also provide unpaid care (<https://www.kingsfund.org.uk/projects/what-is-social-care> (10. 08. 2020)).

Elderly care, often referred to as senior care, is specialized care that is designed to meet the needs and requirements of senior citizens at various stages. As such, elderly care is a rather broad term, as it encompasses everything from assisted living and nursing care to adult day care, home care, and even hospice care (<https://www.seniorcare.org/elder-care/#:~:text=Elder-care-often-referred-to-as-senior-care-,day-care-home-care-and-even-hospice-care.> (09.08.2020.)).

Elderly care is not always an absolute; in fact, some senior citizens never require any type of care to live independently in their later years. However, elderly care often becomes an issue when an old person begins experiencing difficulty with activities of daily living

¹⁵ ECSR Conclusions XX-2 (2013) Czech Republic.

(ADLs), both safely and independently. ADLs may include cooking, cleaning, shopping, dressing, bathing, driving, taking meds, etc.

The need for elderly care may also happen quickly, as is the case if an elderly person is recovering from a broken hip or recently had a stroke and is still suffering the cognitive and/or physical effects. What is constant, however, is that elder care may be needed when a health condition – whether physical, cognitive, or even emotional – hinders the ability to safely complete activities of daily living.

Many seniors deny the existence or severity of emotional problems, which makes the thoughtful observations of physicians and family members all the more important (<https://www.seniorcare.org/elder-care/> (23.07.2020)).

4.2. Traditional edlerly care is at the crossroads

At least the following four basic factors might be mentioned to support the alternative usage of robots in elderly care (robocare).

4.2.1. Demography

Worldwide, the proportion of people aged 60 years and over is growing and will continue to grow faster than any other age group due to declining fertility and rising longevity.¹⁶ At the same time, the number of ‘older old’ persons (80 years and over persons) in the developed world will reach unprecedented levels. The demand for, and cost of, social care is expected to rise as the number of users increases and their needs become more complex.¹⁷ Furthermore, the higher number of women living into very old age also presents a major challenge for policy-makers (<https://social.un.org/ageing-working-group/documents/Coalition%20to%20Strengthen%20the%20Rights%20of%20Older%20People.pdf> (23.07.2020)).

¹⁶ The number of older people over 60 years is expected to increase from about 600 million in 2000 to over 2 billion in 2050. This increase will be the greatest and the most rapid in developing countries, where the number of older people is expected to triple during the next 40 years. By 2050, over 80 per cent of older people worldwide will be living in developing countries.

¹⁷ Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: the 2008 Revision: <http://esa.un.org/unpp> (24.07.2020)

4.2.2. Family types and dynamics

Gone are the days when extended families¹⁸ (two or more generations lived together) or even nuclear families (mother, father + one or more kids) were considered the norm in many industrialised countries. These days, different family types¹⁹ are not only common but also much more accepted than they were in the past. It is not uncommon to be raised by a single mother or be part of a mixed family. It seems more uncommon to live in a household where both parents are married.

The vital questions are: 1. family dynamics²⁰ and 2. the importance of the family for many reasons, but perhaps the most important reason is that it is a support (care) network. For example, grandparents will help children any way they can. Children will help their parents as well if they need it, etc (<https://www.originsrecovery.com/family-dynamics/> (25.07.2020)).

The main problem is that family dynamics, geographical distance, two wage earner type households, weakening values and kinship, etc. might hamper the fulfilment of the natural way of the caring obligation to elderly family members in need. However, in some countries,²¹ there is a legal obligation to provide such care (<https://www.betterhelp.com/advice/family/there-are-6-different-family-types-and-each-one-has-a-unique-family-dynamic/> (24.07.2020)). Mainly three opportunities are foreseeable: 1. strengthening traditional family values and ties and/or 2. expansion of long-term social care and LTC insurance and/or 3. deploying robots for caring elderly persons.

¹⁸ Traditionally, in many societies extended families were much more common and were around for hundreds of years. Extended families are families with two or more adults (e.g. grandparents and parents) who are related through blood or marriage, usually along with children. From this article's point of view, such kind of a family structure inevitably invoked and provided child care by grandparents and elderly care by parents.

¹⁹ There are six main ones that people agree on: 1. nuclear family, 2. single parent family, 3. extended family, 4. childless family (DINKs society: double income, no kids.), 5. step or blended family (When two separate families merge into one. This can go several different ways, like two divorced parents with one or more children blending families, or one divorced parent with kids marrying someone who has never been married and has no kids.) 6. grandparent family (A grandparent family is when one or more grandparents are raising their grandchild or grandchildren.)

²⁰ Family dynamics refers to the ways in which family members relate to one another. Because humans are capable of change, and family members take part in different experiences, the dynamics within a family never remain the same. People often look at family dynamics in the context of what makes a family dysfunctional. (<https://oureverydaylife.com/explain-family-dynamics-2099636.html>) (23.07.2020)

²¹ For example, in Hungary.

4.2.3. Funding and shortage of human resources

Among society's most pressing questions regarding the aging of the population is who will help the growing numbers of the frail elderly with routine tasks at home, such as cleaning, bathing and dressing, taking medicines and cooking. Families often take on these caregiving responsibilities, but the job is not practical for many working boomers and Gen Xers, families with far-flung children, widows and widowers and the childless elderly. That is why the need is so great for professional home care workers. The demand for home care workers — also known as the “direct care” workforce — is expected to increase dramatically in coming years (<https://www.forbes.com/sites/nextavenue/2018/04/18/the-shortage-of-home-care-workers-worse-than-you-think/#349a60453ddd> (24.07.2020)).

In addition, nursing home care is something many families must eventually face.²² Due to advances in medicine, people are living longer. This also means that some form of assisted living may become necessary as minds and bodies age.

To add to the concerns many families face on how to pay for long-term care, the average nursing home cost continues to rise at alarming rates.²³

At the same time, social care is facing challenges in recruiting and retaining staff and from reduced funding (<https://researchbriefings.files.parliament.uk/documents/POST-PN-0591/POST-PN-0591.pdf> (05.08.2020)).

In sum, compounding the problem is that the cost of elder care is becoming incomprehensible and uncontrollable. This growing financial burden, coupled with the shortage of caregivers, proves the need to find a more efficient way to care for the world's elderly population (<https://waypointrobotics.com/blog/elder-care-robots/> (05.08.2020)). The question is very clear: how will the world solve this expected shortage of caregivers in the coming years?

²² For example, in the USA estimates predict a person who turns 65 has almost a 70% chance of needing long-term care in some form. 20% of those people may need long-term care for more than 5 years.

²³ Analysts say that nursing home costs are increasing due to factors such as: 1. Shortage of skilled workers; 2. Higher minimum wages; 3. Difficulty in finding and keeping qualified workers; 4. Increased need for specialized care and 5. in many countries the increasing rates of Alzheimer's disease.

4.2.4. Nursing Home Abuse

Beyond financial concerns, nursing home abuse – either mental or physical – may make it hard for families to afford elderly care. The causes of nursing home abuse are known²⁴ and are a sad reality that many elderly people face ([https://www.nursinghomeabuse.org/nursing-home-abuse/causes/\(07.08.2020\)](https://www.nursinghomeabuse.org/nursing-home-abuse/causes/(07.08.2020)) & [https://www.nursinghomeabusecenter.com/nursing-home-abuse/causes/\(07.08.2020\)](https://www.nursinghomeabusecenter.com/nursing-home-abuse/causes/(07.08.2020))). It is critical to carefully monitor loved ones who are living in nursing homes (Malmedal et. al, 2015). As the elderly become weaker, they become more vulnerable to wrongdoing ([https://www.nursinghomeabusecenter.com/blog/affording-nursing-home-costs/\(07.08.2020\)](https://www.nursinghomeabusecenter.com/blog/affording-nursing-home-costs/(07.08.2020))). This situation also requires swift and substantive settling. Besides traditional answers, robocare is one of the possible new types of solutions.

4.3. Robots as a potential option for the future of elderly care

Researchers all around the world are proactively striving – as one of the possible alternatives – to help solve the above-mentioned problems and are independently working to create autonomous robots²⁵ that are capable of performing similar, if not the exact same, tasks as caregivers.

A world in which robotic caregivers are looked upon to help with the world’s greying population is gradually becoming very much a reality. It is not a question of if, but when. The idea behind elder care robotics has been around for years. Its relevancy, however, has become increasingly more apparent as the gap between the number of available caregivers and the world’s aging population²⁶ continues to widen (<https://waypointrobotics.com/blog/elder-care-robots/>).

²⁴ These are some of the top reasons why experts feel that nursing home abuse occurs: 1. Staffing shortages, 2. Lack of staff training and experience, 3. Underpaid staff, 4. Poor supervision, management and accountability, 5. Individual caregiver issues and 6. Individual resident risk factors.

²⁵ For example, companies like Jibo are leading the charge to integrate social robots into our home lives. Designed as an interactive companion and helper to families, Jibo is considered to be the “world’s first social robot for home.” However, Jibo is not a mobile robot, and lacks the complex physical and mechanical parts to truly serve as an elder care robot. It is more of a social and emotional robot solution.

Companies like Waypoint Robotics and sister R&D company Stanley Innovation are working on optimizing the mobility part of autonomous elder care robotics by creating mobile robotic platforms that are adaptable and scalable. Waypoint’s solution represents a high power density, fielded propulsion system that has been tested to transportation standards and mass-produced for over a decade.

²⁶ This population problem is already very real in countries like Japan, where there will be an estimated shortage of 1 million caregivers by 2025. The U.S. is facing a similar dilemma — as the percentage of people aged 65 or older is expected to rise to roughly 26% by 2050.

Caregiving robots would be considered desirable. As robots have become more capable of interacting both verbally and physically with humans, a wealth of possible new applications have opened up. Caring for the elderly, as well as those with neurological diseases such as dementia, is one obvious use. This is especially true of societies in which birth rates are slowing, while people are simultaneously living longer. It is no accident that much of the innovation has taken place in Japan: a country which has led the way in robotics research and acceptance, but does not have enough young people to adequately care for its elderly population.²⁷

As a mainstream of robocare usage trends the caring robots might be used primarily for five purposes: 1. housekeeping (e.g. robot vacuum cleaner, etc.) 2. affective (<https://www.digitaltrends.com/cool-tech/robots-caregiving-for-the-elderly/>)²⁸. 3. rehabilitation²⁹ 4. to help the caregiver^{30,31} and 5. communication (<https://news.medill.northwestern.edu/chicago/japan-uses-robots-in-nursing-home-care-an-example-for-america/>).³²

²⁷ Silver Wing Social Welfare Corp., a Tokyo-based nursing home operator, fueled by a 5.2-billion-yen fund provided by the Tokyo metropolitan government for robot use, is one of the leaders in nursing home robotic innovations.

²⁸ “Affective” robots such as Wandakun the robot koala and Paro the robot seal. Such robots cannot carry out physical tasks like preparing meals or fetching items on command. Instead, they are designed to provide emotional support. Paro is able to make eye contact by sensing where a human voice is coming from. It is also able to sense touch and, based on how it is stroked, change how it responds.

²⁹ Rehabilitation robots, like the Honda Walking Assist Device, allow a strapped-in patient to walk and do other forms of physical therapy. Panasonic Corp. provides a robot that assists a patient in moving from a bed to a wheelchair, helping not only the patient but also the caregiver, since this maneuver assisted only by a caregiver can result in back injuries, a frequent occupational hazard for that profession.

³⁰ Robots could also support caregivers, in addition to the people being cared for. This could mean helping out with physical tasks, thereby freeing up more of their time and energy to spend interacting with the people they are looking after. It could also mean supporting the mental health needs of caregivers who may be struggling to cope with family members or other loved ones with dementia.

³¹ For example, Silver Wing nursing home uses robots to improve patient safety. Robots like the Paramount Bed Co. Ltd. Sleep Management System are designed to monitor the condition of a patient in bed. A screen display tells a caregiver if the patient is sleeping calmly, is agitated or is attempting to rise. This can tip off a caregiver that a patient needs help. Other robots replicate cell phones and allow a patient to communicate with the robot and with a caregiver, or monitor the vital signs of patients, providing real-time warnings to caregivers of critical problems that could require an ambulance to a hospital.

³² Communication-oriented robots interact orally with patients and lead them through a variety of recreational activities, which is particularly beneficial for Alzheimer’s and dementia patients who are prone to feelings of isolation and can benefit from mental stimulation.

In sum, while the research is already taking place, it is clear that the only way elderly care robots will become commonplace in society is if the states,³³ as well as private investors, get involved in funding further research.

While it is not entirely certain what the future will hold in terms of elder care robotics, ongoing industry trends indicate that future projects will involve robots capable of being interconnected with appliances and home automation, and that are able to use telepresence technology that allows loved ones to check in from afar.

Future elder care robots will also more than likely have the ability to take on medical diagnostics, as well as use facial recognition algorithms to determine how someone is feeling.

But despite all of this future capability, there still exists a dichotomy of things that robots can do way better than humans and things they simply cannot do at all. For instance, an elder care robot in the future may easily be able to find and retrieve a pill box from another room, however, without an excellent mobility system, it will be stopped dead in its tracks should it get caught on something along the way (<https://waypointrobotics.com/elder-care-robots/> (13.08.2020)).

4.4. Pros and Cons of robocare

The use of robots in social care will have manifold implications for the cost, quality, legal responsibility, skills of human workforce of social care. There are some – not exhaustive – lists on the pros and cons of robocare.

4.4.1. PROS for robocare

1. *Acceptance attitudes.* Studies report mixed – slightly more positive – attitudes towards the acceptability of using robots in social care amongst users and caregivers (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4288776/> (13.08.2020)) & (Papadopoulos 2018: 425). Inevitably, there are many potential benefits of assistive robots in the home for older adults, however, older individuals might not be as accepting as younger adults of such a device in their homes. On the one hand, older adults may be especially concerned about how difficult a new device will be to learn (Demirirs et. al. 2004:87). On the other hand, they appear willing to accept technology if it allows them to live

³³ For example, in Japan, companies are leading the development of a humanoid solution called Carebots, which are specifically designed robots for elder care. The Japanese government is doing its part by reportedly subsidizing a large chunk of this research.

independently in their home (Sharit et. al. 2004: 81). Consequently, if older adults perceive a robot in their home as helpful rather than intrusive, they may be just as accepting of it as younger adults.

Despite the growing interest in developing robots for older adults, few studies have investigated this age group's acceptance of robots. The studies have generally measured responses of older adults to specific robots with limited functionality (Bickmore, 2005, 711) & (Rantz et al, 2005:40). For example, older adults expressed excitement with a nurse-robot that helped them navigate through a building (Montemerlo et. al, 2002:587). These studies provide evidence that older adults may accept certain robots in certain situations. They do not, however, reveal more general attitudes and perceptions older individuals have about robots, which could be used to predict acceptance for a wider variety of robot types in the context of the home.

2. *Provide assistance.* Robotics can support caregivers or those receiving care and might enhance the efficiency of elderly care. Most robots provide a range of types of assistance. In particular, many robots offering cognitive assistance³⁴ do so alongside other support, such as social³⁵ or physical³⁶ assistance (<https://researchbriefings.files.parliament.uk/documents/POST-PN-0591/POST-PN-0591.pdf> (13.08.2020)).

3. *Improve productivity.* In 2018, the UK Institute for Public Policy Research indicated that the use of robotic and other technology could improve productivity in the adult social care sector through increased automation of mainly administrative tasks.³⁷

4. *Improve the qualifications and skills of the social care workforce.* Increasing the use of robotics in social care will require training for current staff to be able to work alongside the technology (Dahl & Boulos, 2014:1). It may also increase jobs in other sectors, such as for those with skills in robotics including data analysts, and programmers

³⁴ Robots have been developed to support people to perform cognitive tasks, such as improving users' memory and supporting people with dementia.

³⁵ For example, robots such as 'Paro', a robot in the form of a baby seal, 'Pepper', a humanoid robot, and MiRo, a robot resembling a rabbit or small dog, have been trialled with people with dementia, children with disabilities, and in care homes. Robots such as GiraffPlus provide remote health monitoring ('telehealth') and connect users with family and friends.

³⁶ Wearable devices, like the currently available 'REX' and 'ReWalk', can assist with rehabilitation for walking and personal use, or 'Robear' is a robotic device being developed to help with lifting patients, etc.

³⁷ The Lord Darzi Review of Health and Carefinal Report: Better Health and Care for All A 10-Point Plan For The 2020s Institute for Public Policy Research Lord Darzi June 2018 (<https://www.ippr.org/files/2018-06/better-health-and-care-for-all-june2018.pdf>) (13.08.2020)

(<https://ieeexplore.ieee.org/xpl/conhome/6476064/proceeding> (13.08.2020)).³⁸ However, this may have knock-on effects if the social care sector is required to buy-in such skills given potential salary differentials, raising the question about whether this outweighs any efficiencies created by the use of robotics (<https://researchbriefings.files.parliament.uk/documents/POST-PN-0591/POST-PN-0591.pdf> (13.08.2020)).

5. *Cost of social care.* Using robotics could reduce social care costs by enabling older people to stay in their homes for longer rather than going into residential care; preventing hospitalisation through falls, illnesses, and keeping people healthier for longer; and reducing staffing costs by automating a greater number of tasks (Tiwari et al., 2010:1). A 2014 review found that assisted living technologies (such as sensors that can monitor the health and safety of users remotely) reduce costs. However, it noted the limited data available, much of which was deemed to be of poor quality (Tiwari et al., 2017:49).

6. *Autonomy and independence.* Robotics has been suggested as a way to increase users' autonomy and dignity (<https://www.housinglin.org.uk/Topics/type/Robotics-in-Social-Care-A-Connected-Care-EcoSystem-for-Independent-Living/> (13.08.2020)) & (Prescott et al, 2012) & (Sharkey, 2014:63) (See other considerations under subchapter CONS.)

7. *Privacy.* Robots may be seen as more objective than human caregivers, which may promote users' privacy (Draper and Sorrell, 2017:49). (See other considerations under subchapter CONS.) Robots might help to avoid nursing home/nursing care abuse.

4.4.2. CONS of robocare

The evidence base on robotics in social care currently suffers from a number of limitations:

1. *Limited focus.* Most of the focus has been on how technology can aid social care for older people, and fewer studies have looked at care for children or those with lifelong learning disabilities.³⁹

³⁸ The NAO models for the elderly (<https://ieeexplore.ieee.org/document/6483564>) (13.08.2020)

³⁹ Scoping study on the emerging use of Artificial Intelligence (AI) and robotics in social care. Published by Skills for Care, West Gate, 6 Grace Street, Leeds (2018) (<https://www.skillsforcare.org.uk/Documents/Topics/Digital-working/Robotics-and-AI-in-social-care-Final-report.pdf>) (15.08.2020)

2. *Methodological limitations.* Many studies have small sample sizes and the findings are not generalizable to other contexts (Abdi et. al. 2018).

3. *Context specific.* Many studies have been conducted in Japan (Ishiguro, 2018:256),⁴⁰ which has a different social care system and different cultural values around care. These factors may shape the acceptance and effectiveness of the technology in different societies (Bruno et. al., 2020).

4. *Limited availability of technology.* Some robots are commercially available (such as robot vacuum cleaners). However, much robotic technology is being trialled and is not widely used within the social care sector.⁴¹

5. *Knowledge gaps.* Few studies have explored the effects on the social care workforce or the cost-effectiveness of using robotics in social care (Knapp et. al, 2016).

6. *Cost.* Potential savings are weighed against the costs of introducing robotics technology.^{42,43} Robots can be expensive, which may present a barrier to their wider use in social care (Cavallo et. al., 2018:127).

There was considerable information from a nursery home survey,⁴⁴ which says that the use of robots has not resulted in cost savings, although this may change, as costs of robot production diminish and artificial intelligence technologies continue to improve. Nor has the use of robots reduced the need for caregivers, since robots were generally used in conjunction with caregivers. However, by providing more readily available data about patients, robots undoubtedly enable caregivers to better focus on keeping patients safe – their most important responsibility. It is also possible that as technology improves in the future, robots will be able to operate more independently, freeing up caregiver time

⁴⁰ International Federation of Robotics. World Robotics Report 2016. (<https://ifr.org/ifr-press-releases/news/world-robotics-report-2016>) (15.08.2020)

⁴¹ Scoping study on the emerging use of Artificial Intelligence (AI) and robotics in social care. Published by Skills for Care, West Gate, 6 Grace Street, Leeds (2018) (<https://www.skillsforcare.org.uk/Documents/Topics/Digital-working/Robotics-and-AI-in-social-care-Final-report.pdf>) (15.08.2020)

⁴² The Lord Darzi Review of Health and Care Final Report: Better Health and Care for All A 10-Point Plan For The 2020s Institute for Public Policy Research Lord Darzi June 2018 (<https://www.ippr.org/files/2018-06/better-health-and-care-for-all-june2018.pdf>) (13.08.2020)

⁴³ A fork in the road: Next steps for social care funding reform. The costs of social care funding options, public attitudes to them - and the implications for policy reform, May 2018 (<https://www.health.org.uk/publications/a-fork-in-the-road-next-steps-for-social-care-funding-reform>)

⁴⁴ Silver Wing Nursery Home in USA.

(<https://news.medill.northwestern.edu/chicago/japan-uses-robots-in-nursing-home-care-an-example-for-america/> (15.08.2020)).

7. *Autonomy and independence.* For example, there are some relating concerns about: the degree to which robots could prevent people from engaging in risky behaviours like smoking; the extent that robots could make users do something if they did not wish to, like take scheduled medication; and the potential that users may become dependent on robots, undermining their ability to do things for themselves and reducing independence (Draper & Sorrell, 2017:49) & (Wu et al. 2014:801). It is also unclear how vulnerable social care users, such as old bedridden persons may be able to give informed consent to the use of robotics (Leenes et al, 2017:1).

8. *Privacy.* AI and robots are capable of accessing the internet, and recording large amounts of data raises questions over privacy and security (Denning et. al. 2014:105). Clarifying ownership of data collected by robotics has been highlighted as an issue of concern.⁴⁵ Data gathered from robots may be beneficial to roboticists in developing the technology, improving AI, and for machine learning, but in social care this may include personal or sensitive data (<https://www.machinedesign.com/automation-iiot/article/21837140/why-data-ownership-matters-in-the-age-of-ai> (19.08.2020)). Therefore, in the European Union Member States the AI processed personal data is subject to regulation under the EU General Data Protection Regulation (GDPR), which requires ‘privacy-by-design’, whereby data protection safeguards are built into technology early on (<https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/> (19.08.2020)).

9. *Cyber security.* Robots with poor security could be vulnerable to hacking, and could, potentially, be controlled remotely by an attacker.⁴⁶

10. *Responsibility.* In legal terms, the key problem is that where AI systems make choices, there is no established framework for determining who or what should be held responsible for any harm caused. It might be the designer, owner, operator, a combination of the above, or perhaps none of this list. Established legal concepts such as vicarious liability

⁴⁵ Scoping study on the emerging use of Artificial Intelligence (AI) and robotics in social care. Final Report, May 2018, Skills for Care 2018 (<https://www.skillsforcare.org.uk/Documents/Topics/Digitalworking/Robotics-and-AI-in-social-care-Final-report.pdf>) (15.08.2020)

⁴⁶ Körtner (2016). Ethical challenges in the use of social service robots for elderly people. *Zeitschrift für Gerontologie und Geriatrie*,49: 303-307

and negligence are likely to become increasingly stretched as AI becomes yet more independent and unpredictable. The original designer may be able to argue that the AI's subsequent development, perhaps in combination with data fed into it by a third party, represents an intervening act.

Two features of AI compound the difficulty of simply blaming the programmer. First, AI is becoming more independent; some AI systems are now able to develop new AI. Secondly, the barriers between programmers and users are being broken down as AI becomes more user-friendly. Think of training a dog rather than writing code.

If AI is incorporated into a product which causes damage, then this might be governed by the EU Product Liability Directive 1985, but it remains uncertain whether the Directive applies where AI does not take a physical form, such as cloud-based services, or a robot, which is physical hardware (plastic and metal) but more software (AI algorithm).⁴⁷

Summary

Robotic technology has gradually penetrated – and will continue to do so – both personal and professional aspects of human lives, including elderly care. Taking into consideration mechatronics, industrial robots, and futuristic humanoids, the robotic field of technology seems to be an extensive field of human endeavors. The usage of service robots has been recently growing in nursing or care homes in most advanced and elderly societies. For example, across Japan, there are about 5,000 nursing care homes testing robots for use in nursing care due to the declining number of human nurses to care for aged people (above 65 years of age) who are more than a quarter of the population.

As for regulation, it would be preferable for governments to work proactively, together with companies, academia, jurisprudence and the public to lay down rules tailored to AI, namely robocare. This could be done by amendments to existing rules, or by creating entirely new ones.

Besides engineers and IT experts, lawyers will have a key role to play in shaping its relationship with society. In the absence of many regulations on AI at present, there is an important opportunity to build a new system.

⁴⁷ <http://disputeresolutionblog.practicallaw.com/responsibility-for-robots/> (04.09.2020)

The aim of this article was factfinding and opening eyes on new development, however, at this stage we have more questions than answers.

Appendix

Appendix 1

OPEN LETTER TO THE EUROPEAN COMMISSION ON ARTIFICIAL INTELLIGENCE AND ROBOTICS

We, Artificial Intelligence and Robotics Experts, industry leaders, law, medical and ethics experts, confirm that establishing EU-wide rules for Robotics and Artificial Intelligence is pertinent to guarantee a high level of safety and security to the European Union citizens while fostering innovation.

As human-robot interactions become commonplace, the European Union needs to offer the appropriate framework to reinforce Democracy and European Union values. In fact, the Artificial Intelligence and Robotics framework must be explored not only through economic and legal aspects, but also through its societal, psychological and ethical impacts. In this context, we are concerned by the European Parliament Resolution on Civil Law Rules of Robotics, and its recommendation to the European Commission in its paragraph 59 f):

“Creating a specific legal status for robots in the long run, so that at least the most sophisticated autonomous robots could be established as having the status of electronic persons responsible for making good any damage they may cause, and possibly applying electronic personality to cases where robots make autonomous decisions or otherwise interact with third parties independently;”

WE BELIEVE THAT:

1. The economical, legal, societal and ethical impact of AI and Robotics must be considered without haste or bias. The benefit to all humanity should preside over the framework for EU civil law rules in Robotics and Artificial Intelligence.

2. The creation of a Legal Status of an “electronic person” for “autonomous”, “unpredictable” and “self-learning” robots is justified by the incorrect affirmation that damage liability would be impossible to prove.

From a technical perspective, this statement offers many bias based on an overvaluation of the actual capabilities of even the most advanced robots, a superficial understanding of unpredictability and self-learning capacities and, a robot perception distorted by Science-Fiction and a few recent sensational press announcements.

From an ethical and legal perspective, creating a legal personality for a robot is inappropriate whatever the legal status model:

a. A legal status for a robot can’t derive from the Natural Person model, since the robot would then hold human rights, such as the right to dignity, the right to its integrity, the right to remuneration or the right to citizenship, thus directly confronting the Human rights. This would be in contradiction with the Charter of Fundamental Rights of the European Union and the Convention for the Protection of Human Rights and Fundamental Freedoms.

b. The legal status for a robot can’t derive from the Legal Entity model, since it implies the existence of human persons behind the legal person to represent and direct it. And this is not the case for a robot.

c. The legal status for a robot can’t derive from the Anglo-Saxon Trust model also called Fiducie or Treuhand in Germany. Indeed, this regime is extremely complex, requires very specialized competences and would not solve the liability issue. More importantly, it would still imply the existence of a human being as a last resort – the trustee or fiduciary – responsible for managing the robot granted with a Trust or a Fiducie.

Appendix 2.

**THE TORONTO DECLARATION ON THE GLOBAL
PREVENTION OF ELDER ABUSE**

Abuse of older people has only recently been recognised as a global problem. INPEA's advocacy work and the emphasis given to elder abuse prevention by the World Health Organization have contributed significantly to raising awareness worldwide. Academic institutions, around the world, have also substantially contributed to enhancing understanding and raising awareness and have developed methodological tools to study the problem. However, much is still to be done.

On one hand more research is needed – for instance, along the lines of the seminal joint project “Global Response to Elder Abuse” which resulted in the publication “Missing Voices-Views of Older Persons on Elder Abuse” and on the other hand practical action at local, regional and national levels.

Twenty or thirty years ago, societies throughout the world denied the existence of violence against women and child abuse. Then, through research, came the evidence. As a result the civil society exercised the appropriate pressure for action from governments. The parallel with elder abuse is clear.

This declaration is a Call for Action aimed at the Prevention of Elder Abuse.

Points to be considered:

- •Legal frameworks are missing. Cases of elder abuse, when identified, are often not addressed for lack of proper legal instruments to respond and deal with them.
- •Prevention of elder abuse requires the involvement of multiple sectors of society.
- •Primary health care workers have a particularly important role to play as they deal with cases of elder abuse regularly – although they often fail to recognise them as such.
- •Education and dissemination of information are vital – both in the formal sector (professional education) and through the media (combating the stigma, tackling the taboos and helping to de-stereotype older people).

- •Elder abuse is a universal problem. Research conducted so far shows that it is prevalent in both the developed and the developing world. In both, the abuser is more often than not well known to the victim, and it is in the context of the family and/or the care unit that most of the abuse happens.

“Elder Abuse is a single or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person”. It can be of various forms: physical, psychological/emotional, sexual, financial or simply reflect intentional or unintentional neglect.

- •A cultural perspective is mandatory in order to fully understand the phenomenon of elder abuse – i.e. the cultural context of any particular community in which it occurs.
- •Equally important is to consider a gender perspective as the complex social constructs related to it help to identify the form of abuse inflicted by whom.
- •In any society some population sub-groups are particularly vulnerable to elder abuse – such as the very old, those with limited functional capacity, women and the poor.
- •Ultimately elder abuse will only be successfully prevented if a culture that nurtures intergenerational solidarity and rejects violence is developed.
- •It is not enough to identify cases of elder abuse. All countries should develop the structures that will allow the provision of services (health, social, legal protection, police referral, etc.) to appropriately respond and eventually prevent the problem.

The United Nations International Plan of Action adopted by all countries in Madrid, April 2002, clearly recognises the importance of Elder Abuse and puts it in the framework of the Universal Human Rights. Preventing elder abuse in an ageing world is everybody’s business.

“In Ontario elder abuse will not be tolerated. That is why we are launching our comprehensive provincial strategy to combat elder abuse”. (Minister De Faria, Ontario’s Minister Responsible for Seniors)

This declaration was devised at an expert meeting, sponsored by the Ontario Government in Toronto, 17 November 2002.

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