# Regulating Carebots Through the Lens of Care

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Carebots for Older Adults

- **Definition:** Carebots are more than software—they are robots equipped with sensors and actuators, capable of physical and social interaction with humans.

- **Functions:** They perform both non-social (e.g., assistance, monitoring) and social (e.g., companionship) caregiving roles.

- This research centers on carebots for older adults.

- Humanoid caerbots: Characterized by humanoid features, anthropomorphic or zoomorphic design, and enhanced AI-enabled autonomy.
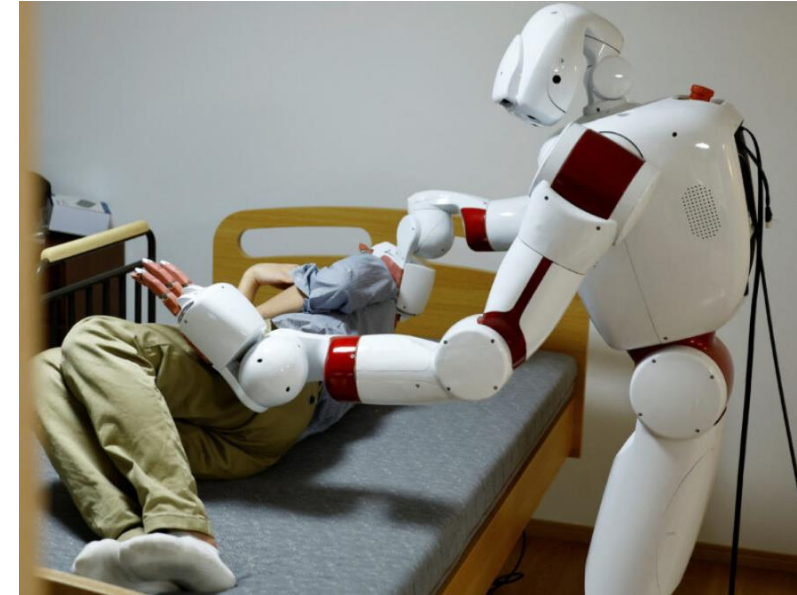
Carebots: AIREC & GR-2

Current Regulation over Carebots

- **Regulation of medical devices:**
- Carebots often fall outside the scope of devices intended strictly for diagnosis, cure or treatment.
- Their use in home settings and varying levels of autonomy pose unique regulatory challenges.

- **Data protection:**
- HIPAA: Limited to healthcare settings.
- EU GDPR:
    - Informed Consent: Consent to be freely given, specific, informed, and unambiguous — but what happens when someone can't give consent at all?
    - Data Protection Impact Assessment (DPIA): Required when data processing is likely to result in high risk to individuals' rights and freedoms — yet often focuses on risks to data.

Current Regulation over Carebots

- **Artificial intelligence regulation**:

- European Union AI Act:
  - Subliminal manipulative AI is banned (Art. 5 (1)(a)).
  - Transparency obligations apply to non-high-risk AI (Art. 50(3)).

- U.S. Memorandum: "Accelerating Federal Use of AI through Innovation, Governance, and Public Trust":
  - "High-impact" AI includes systems used for medically relevant functions.
  - Requirements include: pre-deployment testing, AI impact assessment, ongoing monitoring, human oversight, and mechanisms for remedy and appeal.

- Korea AI Act:
  - Defines high-impact AI (Art. 2.4.D.) and imposes obligations such as prior review, ensuring safety and reliability, AI impact assessment, and prior notice.

➢ Not all carebots are necessarily categorized as high-impact or high-risk. If they are, regulation tends to focus on transparency, safety, or reliability.

➢ Impact assessments may involve a wide range of stakeholders, though the scope of inclusion often remains abstract and broadly defined.

Current Regulation over Carebots

- **Regulation of robots:**
- IEEE (2017), "Ethically Aligned Design"—the affective computing chapter
- Asimov's Robotic Laws and Contemporary Proposals:
  - Creators' fiduciary (Balkin).
  - Robots should complement human professionals; robots should not counterfeit humanity; labeling of creators, controllers, and owners (Pasquale).

➢Design issues: restrictions on robot appearance and external design; appropriate boundaries for form and function (e.g., sex robots); safety-by-design principles; avoidance of reinforcing harmful gender stereotypes

➢Responsibility Issues: Who should be held liable for harm caused by robots? Can robots achieve a level of autonomy sufficient to bear legal responsibility as independent entities?

- **Other laws**:
- torts, criminal law, etc.

Regulatory Gaps of Carebots

- Current regulations do not necessarily confront key controversies, such as:

- Can carebots truly address **the shortage in caregiving**?

- What are the impacts on **care recipients**?
  - Issues such as social isolation, deception, and a loss of autonomy remain pressing concerns.

- What are the impacts **on caregivers**?
  - **Formal caregivers:** Do carebots genuinely assist in caregiving tasks, or are they gradually replacing human workers? Does their introduction lead to a devaluation of professional care work?
  - **Informal caregivers:** Does automation truly reduce the burden of care? Or does it risk weakening the emotional bonds and sense of connection within families?

➢The overall impact on the caregiving relationship must not be overlooked!

Caregiving Laws

Carebots at Home & Filial Responsibility Law:

- Enforcement risks damaging familial bonds. Filial responsibility is often enforced through monetary penalties, which cannot substitute for genuine human interaction.

- Non-compliance may result in social credit penalties (China), creating a form of "automated filial piety".

- Most caregivers assume their roles voluntarily. Carebots have potential to alleviate this burden and enhance caregivers' capacity (*e.g.*, long-distance filial care).

➢**Points for Consideration:**

• **Surveillance and one-way control:** While surveillance may provide a sense of safety and fulfillment of responsibility, it risks reducing care to mere monitoring.

• **The importance of real human contact:** The "right to visitation" during the pandemic demonstrated that virtual interactions alone cannot replace physical presence.

• **Support for informal caregivers:** Current practical support remains inadequate, and automation should not be viewed as a primary solution.

PECOLA (2021)

Caregiving Laws

Carebots in Long-Term Care facilities:

- Research indicates that carebots cannot replace caregivers, but often serve as a positive supplement to their work.

- Robots do not reduce caregivers' workload (James Wright's field work in Japan); instead, their use can generate additional tasks for long-term care staff.

- Formal caregivers tend to feel hesitant about collaborating with robots, reflecting unease about automation becoming part of their daily responsibilities.

➢**Points for Consideration:**

- **Impact on workforce demand:** Will carebots reduce the need for LTC staff? Current research suggests carebots are supplementary and unlikely to affect staff-resident ratios significantly at this stage.

- **Increased duty of care:** Caregivers must supervise carebots, adding to their responsibilities. Training to manage and operate carebots may pose a professional threshold for formal caregivers.

Robear (2015)

Caregiving Laws

Social Welfare Coverage of Carebots

- In some systems, carebots and smart devices are classified as assistive devices for long-term care (e.g., Taiwan) or as assistive technologies that are part of healthcare services (e.g., Germany). Both classifications are covered by the social welfare system.

- A growing institutional recognition of technology as an integral component of healthcare and long-term care.

➢**Points for Consideration:**

- Within publicly funded care systems, can individuals opt out of using carebots?

- Does insurance coverage create implicit pressure to adopt technological care solutions, even when human-centered care might be preferred?

Caregiving Laws

This research advocates for recognizing a "right to interdependence" in the context of emerging robotics law:

- In response to emerging technologies, new rights—such as the "neurorights"—have been proposed to safeguard human dignity and autonomy.

- The human-in-the-loop principle, already present in current big data and AI regulations, should be expanded to ensure meaningful human oversight in robotic care.

- While the CRPD declares the right to live independently for persons with disabilities (Art. 19), the robotics era calls for equal recognition of interdependence as a human right—acknowledging that care, vulnerability, and relational support are integral to human life.

Carebots assist, but Human Care Cannot Be Replaced

- Human-robot interaction is expected to present numerous regulatory challenges.

- Current AI laws primarily emphasize risk management but fail to address the impact on human relationships.

- Neoliberalism tends to privatize care, framing it as a family responsibility while relying on market solutions.

- The growing reliance on carebots represents another step toward privatizing care, driven by the goal of reducing costs through technology.

- "Care for" v. "care about"

Guardian (2023)
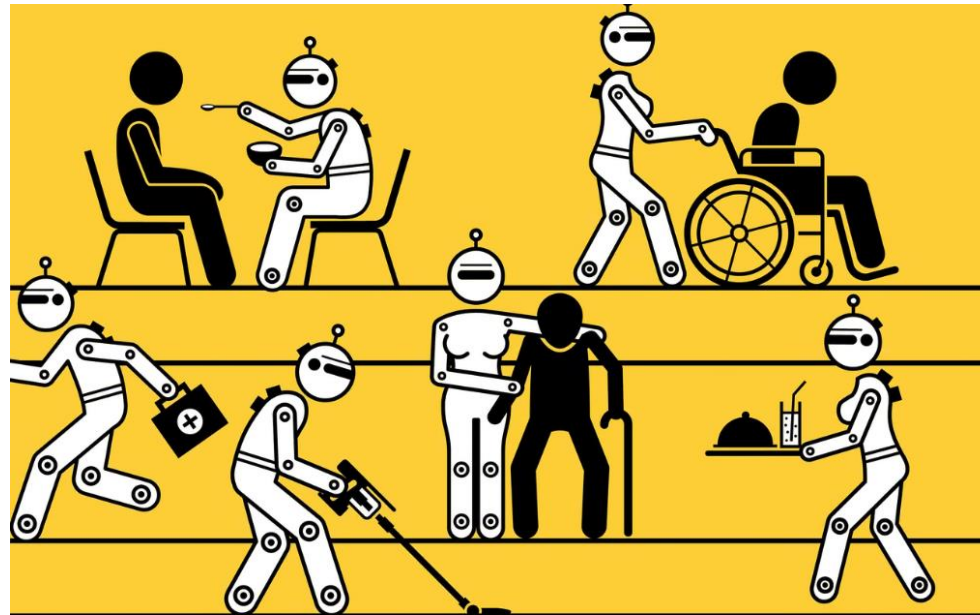
Thank you.

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