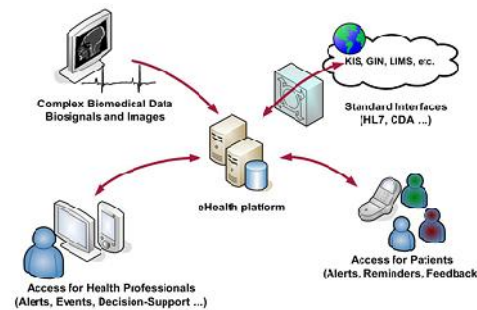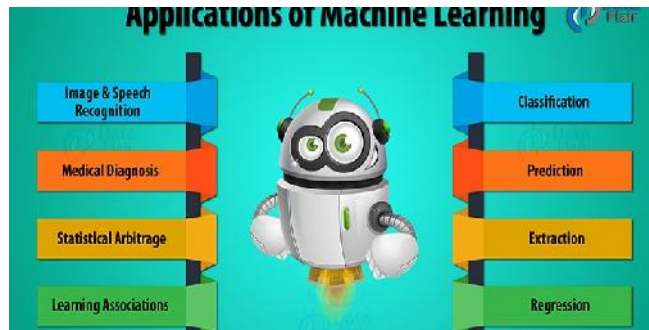# Robots in healthcare: a solution or a problem?

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Understanding Society

Robotics in Healthcare: Solution or Problem?

Robotics in Healthcare: Three Policy Challenges

1. Robotic Capacities/ Role Responsibilities

2. Privacy and Data Protection in Care/Clinical Context

3. Robots as "Convergence Technologies"

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Robotics in Healthcare: Capacities and Responsibilities

Range of capacities/roles expansive and growing

1. Autonomous decisions/interventions by healthcare robots

2. Diagnosis

3. Mental health applications

4. Care (and treatment) (elderly, child, disability)

Monitoring for Health

- Behavioral changes
- Cognitive abilities
- Speech patterns
- Biometric data, BP
- Eye movements levels)
- Nutritional intake
- Activity

Alerts, Reminders

Consumption Patterns

Sleep, activity

Geospatial Monitoring

Aggression Indicators (e.g. cortisol Language, Speech patterns)

Heart Statistics

Mutual Gaze, Adaptive Dialogue Glucose monitors

2. Robotics in Healthcare: Privacy and Data Protection

Should "Home" (one's castle) create special privacy obligations, e.g. re research, re-use, commercialisation?

Two Dimensions of Privacy and Data Protection Issues

1. Regulatory Dimension

2. Principled Dimension

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General Data Protection Regulation

1. Processing of sensitive data   (in sensitive context – healthcare)
2. **Data Minimization**   (Article 5)
3. Purpose Limitation   (Article 5)
4. **Consent (Complexities)**   **(Processing, Care, Intervention)**
5. Automated Decision-Making   (Article 22)
6. **Scientific Research Exemption (Article 89)**

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Home (Castle)

Private space/ Protected space/ "Breathing room"

Heightened Protections

"Self-actualisation, Self-development"

"Away from the gaze of others"

1. Need for special attention to data protection and privacy protections
2. Need for protections for 3rd parties (present in the home)
3. Re-use/Purpose limitation

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Robotics and Healthcare: "Convergence Technologies"

Multiple regulatory frameworks

Fragmentation

Intersecting normative frameworks (Health domain)

What level of regulation is needed and which type will be most effective?

Critical Policy Considerations

1. **Robotic capacities and role responsibilities** may be technically "limitless". As a matter of policy, what effect will these have on individuals, families, relationships, and communities? Desirable?

2. Should "**Home" applications of healthcare robots** be regulated in light of "sanctity of the home"?

3. **Regulatory complexity** healthcare robotics poses questions beyond technical regulation and demands consideration of key translational considerations of modality, level, and intersecting normative frameworks.

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Robotics in Healthcare: Solution or Problem?

Thank you for your attention.

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