DESIGNING THERAPEUTIC ROBOTS FOR PRIVACY PRESERVING SYSTEMS, ETHICAL RESEARCH PRACTICES, & ALGORITHMIC TRANSPARENCY
PRIVACY-PRESERVING PRACTICES
BASED ON FAIR INFORMATION PRACTICES (FIPs)

• **Transparency** (no secret systems)

• **Access** (to individuals’ records and their uses)

• **Privacy Controls** (ability to prevent information about oneself from purposes without consent)

• **Integrity** (ability to correct or amend)

• **Data Use Protections** (prevent data misuse)
ETHICAL FRAMEWORKS
ROBUST RESEARCH & INFO SHARING THROUGH BELMONT AND MENLO REPORTS

• Belmont Report
  • **Respect for persons** (individuals should be treated as autonomous agents; operationalized through voluntary informed consent)
  • **Beneficence** (obligation to maximize benefits and minimize harm)
  • **Justice** (distribute benefits of research fairly and carefully select research subjects to avoid undue burden from underserved groups)
  • **Special ethical considerations for vulnerable populations** (children, elderly, handicapped, or very sick)

• Menlo Report
  • **Respect for Law and Public Interest** (legal compliance and methods/findings transparency)

• Existing legal/policy guidelines (privacy laws and regulation)
IMPLEMENTATION

RECOMMENDATIONS FOR THERAPEUTIC ROBOTS

• Access to Data
  • Users should have options to prevent archiving, delete, & dispute/edit inaccurate data over lifespan of information system. Special considerations for choices of disabled/vulnerable persons.

• General Practice & Algorithmic Transparency
  • Notify users of all research practices (including algorithmic & product development), and provide notice of data inputs & algorithmic outputs that impact user

• Universal Informed Consent
  • Embrace dynamic informed consent models for all data uses (not just those required by law)

• Design for Privacy-Preserving Data Sharing
  • Utilize technical solutions (e.g., remote data access or open PDS models) to share data

• Anticipate New Knowledge & Unintended Consequences
  • Promote diversity in review process and build flexible information systems
Questions? Comments?

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