Ethical Opportunities and Challenges of Decentralized Clinical Trials: Unique Considerations for Research in Low- and Middle-Income Countries

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Short-Bio

Jeremy Sugarman, **MD**, **MPH**, **MA** is the Harvey M. Meyerhoff Professor of Bioethics and Medicine, professor of medicine, professor of Health Policy and Management, and deputy director for medicine of the Berman Institute of Bioethics at the Johns Hopkins University. He is an internationally recognized leader in bioethics with particular expertise in applying empirical methods and evidence-based standards for evaluating and analyzing bioethical issues. His contributions to bioethics and policy include work on the ethics of stem cell-related research, international HIV prevention research, global health, informed consent, clinical research and research oversight.

He is Co-Principal Investigator with Professors Adeeba Kamarulzaman and Nik Sherina Hanafi of the US National Institutes of Health grant that supported the development and implementation of the Master of Health Research Ethics (MOHRE) program at Universiti Malaya.

Disclosures

I am a consultant for Merck KGaA, IQVIA, and Merck; and a member of Aspen Neurosciences Clinical Advisory Panel.

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MOHRE MASTER OF HEALTH RESEARCH ETHICS

https://mohre.um.edu.my/

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- A programme developed in collaboration between the Faculty of Medicine, Universiti Malaya and the Berman Institute of Bioethics, Johns Hopkins University
- Supported of the U.S. National Institutes of Health, Fogarty International Center

1-year program, can be completed in multiple years

MOHRE aims to produce graduates equipped with the knowledge and skills necessary to engage in the field of health research ethics

Application deadline:
30 August 2025

Scholarship application deadline:
31 July 2025

Session intake:
October 2025

Scholarships for applicants from low & middle income Southeast Asian countries

MOHRE MASTER OF HEALTH RESEARCH ETHICS

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Overview

- A definition and related terminology
- The emerging DCT ecosystem
- Ethics for DCTs: Belmont and beyond
- Ethics and DCTs
- Concluding comments

Decentralized Clinical Trials (DCTs)

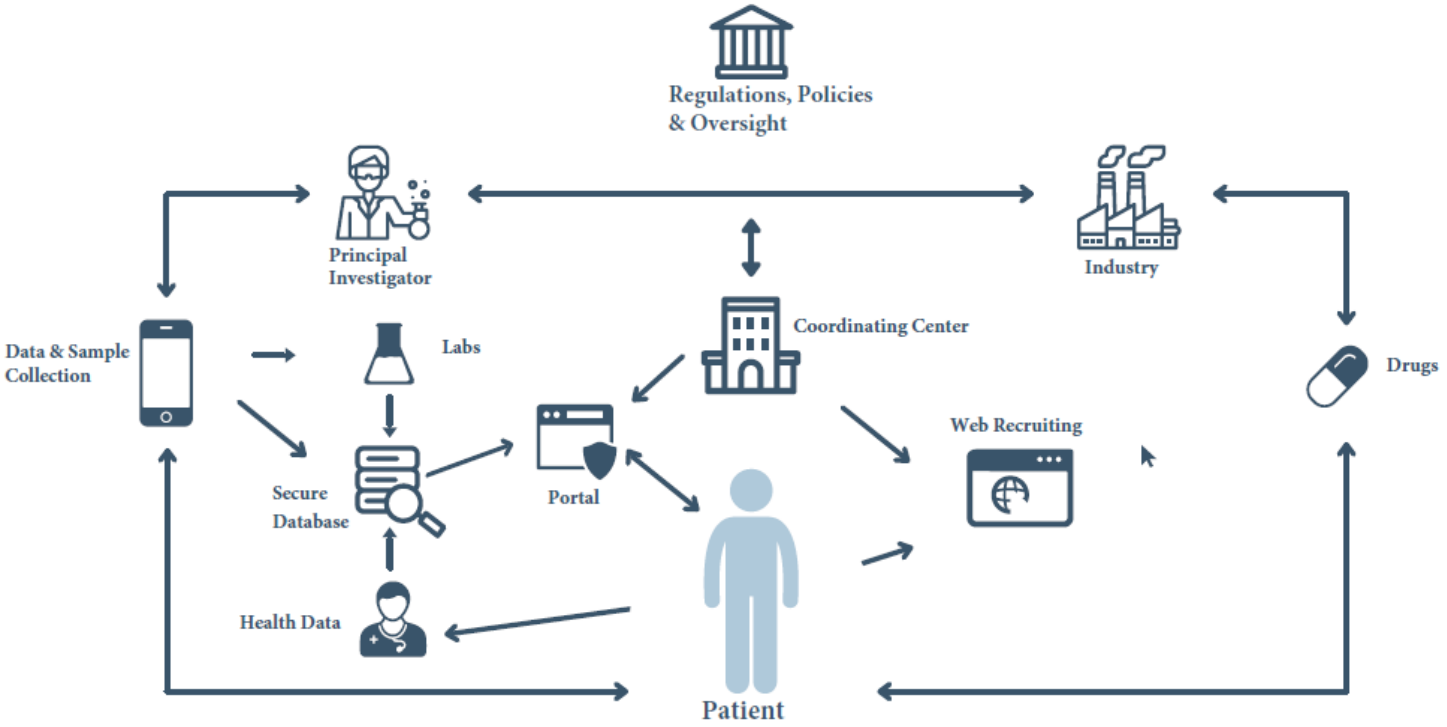
"Decentralised clinical trials involve many digital tools to facilitate research without physical contact between research teams and participants at various stages, such as recruitment, enrolment, informed consent, administering study interventions, obtaining patient-reported outcome measures, and safety monitoring."

doi: 10.1016/S2589-7500(23)00052-3

Related Trials/Related Terminology

- Remote
- Virtual
- Digital
- Click and mortar
- Decentralized
  - Fully
  - Hybrid

DCT Ecosystem



Adapted from Innovation Centre Denmark, 2021

Potential Benefits of DCTs

- Diversity
- Reaching populations often excluded
- Real-time access to participants
- Efficiency
- Timeliness
- Cost containment

DCTs are Burgeoning

- The COVID-19 pandemic fueled the growth of DCTs
- Regulatory bodies, including EMA and USFDA, have issued policies or drafts, not only for trials that pivoted during the pandemic, but also for those moving forward

Health Policy

Decentralised clinical trials: ethical opportunities and challenges

Effy Vayena, Alessandro Blasimme*, Jeremy Sugarman*

Lancet Digit Health 2023; 5(6):e390-e394. doi: 10.1016/S2589-7500(23)00052-3.

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Ethics and DCTs: Belmont and Beyond

- Research ethics
  - Respect for persons
  - Beneficence
  - Justice
- Digital ethics frameworks

Digital Ethics Frameworks

- Premised on substantive principles and procedural values
- There is a multitude of approaches without consensus
- Versus digital bioethics
  - Empirical
  - Argumentative

Code of Digital Ethics

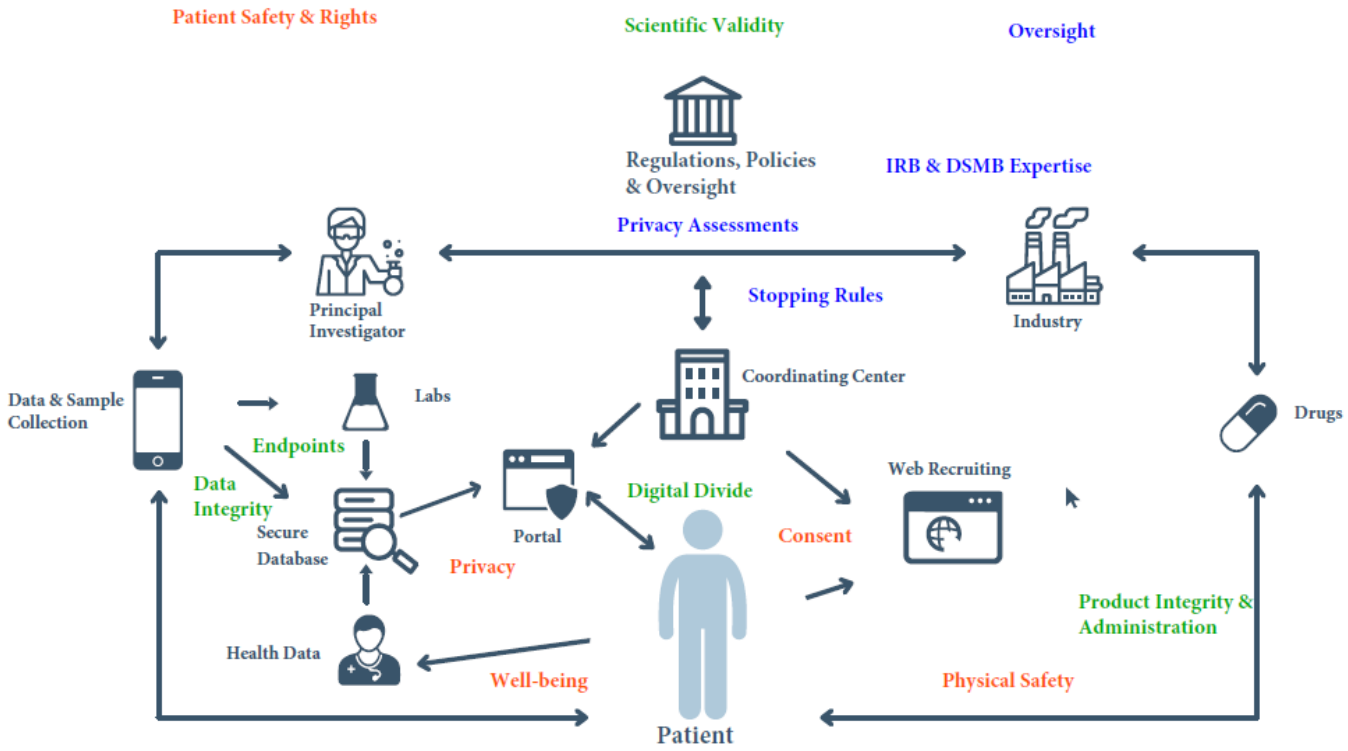
Core Principles	Subsidiary Principles
Justice	Impartiality
	Equality
	Proportionality
Autonomy	Explainability
	Privacy
	Literacy
Beneficence	Sustainability
	Security
	Responsibility
Non-Maleficence	Reliability
	Controllability
	Accountability
Transparency	Traceability
	Interactivity
	Comprehensibility

Becker SJ, *et al. AI & Soc* (2022).
https://doi.org/10.1007/s00146-021-01376-w

Ethics and DCTs

- Patient safety and rights
- Research integrity
- Enhanced oversight

Ethics and DCTs



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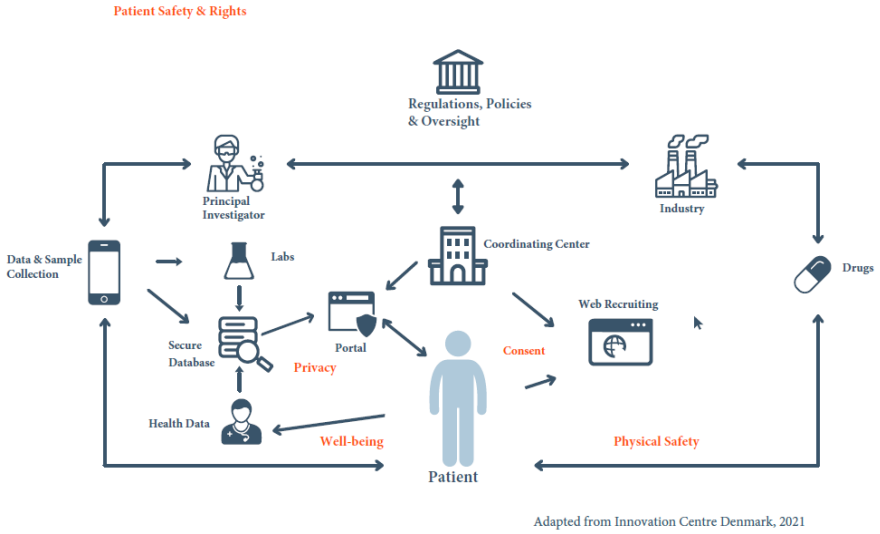
Advancing Participants' Safety and Advancing their Rights

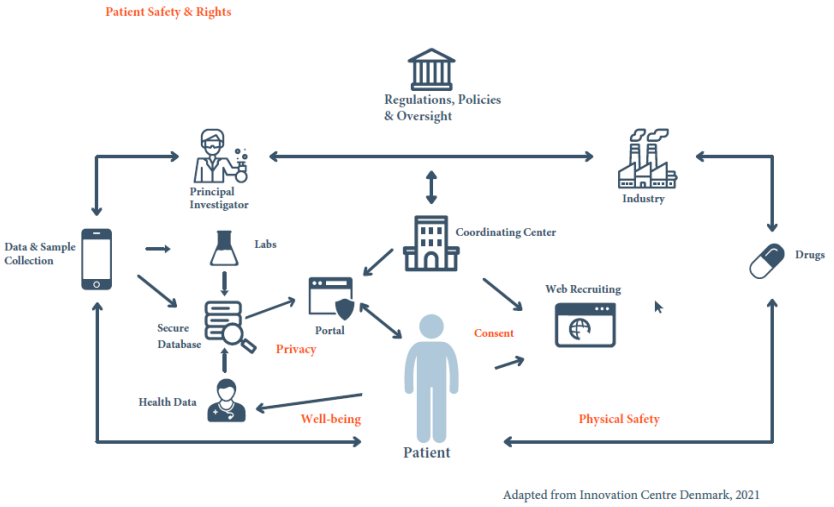
- Physical safety
- Privacy
- Informed consent
- Well-being



Adapted from Innovation Centre Denmark, 2021

Physical Safety

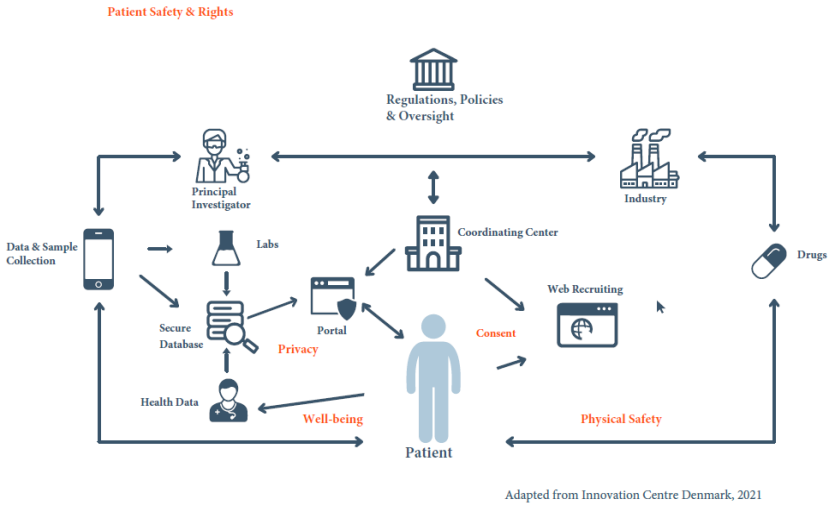
- Is it safe to deliver the investigational product or intervention remotely?
- Can the investigational product or intervention be self-administered?
- Has comprehensive safety-related information been provided to participants?
- Is there timely online help available for participants?
- Can specimens be collected safely by non-specialised personnel?
- Can specimens be stored safely by the participants?
- Is there sufficient information and assistance regarding specimen and data collection available to participants?
- Are wearable devices, apps, and other digital equipment used by participants in the study validated for clinical use?
- Is there a system in place for efficient monitoring of adverse reactions?
- Do participants have easy access to medical consultation in case of adverse reactions?



Lancet Digit Health 2023; 5(6):e390-e394. doi: 10.1016/S2589-7500(23)00052-3.

Privacy

- Do digital devices such as wearables and apps used by participants for the purposes of the study carry specific data security risks?
- Are stopping rules and other harm mitigation mechanisms in place in case of data breaches or other technical failure affecting data security?
- Has a privacy impact assessment been done?
- Have data encryption approaches been considered in relation to actual privacy risks?
- Have privacy-preserving approaches such as data minimisation, privacy-by-design, and privacy-by-default been taken into account?
- Have appropriate measures been taken to minimise the intrusiveness of data collection and communication activities?



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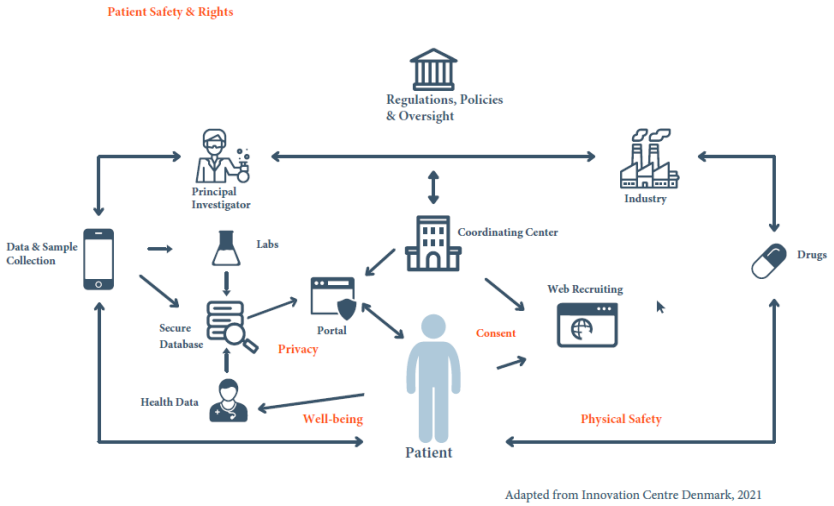
Consent

- Is the electronic consent process based on accepted standards?
- What is the process of identity verification of electronic consent?
- What measures are in place to ascertain voluntary participation?
- Are electronic consents and signatures accepted in the jurisdiction of the trial?
- Is the information provided to potential participants through informed consent comprehensive and understandable?



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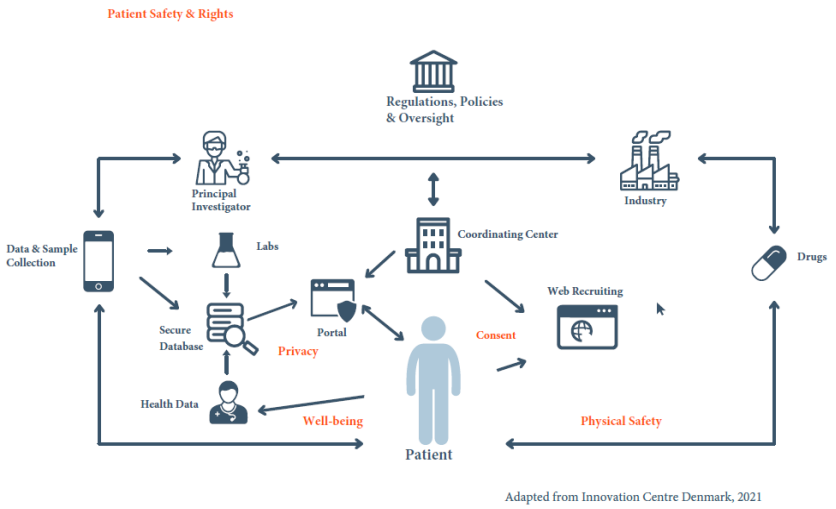
Well-being

- Does the study rely on reasonable and justifiable amounts of active engagement of research participants (eg, data collection tasks)?
- Have direct and indirect costs of participation been assessed?
- Will direct and indirect costs of participation be compensated?



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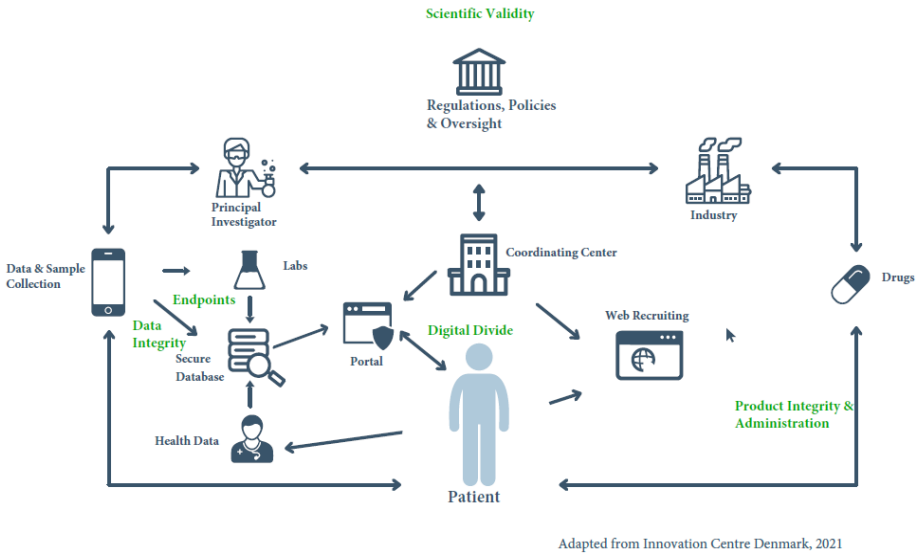
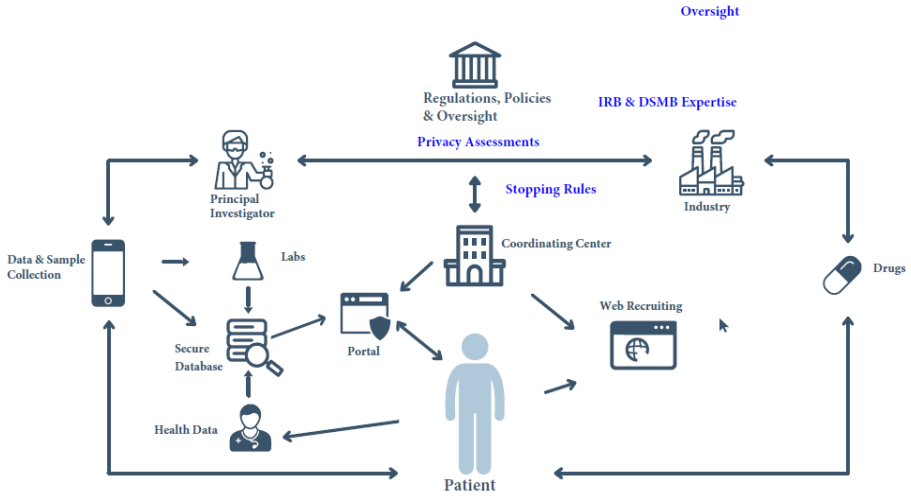
Ensuring Scientific Validity

- Product integrity and administration
- Study endpoints
- Data integrity
- Digital divide



Enhanced Ethics Oversight

- Privacy assessments
- Stopping rules
- IRB and DSMB expertise



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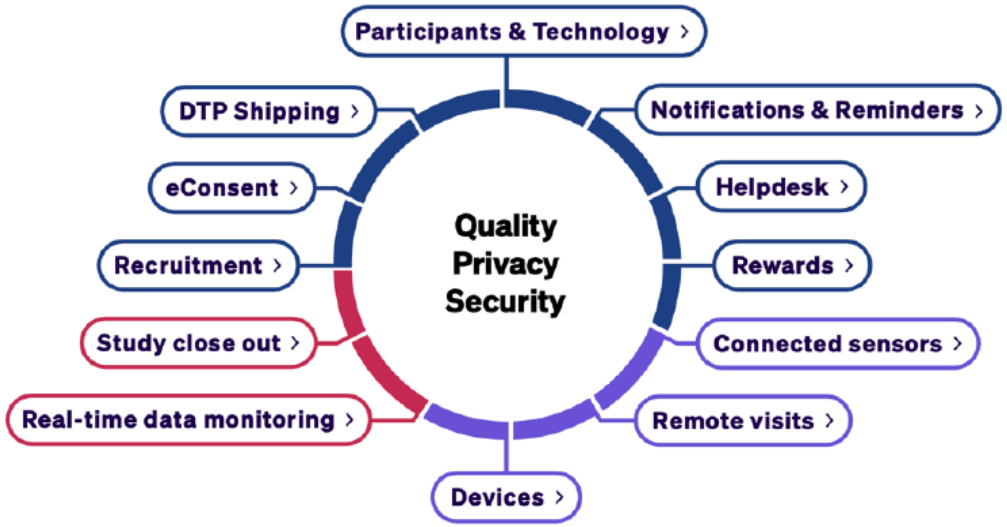
IRB/EC Considerations for DCT review



https://mrctcenter.org/resource/irb-ec-considerations-for-dct-review/

Enhanced Ethics Oversight

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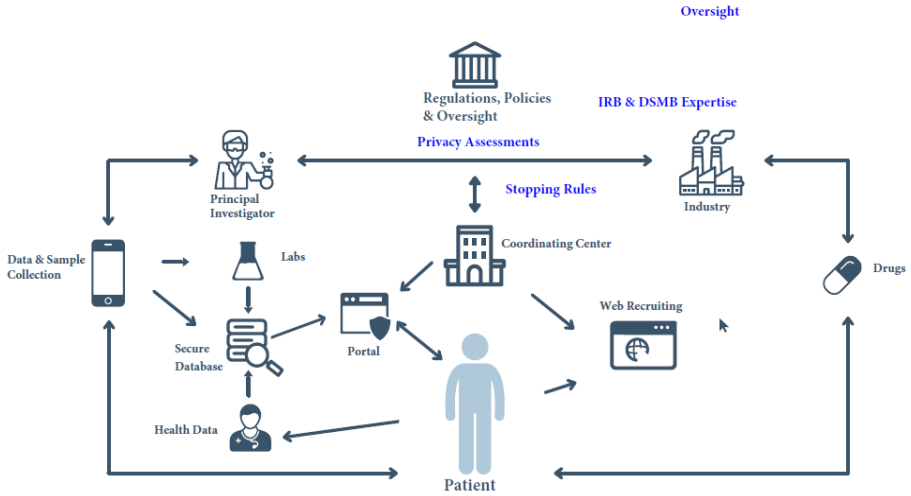

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Concluding Comments

- DCTs provide unique opportunities for enhancing clinical trials, however, they can be associated with an array of ethics issues that must be addressed for them to meet their promises
- The ethical principles of research ethics are necessary, but arguably insufficient to responsibly fulfill this task
- Successful approaches to navigating the ethical challenges in DCTs would be welcome to inform policies, practices and even theory!

QUESTIONS?