

An ethico-legal framework for biobank research in SA

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Define tomorrow.

Outline

- Controversies
- Conventional versus biobank research
- Regulation of biobank research in SA
- SA MTA
 - Ethical considerations
- Healthcare breaches
- Conclusion

Controversies with regard to developing country Human biological materials (HBMs)

- Accusations of fraud & theft
- Violations of national guidelines
- Cultural insensitivity
- Inappropriate, lack of consent
- Reluctance of international organisations to address concerns & recommendations of developing countries
- Uncontrolled export of HBM

Sathar A, Dhali A, et al Collaborative international research: ethical and regulatory issues pertaining to human biological materials at a South African institutional research ethics committee Developing World Bioethics (2013)

...Controversies

- Inappropriate / lack of benefit sharing
- Paucity of authors from developing countries in scientific publications in collaborative research
- Institutions and researchers viewed as specimen collection centres & collection technicians

Sathar A, Dhai A, et al Collaborative international research: ethical and regulatory issues pertaining to human biological materials at a South African institutional research ethics committee Developing World Bioethics (2013)

Conventional research

- One researcher or an already recognised set of researchers
- Samples obtained and used in defined ways
- Informed consent from each research participant for use of their sample

Biobank research

- Those obtaining the samples may be brokers or intermediaries who may supply specimens without necessarily being involved in the research
- Extensive networking of samples and data
- The biobank sample repository can be used for many research projects and often in numerous scientific areas
- Future research activities, including research by investigators which cannot be specified at the time of sample collection

...biobank research

- Because several studies could use the biobank's samples and data, a move from the classic research ethics paradigms on informed consent towards a format of broad consent needs to be considered

Dhai, A and Mahomed S. Biobank research: Time for discussion and debate. SAMJ, S. Afr. med. j. [online]. 2013, vol.103, n.4 [cited 2016-03-29], pp. 225-227

Regulation of biobank research in SA

- No legislation
- Varying standards  No minimum standard
- ***Ethics Guidelines:***
- Regulatory silence until DoH Ethics guidelines published in 2015 to include biobanks
- Advocates governance and ethical approval for biobank related research and approval when biobank set up, inter-institutional sharing agreements and attempts to regulate secondary uses of materials and informed consent

...regulation of biobanks

- Quasi-legal standing
- Acting contrary to ethical guidelines may lead to **unprofessional conduct**, or **professional misconduct**, which could in turn present a legal challenge
- **Therefore, the status of our ethical guidelines, specifically in the health care setting, should not be reduced or diminished**

What is a Material Transfer Agreement (MTA)

- **Legal** contract
- **Governs transfer** of materials between organisations and countries
- Sets out:
 - what will be **done** with material
 - **used** in humans or not, **quality**, **terms** and **conditions** of use
 - any **modifications**, third party **transfers**
 - **benefit sharing**, **intellectual property rights** and any legal, regulatory guidelines or policies

Why is an MTA required?

1. Regulatory (Ethico-legal) compliance

- HPCSA guidelines: mandatory for MTA concluded (since 2008)
- 2nd edition of DoH Ethics guidelines (PPS): mandatory for inter-institutional sharing agreements (2015)
- Specific international instruments to which SA subscribes e.g.:
WMA Declaration of Taipei on Ethical considerations regarding Health Databases & Biobanks (2016);
CIOMS guidelines (2016)

Why is an MTA required?

2. Dangers / Risks

- Materials may not be utilised for the agreed purpose
- Secondary uses may not be regulated
- Third party transfers may take place without the PI's knowledge
- Donor dissatisfaction
- Litigation **



2004-2009

Empirical study results



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Results

- Human materials  unregulated
- DoH has become more stringent with processes
- July 2018 – SA MTA (gg 41781)

SA MTA

- Biobank definition:
an institution or unit thereof that safeguards an organised collection of HBM and associated data from different individuals, which are usually **kept for an unlimited period of time**, for the purposes of health research

...SA MTA

- Differs from traditional templates
- HREC oversight
- Incorporates ethico-legal concepts
- Unique to developing country participants & researchers
- Protections for donors and local researchers

Important aspects of the SA MTA

- **Framework/template**
- Guidance on specific ethico-legal principles that must be respected
- Parties to engage on terms

Signatories

1. PROVIDER (PRINCIPAL INVESTIGATOR)
2. RECIPIENT
3. HREC

MTA is subject to the suspensive condition and is of no force or effect unless and until, the HREC has approved the study of which the MTA forms a part of *and* approved the MTA

Role of HREC

- S73 NHA - NHREC
- Review and approve all health research protocols
- SA MTA:
 - Ensure that adequate protections are in place for research participants
 - Review and approve secondary uses
 - Provisions which speak to the ethical safeguards for the materials
 - Closest proximity to the transfer process
 - Last party to sign MTA

Informed consent

- Fundamental right: S12 (c) Bill of Rights
- On-going information sharing process
- Regulations relating to Research with Human Participants
Human Subjects (*GNR 719 GG 38000* of 19 September 2014) - onus on the researcher to increase the involvement of communities and research participants in the research process
- ***Communities do not always experience on-going involvement in the research process once their samples have been taken***
- ***SA MTA provides for feedback to participants on developments or progress where relevant***

Secondary uses

- Means use of Materials for health research purposes other than the uses determined in the approved protocol
- Must be approved by the HREC (Medical) - NHA, DoH Ethics guidelines 2015
- SA MTA template endorses **Broad consent**

Broad consent in a nutshell

- Consenting to a framework for future health related research
- Strategies to update the research participant regularly
- Ongoing withdrawal opportunities
- Should the framework change, the research participant should re-consent
- Should it be impossible or impracticable to obtain re-consent from RPs the HREC should make a considered determination in this regard. **Declaration of Helsinki 2013*
- Allows research participants to choose the different fields of studies

Participant views

- **Empirical study** conducted 2011-2012 in SA
- 200 participants from WC and Gauteng
- *Future use and consent*: almost **half** participants indicated that they would want to be re-contacted even after the option of REC consenting on their behalf was explained

Moodley et al, "Its my blood: ethical complexities in the use, storage and export of biological samples: perspectives from South Africa research participants" BMC Medical Ethics 2014

Perceptions on export

- “Some countries would maybe use it for satanic rituals.”
- “As long as it’s not Zimbabwe. They're going to mix my blood with Mugabe.”
- **“[Blood must be used] only in Africa. I don’t want it to go out of Africa.”**
- **“[Blood] must not be taken to the United States, European countries and UK.”**

Moodley et al, “Its my blood: ethical complexities in the use, storage and export of biological samples: perspectives from South Africa research participants” BMC Medical Ethics 2014

Benefit sharing

- Particularly relevant considering the exploitation of South Africa and the developing world in general, regarding what is termed 'bio-piracy' in research
- Definitions of bio-piracy
- Balanced with the idea of public interests and population health
- SA MTA: Sharing of benefits should be discussed and negotiated before materials are transferred - effort to encourage equitable benefit sharing mechanisms.

...benefit sharing

- SA MTA:

Negotiated benefits **may include**, amongst others: the sharing of information; royalties; acknowledgement of the provider as the source of the material; publication rights; transferring of technology; and capacity building

Ownership

- Riddled with complexities and there are no clear, defined rules
- The creation of commercial products from human tissue has generated very difficult legal and ethical questions that have no universally accepted answers

...ownership

- Empirical study: 39.5% participants – would mind if research generated profits
- Of this subgroup, 43% - expressed a desire for a share of the profits
- 56% - very unhappy
- **Only 19.5% of participant group expressed happiness with altruistic donation**

Moodley et al, "Its my blood: ethical complexities in the use, storage and export of biological samples: perspectives from South Africa research participants" BMC Medical Ethics 2014

Case law

- ***Moore v. Regents of the University of California 1990*** (Supreme Court of California decision)
- The California Supreme Court ruled that a hospital patient's discarded blood and tissue samples **are not his personal property** and that individuals do not have rights to a share in the profits earned from commercial products or research derived from their cells.
- California Supreme Court cautioned:
“we do not purport to hold that excised cells can never be property for any purpose whatsoever...”

...settlement

- ***Arizona State University's settlement with the Havasupai tribe 2010***
- *Havasupai tribe wins fight to limit research of its DNA*



The New York Times

...case law

- ***Yearworth v North Bristol NHS Trust 2010*** (Court of Appeals for England and Wales)
- Court of Appeal for England and Wales held that, for the purposes of the negligence claim, **the men “owned” their sperm as the sperm was deposited solely for their own benefit.**

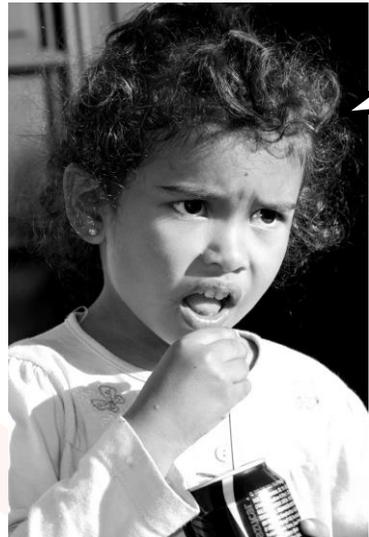
...case law

- ***Piljak Estate v. Abraham 2014*** (Ontario Superior Court of Justice)
- Ontario Superior Court of Justice decided, as a preliminary issue, **that tissue removed from a body for diagnostic medical tests is “personal property” belonging to the hospital where the procedure was performed.**

** International case law because no precedent in SA*

Varying outcomes

1. You do not own your tissue. It is not your personal property
2. Your tissue *may* be your property
3. You own your tissue if it will be used for your own benefit
4. Your tissue is personal property belonging to the hospital



????

...ownership

- “Ownership” **problematic**
- Debate over whether or not there should be a property or non-property approach with regard to human tissue is only the **tip of the iceberg**
- “The issues involved are very complex, reflecting profound considerations on the nature of the self and the structuring of society; the balance of power between the citizen, the government and commercial interests; and human beings’ perceptions of themselves and their bodies”

Goold I, Greasley K, Herring J, Skene L, eds. Persons, Parts and Property: How Should We Regulate Human Tissue in the 21st Century? Oxford and Portland, Ore.: Hart Publishing, 2014

...ownership

- SA MTA states that the Provider of the Materials is ***custodian***
- ***Donor = owner***
- Argued - donors maintain certain controls over the use of their materials, even after informed consent has been obtained for their use. Donors can request deletion or destruction; withdrawal or object to their materials being used



ownership is not completely relinquished and that donorship in itself is not an unconditional contribution

Dispute settlement

- Process is multi-layered
- Last resort – action **SA court**
- In line with standards prescribed by Western counterparts
- Affordability and access: donors, local researchers and local institutions

Private or confidential?

- Privacy is a valuable and **advanced aspect of personality**
- **Fundamental** need for privacy (s14 Bill of Rights)
- Confidentiality is a *characteristic of privacy*
- It results as a consequence of the nature of the relationship between parties

Main difference:

- While the **right to privacy** may be invoked to **prevent** anyone from **accessing an individual's personal information**, **confidentiality** rests on a **trust relationship** and therefore **binds specific individuals only**. E.g.:
Doctor patient confidentiality

Some of the biggest healthcare breaches of 2018 (so far...)



Philadelphia based Independence Blue Cross (health insurer)

Employee error - An employee uploaded a file containing member information of approximately 16000 patients, to a public website in April, but officials did not discover the error until July.

<https://www.healthcareitnews.com/news/employee-error-exposed-data-16000-blue-cross-patients-online-3-months>

..healthcare breaches 2018

- Canadian pharmacist fined for routinely accessing health records of acquaintances
- LabCorp's network breach puts millions of records at risk
- Hackers breach 1.5M Singapore patient records, including the prime minister's
- 417,000 Augusta University Health patient records breached nearly one year ago
- Medical data of 33,000 BJC HealthCare patients exposed online for 8 months
- **Healthcare breaches are on the rise in SA**

Why?

- Healthcare records contain valuable information e.g.: health histories, addresses, ID numbers etc.
- More **valuable** than data stolen from a bank which is rendered useless when passwords are changed
- **Market** for sensitive information on the dark web
- POPI offers protection (criminal investigation, fine and/or imprisonment)
 - **In force but not yet in effect**
 - Effects and compliance remain to be seen

Conclusion

- Biobank research – **no legislation/ Regulations**
- DoH **ethics guidelines** (2015) and other legislation (eg: NHA; POPI)
- **SA MTA template** – incorporates ethical and legal concepts



Not perfect but serves as a **safeguard** in the absence of Regulations

- Participants are becoming more **aware** of their rights
- Strike a **balance** between participant protections and scientific progress
- RECs **proactive rather than reactive**



Thank you

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