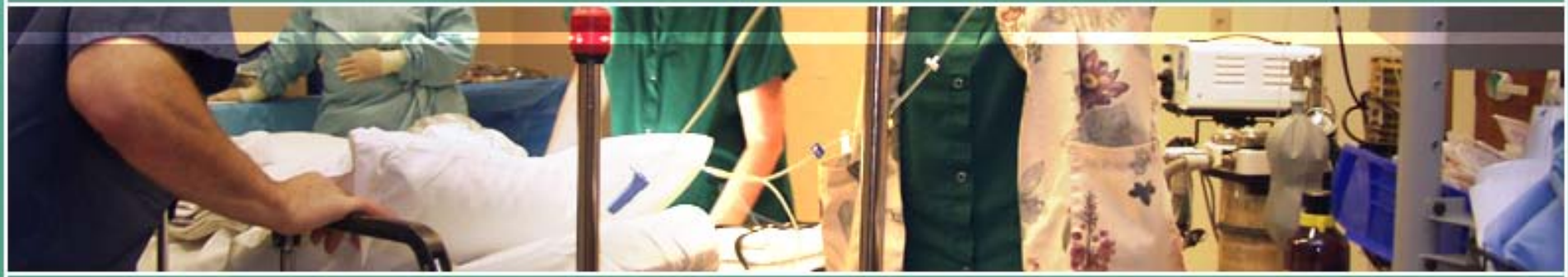
Issues with Tissues



Bertha deLanda
Celia Molvin/Kevin Murphy
Research Compliance Office
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What are Tissues?

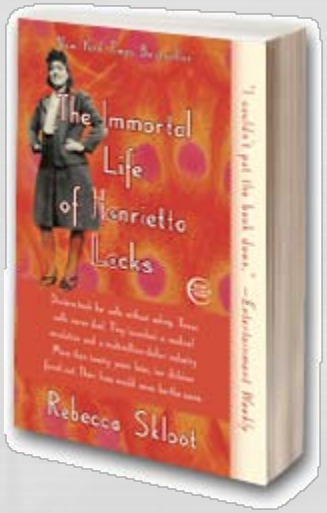
- **Organic material removed from a living individual.**
- **Including biological samples**

  For example,
  - Blood
  - Saliva
  - Discarded surgical tissue
  - Cord Blood
  - Etc.

Material such as cadaver tissue or autopsy specimens don't qualify as HSR

News About Issues With Tissues

- Henrietta Lacks
- The Havasupai Tribe
- Newborn Blood Spots



Courtesy of: http://www.genomicslawreport.com/index.php/tag/newborn-blood-spots/

Why are tissues an issue?

The Researcher's Issue

- An important resource for biomedical discovery and education
- Even more valuable because of genetic research
- Will be discarded anyway, and will instead be put to use

Why are tissues an issue?

The Public's Issue

People care/are concerned about:

- Ownership of specimens
- How their tissues are used
- Genetic testing and future identification
- Others profiting from their tissues

Why are tissues an issue?

The IRB's Issue

- Consent challenges
- "Identifiability" and privacy/confidentiality
- Genetic risk assessment
- Return of research results
- Data sharing

When Is IRB Approval Required?

- When the study involves human subjects research

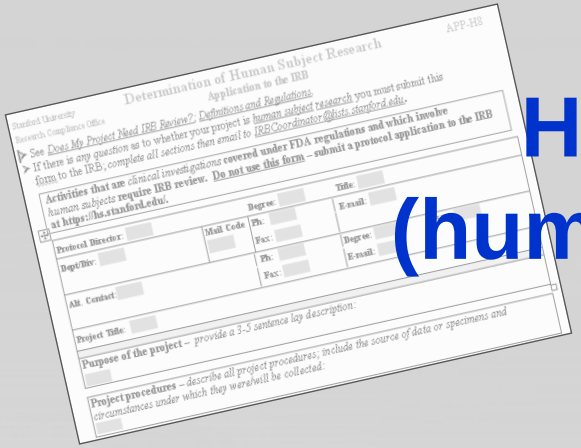
Human Subjects Research

OHRP defines human subject as:

a living individual about whom an investigator conducting research obtains:

- *Data (or specimens) through intervention or interaction with the individual or*
- *Identifiable private information*

- Research using specimens that contain no identifiers is considered to be non human subjects research
- The IRB reviews only human subjects research


Determination of Human Subject Research
Application to the IRB
APP-HS

HSR Determinations (human subjects research)

- Form is available on our website
- Stanford IRB does not require that you obtain a determination, others may want one:
  - Publishers
  - Tissue banks
  - Industrial Contracts Office (ICO)
- Prospective determination required

Issue: When Is IRB Approval Required?

- When the study involves human subjects research
- When tissues are being banked for future research
  - Federal regulations require that tissue banks have IRB approval

Tissue Banking

Intent is to collect and store tissues for future research and distribute to multiple users for multiple purposes

Bank has established rules for collecting, processing storing, and distributing (IRB protocol)

Issue: When Is IRB Approval Required?

- When tissues are prospectively collected for research purposes

Tissue Collection

Collected for a specific protocol with uses limited to that protocol

May or may not have a plan for storage or retention

No plans for distribution; not prohibited

Another Issue: Consent vs Waiver

- **If consent was given at the time of tissue collection,** then consent is not waived, *it has been obtained!*

  - In consent background of eProtocol, tell us how consent was obtained:
    - Stanford: eProtocol number or Stanford Tissue Bank
    - Researcher's name and institution
    - Attach a note to file stating briefly that the consent was obtained under a different protocol

Consent vs. Waiver

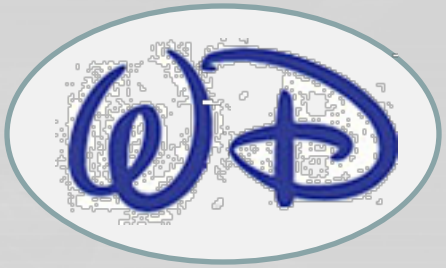
- **Waiver of consent (no consent process)**
  - Must meet the following criteria in order to be approved by the IRB:
    - No greater than minimal risk
    - Subject's rights not adversely affected
    - Not practical to obtain consent
    - Information given to subjects when appropriate
  - Waivers may be appropriate if specimens were collected for purposes other than the current research
  - IRB determines if criteria are met

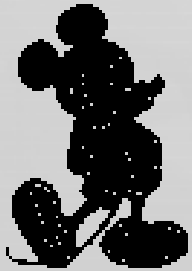
Issue: Identifiability

- **Common Rule**
  - Identity of the person is or ***may readily*** be ascertained by the investigator or associated with the information
- **HIPAA regulations**
  - 18 identifiers listed, e.g.,
    - Name, SSN, medical record #
    - Zip codes, partial zip codes, or other geo-codes for populations below 20,000
    - Dates – not just of birth, but procedure, admittance
- **Can have DIRECT** identifiers and **INDIRECT** identifiers

Direct Identifiers

For example:

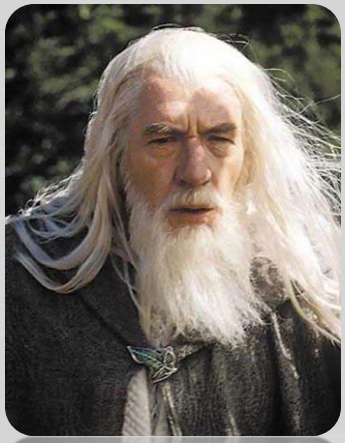




- Name/Initials
- Telephone/fax numbers
- Email, web/IP addresses
- VIN and license plate #’s
- Facial photograph or other identifying image
- Audiotapes
- Relative’s names

Indirect Identifiers

A combination of qualities that would make a person identifiable



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- A study that looks at centenarians (people who are100+ years old)
- A study that examines albinism
- Situations where unique and rare medical conditions are studied

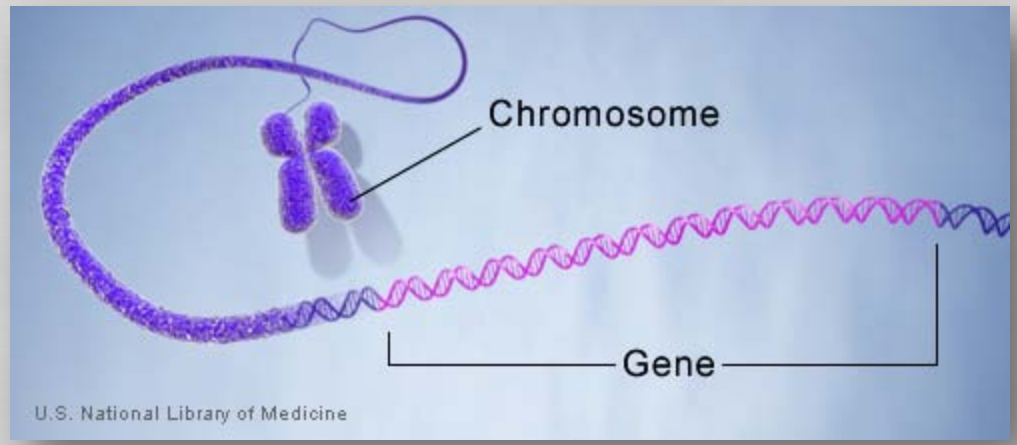
Courtesy of FunkydoodleDonkey.blogspot.com

Genetics and Identifiability

A looming issue:

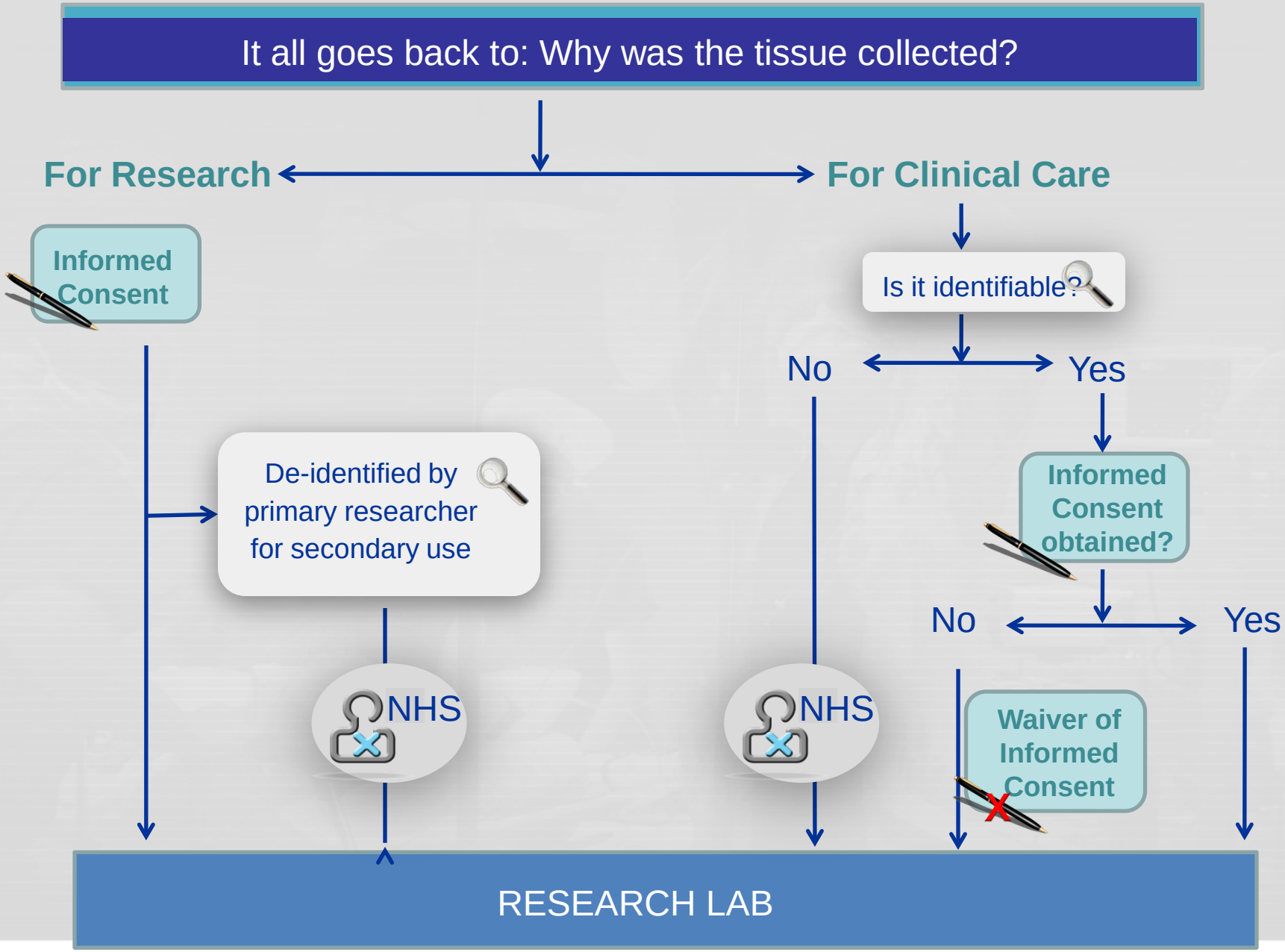
- Specimens carry a persons entire genome
- Genetic code is unique to each individual
- Without the match to a person's genetic code, however, a researcher is not able to identify the individual from whom a specimen has been taken

When will this become a problem?



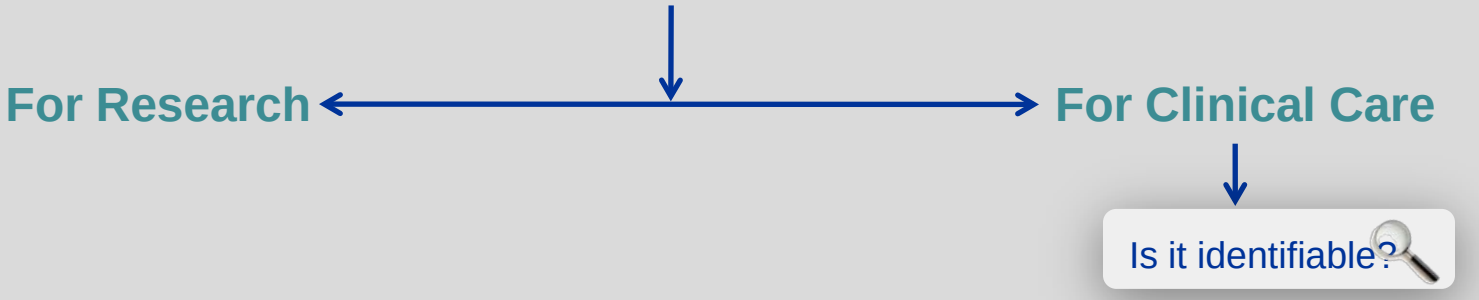
Issue: What if the identifiers have been replaced by a code?

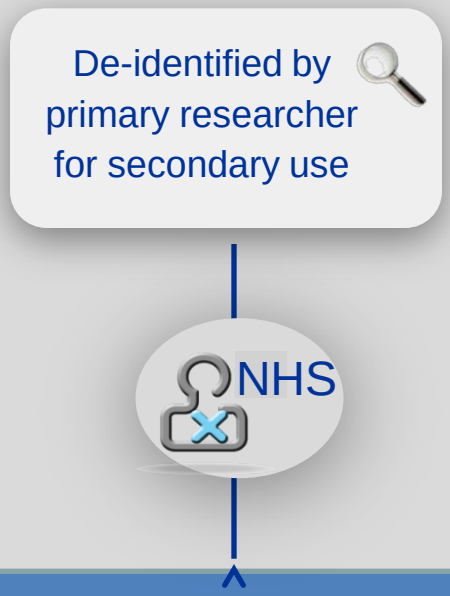
- Is there a key that can be used to re-identify the donors?
- Who has access to the key?
- There must be a barrier between the person receiving the specimens and the identifiers:
  - An agreement not to share the key
  - Some other prohibition



Courtesy of P. O'Rourke MD

Genetic Studies: Considerations





- **Whole genomic studies may be considered identifiable**
- **For primary research studies, informed consent is accounted for**
- **If samples are not collected with consent acknowledging future use, it becomes problematic**

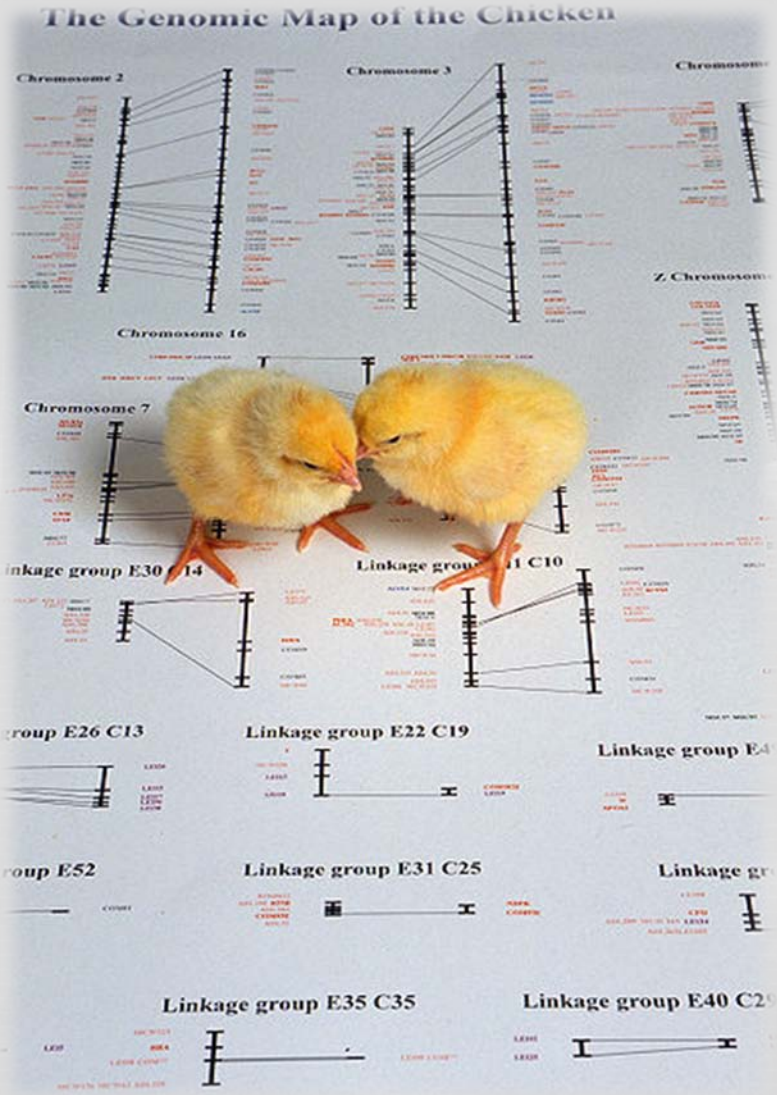
RESEARCH LAB

Courtesy of P. O'Rourke MD

NIH Genome-Wide Association Studies (GWAS)
used to identify common genetic factors that influence health and disease.

Database of Genotypes and Phenotypes (dbGAP)
Centralized database of GWAS data collected from NIH-funded studies

All NIH supported investigators are required to deposit GWAS data in dbGaP in order to maintain NIH funding



Documentation is requested from NIH; IRB must review/verify:

- Submission is consistent with all applicable laws, regulations and policies
- Research use and exclusions to research use are delineated
- Identities of participants will not be disclosed to the repository

And…

- The IRB states it has considered the risks to individuals, families, groups
- Data was collected in a manner consistent with 45 CFR Part 46

IRB's Issue: Protection of Human Subjects; Risk/benefit ratio

Risks of participation:

- ✓ Identification
- ✓ Inadvertent or inappropriate use of individually Identifiable Information
- ✓ Freedom of Information Act (data becomes a government record)
- ✓ Law enforcement access
- ✓ Risks to specific groups, populations, communities
- ✓ Risks related to return of research results

The IRB (or Privacy Board) has reviewed the relevant aspects of the proposal and verified that:

•The investigator's plan for de-identifying datasets is consistent with the standards outlined in NHGRI Policy

•And is consistent with the informed consent of study participants from whom the data were obtained

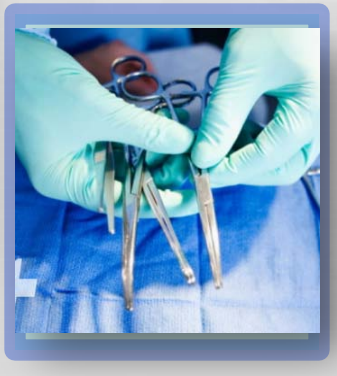
• the IRB has considered the risks to individuals, their families, and groups or populations associated with the proposed submission of the data

•The IRB understands that assessment of risks associated with requests to the NIH for specific future secondary uses will be performed by NIH

• To the extent applicable, the genotype and phenotype data proposed to be submitted were collected in a manner consistent with 45 CC.F.R. Part 46.

In Conclusion…

- ✔ Perspective
- ✔ Identifiability
- ✔ Consent
- ✔ Purpose



Questions?

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